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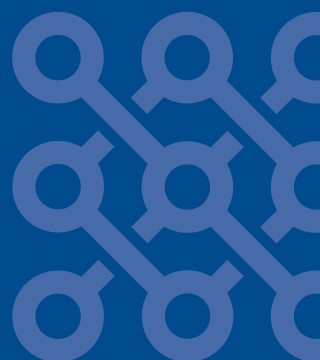
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TABLE OF CONTENTS

Ģirts Dimdiņš, Edmunds Vanags

Network Analysis of Social Measures, Culture Dimensions, and Covid-19 Related Behavioural Choices	8
---	---

Iveta Ozola-Cirule, Baiba Martinsone

The Relationship among re-entry Shock, Coping Modes, and Psychological re-adjustment of Adult Latvian Return Migrants	19
---	----

Dace Dzedone, Anika Miltuze

Parenting Practices, Communication about Adoption and Children’s Behavior Problems in Adoptive Families	39
---	----

Svetlana Surikova, Anna Sidorova

On a Pathway towards a Holistic Approach to Virtue Education: A Case of the e-TAP Curriculum	53
--	----

Elza Lāma

Challenging and Reproducing the Discourse of “Intensive Mothering” in Family Magazine “Mans Mazais” (2018–2022)	67
---	----

Manuel J. Fernández González, Andrejs Mūrnieks, Patricija M. Keiša, Gunita Elksne

Student Teachers’ Insights about a Curriculum for Moral Education in Secondary Education	84
--	----

Dita Nīmante

Family and Environmental Factors Influencing Child Development	103
--	-----

Baiba Moļņika

Bystanders in Bullying Situations in Schools. Does it Matter? Literature review	117
---	-----

Andra Rektina

Enhancing Latvia’s early Childhood Preventive System through a Comparative Analysis with Italy	127
--	-----

Inese Barone

Definition, Structure, and Formation of Parental Expectations: Literature analysis	140
--	-----

Julija Melnikova, Aleksandra Batuchina

Use of Learning Experience Platforms in Lithuanian General Education Schools: Case Study Analyses	155
---	-----

Kristine Kampmane, Andrejs Geske, Antra Ozola	
Self-Confidence in 4th and 9th grades: Differences between Age, Gender and School Subjects	171
Linda Mihno, Agnese Mālere, Laima Mitenberga, Marija Rimša	
Competence of Mathematics of 4th grade Students of Latvia in International Comparison	186
Andrejs Geske, Rita Kiseļova, Olga Pole	
School Socioeconomic Segregation in Baltic sea Countries	198
Mari-Liis Tikerperi	
From Distant Target Groups to Involved Stakeholders: Developing Dialogic School Communication	210
Edgars Berzins	
Development of the Narrative Competence Domain of History Education between 2000 and 2020	220
Renata Jukić, Sara Kakuk, Tihana Jelić	
Perception of the School Interior from the Students' and Teachers' Perspective	230
Mia Filipov, Ozrenka Meštrović	
Pupils' Perspective on Video-Based Classroom Research	244
Kaspars Kiris	
School Climate in General and Vet Schools in Latvia: Principals' Perspective	254
Karmen Drljić, Sonja Rutar, Sonja Čotar Konrad	
The Case of redesigning the Curricula of Preschool Education Study Programme	264
Daiva Žitkevičienė, Jolanta Lasauskienė	
The Method of Involving young Children in Group musical Activities	275
Antonija Vukašinović	
The Importance of the ECEC Teacher's Role in artistic Creation of Children in early Childhood Education	283
Maruta Avotiņa, Guna Brenda Pogule, Ingrīda Veilande	
Gender Differences in mathematical Competition Performance for Grade 4 Pupils in Latvia	295
Dagnija Vigule, Ineta Helmane	
Transversal Skills in the Mathematics Education Curriculum in Pre-School: Experience of Latvia	309
Gunita Elksne	
The Relevance of the Concept of powerful Knowledge in Educational Sciences	322

Tatiana Ginzburg, Edīte Sarva Comparison of Knowledge Retention in Face-To-Face and online English Language Learning for Adults	333
Reda Jacynė, Aida Norvilienė, Meda Gabrielė Vismantaitė Experiences of meeting the Cultural Education Needs of University Students	341
Gundega Kaņepāja, Zanda Rubene Veni, vidi, didici: Teaching Approaches and learning Outcomes of Semiotics	354
Hasan Arslan, Zinat Esenalieva, Miray Doğan Generation Alpha from the Perspective of Faculty Members	364
Inga Zeide, Gunta Kalvāne Mature-age Student's Opportunities as a Matter of social Inclusion in the Higher Education	376
Antra Roskosa, Inese Kocote Investigating Students' Perception of a multicultural and democratic University and its Values	387
Karīna Svētiņa, Rita Kiseļova, Ruta Svētiņa Latvian Policy for higher Education Export	401
Rita Birzina, Dagnija Cedere, Inese Dudareva, Jazeps Logins Science Students: Would I like to be a Stem Teacher?	418
Alla Anohina-Naumeca, Anda Āboliņa Conceptualising Digital Competency for ICT Specialists	435
Jeļizaveta Tihomirova Evaluation Criteria of massive open Online Courses	450
Sanita Litiņa, Anika Miltuze Factors influencing Digital Competence of higher Education Students: a Scoping Review	463
Kaspars Kiris Distant hands-on approach in ICT teaching for Adults	480
Madara Blumberga, Nora Jansone-Ratinika, Evita Grigoroviča, Raimonds Strods, Andreja Slavinska, Māris Brants Simulated Hospital for Medical Students as an Essential Step towards quality in Clinical Work and Patient Safety	490
Viktors Veliks, Juris Porozovs, Aija Kļaviņa, Inta Guļevska, Anna Zuša, Aleksandrs Aniščenko Recording Adolescent's Physical Activity using Tracking Devices and Observation of Cognitive Abilities	504

Renato Gabriel Petrea, Radu George Bârliba, Cristina Elena Moraru, Oana Mihaela Rusu	
Intelligence Quotient and some Anthropometric Indices in Children who Practice Swimming	516
Ilvis Abelkalns, Agita Abele, Anna Liduma	
Mentoring to support Athletes' dual Career	525
Aleksandrs Kolesovs, Klavs Evelis, Liga Ozolina-Molla, Liga Plakane, Juris Porozovs, Viktors Veliks	
Exploration of EEG markers of Sensorimotor Functioning during incorrect Versus Correct Decisions	534
Bruno Matijašević, Paula Matijašević	
The Relationship between Perfectionism and Symptoms of Depression in young Athletes	543
Valentina Sinakova, Diana Apele, Ilze Bodza	
The Personality of Antonina Masilune and her Contribution to preserving the Culinary Heritage	551
Māra Urdziņa-Deruma, Austra Avotiņa, Inguna Karlsona, Austra Celmiņa-Ķeirāne	
Sketching for value-embedded Learning	563
Tarja Kröger, Ari Sivenius, Annu Kaivosaari	
Student Teachers' views on Theory and Practice following the Study of Arts and Skills Subjects	578
Aina Strode, Līga Munda	
Illustrations of Expressions of Emotions in Children's Books	594
Katrīne Martinsone-Škapare	
Character Dance Genre in the Creative Work of Ballet Master M. Petipa and Ballet Art Education	604
Kristiāns Jakubovskis, Anna Vulāne	
Integrating the Study of Family History in the Process of learning the Latvian Language	616
Daīga Straupeniece, Normunds Dzintars	
Pupils' written Language in the Latvian language and History State Examinations in Riga in 2021	632
Jānis Veckrācis	
Teaching and studying Translation: a Dual Approach	645
Velga Polinska, Dite Liepa	
Easy Language in the Context of Modern Pedagogy	664

Elita Stikute, Anita Skalberga Secondary School level Creative Tasks for Studying Poetry	675
Anna Vulāne, Elza Seile Introduction of Regional Varieties of Latvian Language in Secondary School	689
Ina Druviete Integrating Language Policy in Educational Programmes: the International Decade of Indigenous Languages for Language Awareness	707
Daina Urkevica, Linda Daniela Foreign Language Teaching Development in Framework of Technology Enhanced Learning	716
Simona Semjonova Using Portraiture Methodology to tell Stories of Teachers’ Lived Experiences	726
Evija Latkovska, Klinta Ieleja ‘Can-Do Statements’ to Improve Year 4 Pupils’ Performance in English Lessons	734
Hasan Selcuk, Lilian Isperdon Opportunities and Challenges of Videoconferencing-based Teaching among English Teachers	746
Olena Saprunova The Development Tendencies of Content and Language Integrated Learning Methodology at the University Level	756
Juris Dzelme Global Cognition and Modelling Tasks in Arts and Education	769
Gatis Lāma, Līga Āboltiņa, Baiba Kaļķe, Edīte Sarva, Anda Āboliņa, Māra Bernande Self-evaluation of Future Teacher Professional Competences: a Case Study in Latvia	783

NETWORK ANALYSIS OF SOCIAL MEASURES, CULTURE DIMENSIONS, AND COVID-19 RELATED BEHAVIOURAL CHOICES

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ABSTRACT

The aim of the study was to explore social measurements and COVID-19 -related behavioral choices from a network structure perspective. We tested network models by comparing network structures in 46 countries by cultural dimensions (Hofstede et al., 2010). The pre-registered hypothesis was that the network structure of variables predicting COVID-19-related behavioral choices will be robust across countries, regardless of the mean differences of these variables between countries characterized by high vs low culture dimension indices. Behavioural choices toward COVID-19 situation were: physical hygiene, policy support, and physical contact. In network analysis we used several social/psychological constructs: social belonging, trait optimism, collective narcissism, moral identity, self-esteem, national identification, trait self-control, morality as cooperation, conspiracy beliefs, political ideology, and narcissism. We analysed twelve conditions based on dichotomized culture dimensions (high vs. low Power distance, Individualism, Masculinity, Uncertainty avoidance, Long-term orientation, and Indulgence) across demographics (e.g., age, gender). We conducted network structure analysis using high-dimensional undirected graph estimation with glasso procedure splitting the data by culture dimensions in total with $N = 40\,795$ individuals. The study findings indicated that the network models were fairly consistent across cultures with different scores on each of Hofstede's six cultural dimensions. This similarity reflects the previous studies in terms of the stability of associations between variables regardless of sex, age, and political beliefs.

Keywords: *behavioural choices, culture dimensions, COVID-19, network analysis, social measures*

Introduction

The recent COVID-19 pandemic has spurred an active scientific debate on how to engage the public in following health behaviour guidelines (Albarracín & Jung, 2021; Hagger & Hamilton, 2022; Petersen et al., 2022; Van Bavel et al., 2020).

A recent multinational study (Azevedo et al., 2023) examined the relationships between COVID-19-related health behaviours and several psychological constructs

including identity and social attitudes, ideology, moral beliefs and motivation, as well as health and well-being. The results showed fairly robust associations among the measured constructs in 69 countries across the participant sex, age, and political orientation, at the same time showing some differences in mean values of the measured constructs between countries. These results pose an interesting question as to how similar are the associations among the measured constructs across the different cultures represented in the study. A number of studies have suggested that the relationships among COVID-19-related behaviours and attitudes may differ among countries (Donato et al., 2023; Sakib et al., 2023), and some of these differences have been explained in terms of cultural variation in individualism-collectivism (Donato et al., 2023). We aim to contribute to this line of research by further examining the role of cultural dimensions in between-country similarities and differences in relationships among COVID-19-related behaviours and psychological constructs. Previous research has identified 6 cultural dimensions: power distance (the extent to which it is expected and accepted that power is unequally distributed), individualism (the extent to which the ties among individuals in a society are loose), masculinity (the extent to which emotional gender roles in society are clearly distinct), uncertainty avoidance (the extent to which members of a culture perceive ambiguous or unknown situations as threatening), long-term orientation (the fostering of virtues oriented toward future rewards, such as perseverance and thrift), and indulgence (the extent to which the satisfaction of human needs and desires is valued in a society) (Hofstede, 2011; Hofstede et al., 2010).

Previous studies have identified a number of cross-cultural differences in variables measured by Azevedo et al. (2023). For example, social belonging has been shown to be a negatively related to individualism, power distance (Cortina et al., 2017) and indulgence (Zhou et al., 2015), and positively related to uncertainty avoidance (Kong, 2013) and long-term orientation (Lee & Dawes, 2005). Collective narcissism has shown positive relation to power distance (Van Prooijen & Song, 2021) and uncertainty avoidance (Gründl & Aichholzer, 2020). National identification has been positively related to uncertainty avoidance (Baker & Carson, 2011; Gründl & Aichholzer, 2020), whereas conspiracy beliefs tend to be positively associated with power distance, masculinity, and uncertainty avoidance, and negatively related to individualism (Adam-Troian et al., 2020). These results suggest that one can expect systematic differences in these variables between countries that strongly differ in terms of cultural dimensions. At the same time, there has been limited research addressing cross-cultural differences in relationships among these variables. Given the number of variables measured in this study, it was not feasible to formulate hypotheses about the predicted cross-cultural differences among the many possible relationships between pairs of variables. Instead, we chose an exploratory approach to examination of these cross-cultural differences, by looking at the overall network of relationships among a set of variables measured by Azevedo et al. (2023), and comparing these networks of relationships between the samples from countries high vs. low on each cultural dimension. Given the general robustness of relationships among variables across sex, age, and political orientation in the results reported in Azevedo et al. (2023), and

insufficient empirical evidence signifying systematic differences in these relationships due to cultural dimensions, we formulated the following pre-registered hypothesis for our analysis: The network structure of variables predicting COVID-19-related behavioural choices will be robust across countries, regardless of the mean differences of these variables between countries characterized by high vs low culture dimension indices.

Method

Participants

This study uses data from the International Collaboration on the Social & Moral Psychology of COVID-19 Project which aimed to investigate how various psychological factors are related to people's behavior during the pandemic (Azevedo et al., 2023; Van Bavel et al., 2022). The analyzed data consists of surveys completed by residents of 46 countries and a total of 40,795 responses of individuals (51.8% females) aged 18 to 100 ($M = 44.13$, $SD = 16.16$) were used in this data analysis. Although the original data set contains 69 countries, after assigning a code to the cultural dimensions, only 46 countries remained in the data sample. There were 31 languages indicated by the participants, in which they communicate on a daily basis. 33.4% of respondents were single, 20.6% in a relationship, 45.8% married.

Accordingly, participants also reported the number of children if they had children (44.8% no children, 18.9% one child, 23.2% two children, 9.1% three children, and the others more than three children). The participants were addressed by purposefully creating representative samples as well as convenience samples.

Measures

The survey consisted of several parts containing items from different instruments, but the following psychological/social constructs were used in this data analysis:

a) Collective narcissism, measured using three items of the Collective Narcissism scale (de Zavala et al., 2009); b) National identification (Postmes et al., 2013); c) Conspiracy beliefs, endorsement of COVID-19 conspiracy theories (Sternisko et al., 2023); d) Social belonging (Malone et al., 2012); e) Political orientation, measured using a single item, "Overall, what would be the best description of your political views?", on a scale ranging from very left-leaning ("0") to very right-leaning ("10"); f) Moral circle (Waytz et al., 2019), assessing the moral expansiveness across 16 different entities (human and non-human) deemed worthy of moral concern; g) Health condition as subjective physical health; h) Psychological wellbeing as subjective measure; h) Socio-economic status, using the wealth ladder question by asking the participants to place themselves on an 11-rung ladder, with the top rung representing individuals who are best off (in terms of education, jobs, and wealth), and the bottom rung the ones worst off. Unless otherwise indicated, the participants responded on an 11-point scale with higher values indicating higher levels of the measured concepts (after reversing the appropriate items).

Regarding behaviour related to the COVID-19 pandemic, three questions were asked about behavioural choices toward COVID-19 situation: a) Physical hygiene; b) Policy support; c) Physical contact.

To divide countries with high and low scores on cultural dimensions, publicly available data on the average cultural dimension scores in countries represented in the dataset were obtained from geerthofstede.com website (<https://geerthofstede.com/research-and-vsm/dimension-data-matrix/>). We then used median split to divide the countries in two groups for each cultural dimension, resulting in a dichotomous score for each country for six cultural dimensions – Power distance, Individualism, Masculinity, Uncertainty avoidance, Long-term orientation, and Indulgence.

Additionally, demographic indicators were used: age, number of children, employment status, and family status.

Data analysis

This study was preregistered. JASP 0.14.1 and 1.1.456, running the R package *bootnet* (Foygel & Drton, 2010; Friedman et al., 2008; Zhao et al., 2012) were used for data analysis. We analysed twelve conditions based on dichotomized culture dimensions across demographics. We conducted network structure analysis using high-dimensional undirected graph estimation with *glasso* procedure splitting the data by culture dimensions across all countries.

In this analysis, we employed the *glasso* (or graphical lasso) procedure, which estimates a network where the edges are partial correlation coefficients (Zhao et al., 2012). This means that each edge represents the relationship between two variables, controlling for all other relationships in the network. The graphical representation of the networks is based on the Fruchterman–Reingold algorithm, which places nodes with stronger and/or more connections closer together. Undirected network analysis is a commonly used approach to describe the conditional independence and interrelationships of many variables. Each node in the graph represents one variable, and no connection between two variables indicates that they are conditionally independent of all other variables.

Results

At the beginning of the data analysis, all data were inserted into the network model, where simultaneous partial correlation calculations with all variables were performed. Partial correlations provide estimates of the strength of relationships between variables controlling for the effects of the other measured variables in the network model (Hevey, 2018). Therefore, nodes in the graph are connected only if there is a correlation between them and this covariance cannot be explained by any other variable in the network. As can be seen (Figure 1), all 16 variables form mutually significant connections, 105 out of 120 possible connections are formed with sparsity 0.18.

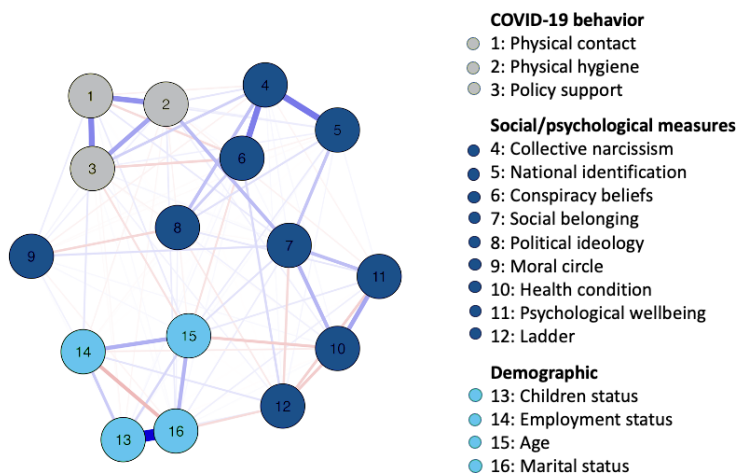


Figure 1 Network graph of all study 16 variables. Blue lines represent positive correlations, and red lines represent negative correlations

Table 1 Centrality measures of all study variables

Variable	Betweenness	Closeness	Strength	Expected influence
Collective narcissism	0.64	0.87	0.86	1.00
Children status	0.00	0.62	0.76	0.95
Social belonging	0.86	1.00	0.79	0.88
Physical hygiene	0.29	0.83	0.76	0.81
Marital status	0.50	0.67	1.00	0.78
National identification	0.29	0.79	0.62	0.76
Physical contact	0.04	0.79	0.75	0.73
Policy support	0.36	0.84	0.76	0.59
Age	1.00	0.82	0.77	0.45
Psychological wellbeing	0.00	0.83	0.56	0.41
Conspiracy beliefs	0.54	0.86	0.68	0.29
Political ideology	0.11	0.66	0.51	0.28
Health condition	0.43	0.91	0.64	0.23
Employment status	0.00	0.67	0.57	0.23
Moral circle	0.00	0.54	0.32	0.09
Ladder	0.00	0.79	0.57	-0.23

Centrality measures (Table 1) suggest that collective narcissism is the node with the greatest expected influence (1.00), followed by children count (0.95) and social belonging (0.88), while the Ladder question has the least expected influence in this variable network structure.

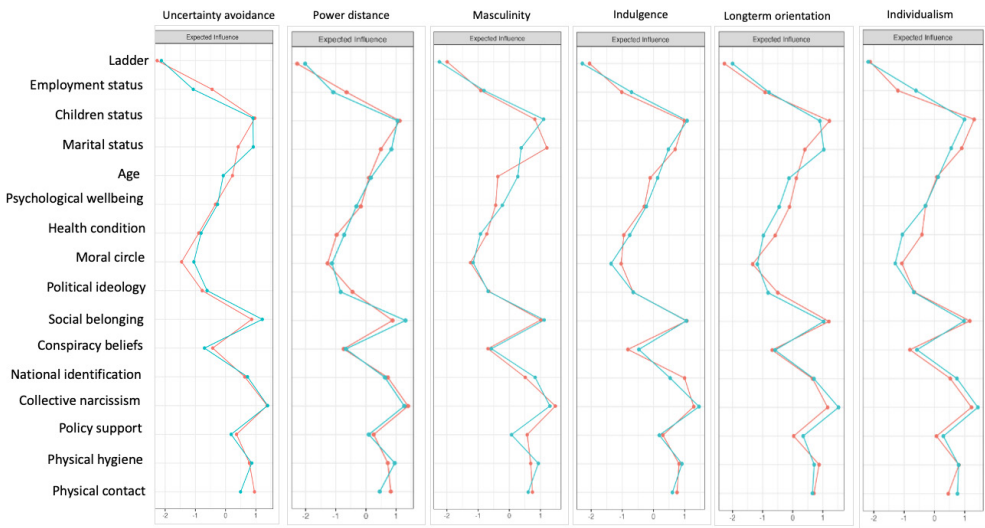


Figure 2 Centrality measures of expected influence of the study variables for countries with low vs high cultural dimensions. Red line represents low, and blue line represents high indicator of the respective cultural dimension

In the next analysis steps to explore our hypothesis, we performed a network analysis with all variables, dividing them into countries with low or high respective cultural dimensions. Six network analyses were performed with the relevant cultural dimensions.

As can be seen in Figure 2, using cultural dimensions indicators, all expected influence graphs are similar, with very small differences for some variables. For example, the masculinity dimension has small differences between countries for marital status and age variables.

Analysing the other centrality indicators in more detail (full graphs are available upon request), for example, the Ladder node has less betweenness in countries with higher uncertainty avoidance. Also, the political ideology node has a smaller betweenness value in countries with higher uncertainty avoidance. This may mean that these nodes play a smaller role in connecting other nodes in this structure.

However, in general, these differences are small, and if one looks at the main indicator of centrality – expected influence, it can be seen that it does not differ between countries with low and high levels of this dimension. This model shows that the number of children, family status, social belonging, and collective narcissism have a relatively higher value of expected influence, regardless of the value of cultural dimension.

When calculating with the other dimensions, we observed similar, relatively small differences in only a few indicators. For example, dividing the network structure by the power distance dimension indicator, we observed small differences in the betweenness indicator at the health condition level, that is, in countries with a lower power distance dimension, this node does not form significant connections with others, in contrast to countries with a high power distance indicator.

Dividing countries by the individualism dimension indicator, we observe that the Ladder node is less important in countries with a lower level of individualism, and the age node is less important.

Dividing the countries by the masculinity dimension indicator, we observed that the Conspiracy beliefs node has a lower importance in countries with a lower masculinity indicator, while in these countries the collective narcissism node becomes more important, forming more significant connections with other nodes.

In the distribution of the long-term orientation dimension, the only relative, small differences are in the betweenness indicator for the health condition node, which is less important in countries with a lower long-term orientation dimension.

Finally, in the distribution of the indulgence dimension, there are differences between the indicators of marital status and policy support node, where in countries with a lower level of indulgence, these nodes have less importance compared to countries where this cultural dimension is higher. On the other hand, health condition, social belonging, age, and marital status nodes have a higher betweenness index in countries with a higher level of indulgence.

In general, dividing all network structures with the help of six dimensions, we observed relatively small differences for some variables, looking at their betweenness indicators, but the main indicator – expected influence did not show any significant differences.

Table 2 Descriptive statistics of all study variables

Variable	Mdn	<i>M</i>	<i>SD</i>	Min	Max
Collective narcissism	5.0	4.93	2.82	0	10
National identification	8.5	7.80	2.53	0	10
Conspiracy beliefs	2.5	3.09	2.94	0	10
Social belonging	7.5	7.22	1.91	0	10
Political orientation	5.0	4.97	2.33	0	10
Moral circle	10.0	9.36	5.25	1	16
Health condition	7.0	7.02	2.10	0	10
Psychological wellbeing	6.0	6.02	2.33	0	10
Ladder	6.0	5.41	1.88	1	11
Physical contact	7.6	7.28	1.35	0	10
Physical hygiene	8.4	7.93	1.89	0	10
Policy support	8.6	7.87	2.27	0	10
Age	41.0	43.07	16.01	18	100

Discussion

The results of the study showed that the network models were relatively similar in countries with high and low scores on all six Hofstede's cultural dimensions. This pattern signifies that the networks of relationships among the variables were fairly robust across the cultural dimensions, similarly to the robustness of relationships across sex, age, and political orientation in Azevedo et al. (2023).

Analysis of group differences allowed for observing relatively small differences in marital status, policy support, collective narcissism, age, health status, social belonging on the betweenness indicators. However, the main indicator of centrality – expected influence was highly similar in all groups of countries, regardless of the level of the cultural dimension, which may indicate its relative universality. Among all the nodes, collective narcissism, social belonging, national identity, marital, and children status nodes showed the greatest potential influence in this network structure. Looking at the network structure, one can observe that the former three variables are mutually related in line with previous findings and theoretical assumptions (Cichočka & Cislak, 2020; Marinthe et al., 2022). In addition, collective narcissism was positively related to conspiracy beliefs, again, in line with results of other studies (Golec de Zavala et al., 2022); however, conspiracy beliefs showed only average strength and expected influence in the calculated networks. More importantly for this analysis, social belonging and collective narcissism were related to COVID-19 behaviour related measures (physical hygiene and policy support, respectively). The relationship of social belonging to hygiene behaviour complements previous results showing correlation between belongingness and intentions to comply with preventive health behaviours (Marinthe et al., 2022). It is interesting to note that collective narcissism was more strongly linked with policy support, in comparison with the link between national identification and policy support. An opposite pattern might have been better predicted from theoretical reasoning (Van Bavel et al., 2020), and the observed result is generally not in line with findings from other related research (Cislak et al., 2021; Moscatelli et al., 2021). This result indicates that the relationship among collective narcissism, national identification, and COVID-19-related policy support requires further examination, and may depend, for example, on the measures used in each particular study. Collective narcissism was strongly related to conspiracy beliefs, in line with previous findings (Cislak et al., 2021; Golec de Zavala et al., 2022). Conspiracy beliefs were also negatively related to policy support and physical-contact-related preventive behaviours, showing a pattern that has been observed also in previous research (Earnshaw et al., 2020; Van Mulukom et al., 2022). Taken together, our results mostly confirm and complement previous findings about the psychological correlates of COVID-19-related behaviours; they also indicate the central role of social belonging and collective narcissism in the network of COVID-19 behaviour-related psychological constructs, suggesting these two variables as potential directions for further research.

The study has several important limitations. One limitation is the fact that the data were analysed using a dichotomized indicator of Hofstede's cultural dimensions, although

cultural dimensions are originally measured on a continuous scale, and the dichotomous indicator we created may be a relatively imprecise divider of the sample along the six cultural dimensions. It should also be mentioned that the data are from both representative samples and convenience samples, which may affect the relatively sensitive calculations of partial correlations in the network analyses, and thus influence the network calculations in the subsamples created according to high vs. low cultural dimensions. In addition, the fact that the data are cross-sectional data collected during a limited and specific period of time (at the beginning of the COVID-19 pandemic) should be taken into account. One may speculate that other relationships of variables might be observed in the later stages of the pandemic and after the pandemic. It should also be mentioned that in the structure of partial correlations there are variables that mutually significantly form relationships due to their association with a common construct (for example, three variables related to behaviour), which may sometimes inflate some of the calculated partial correlations.

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THE RELATIONSHIP AMONG RE-ENTRY SHOCK, COPING MODES, AND PSYCHOLOGICAL RE-ADJUSTMENT OF ADULT LATVIAN RETURN MIGRANTS

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ABSTRACT

Research has shown that it is more difficult to emotionally adjust to change when returning home compared to going abroad. The aim of this study was to explore the relationship among re-entry shock, modes of coping, and the indicators of psychological re-adjustment in a group of return migrants – Latvian nationals returning home. Coping modes and demographic indicators predicting re-entry shock were also addressed and the indicators of psychological re-adjustment (depression, anxiety, and stress). The group being studied consisted of 84 adults aged from 20 to 69 years ($M = 39.59$; $SD = 10.37$) who took part in an anonymous online survey. Re-entry shock was measured using the 16-item Re-entry shock scale (RSS; Seiter & Waddell, 1989). The coping modes regarding re-entry shock were determined using Re-entry Coping Modes (Adler, 1981), and psychological re-adjustment was measured using a shortened version of the Depression, Anxiety, and Stress Scale (DASS-21; Lovibond & Lovibond, 1999, adapted by Vanags & Rašcevska in 2015). Return migrants who reported higher re-entry shock also showed higher symptoms of depression, anxiety, and stress. More difficulties with readjusting after returning to Latvia were reported by younger people, females, those who had lived abroad for a lengthy period, those who had recently returned, and those who had chosen ineffective coping strategies. It was concluded that important predictors for re-entry shock are age, the length of time spent abroad, and coping modes. In turn, important psychological re-adjustment predictors are gender and coping modes.

Keywords: *return migrant, re-entry shock, re-entry coping modes, psychological re-adjustment.*

Introduction

Previous research has shown that it is more difficult to emotionally adjust to change when returning home than when going abroad (Callahan, 2010; Neuliep, 2015; Young, 2014). It might seem that coming back is easier than leaving, however, research results show that adjustment to life back home appears to be as, or even more, difficult than adjustment to life in the host country (Black, Gregersen, & Mendenhall, 1992). Due to

expectations, there is an inconsistency between the real and the imagined – adjusting for many return migrants, turns out to be more difficult than expected.

Significance of the study

The emigration experience has been emphasised in public discourse in Latvia, as it has in other parts of the world – it is the experience of individuals leaving home and adapting to life in the host country. Yet there is less interest in return, including the emotional difficulties felt at the individual level in cases of re-adjustment, highlighting the need to discuss this topic at the societal level, educate others about return processes, as well as to plan targeted and meaningful support at the level of policymaking, to assist Latvian nationals who decide to return to Latvia after living abroad.

International studies have emphasised that departure and the processes associated with it (acculturative stress or culture shock) are mainly studied in connection with return. Yet there is a lack of integration and coherence of various extensive theories, as well as clear definitions of the main concepts (Ward & Kennedy, 1994). Research is often conducted with specific groups, e.g., students (Akhtar et al., 2018; Arthur, 2003; Citron, 1996; Gaw, 2000, Le & LaCost, 2017) or corporate employees (Adler, 1981; Sussman, 2011). Specific and narrow topics have been highlighted, such as the return experience in relation to attitude change (Allison et al., 2012), communication (Brown, 2016; Cox, 2004; Niesen, 2010), self-disclosure (Fanari et al., 2021), social support (Lin, 2006), expectations (Cox, Khan, & Armani, 2013; Geeraert, Demes, & Ward, 2021), loss (Butcher, 2002; Chamove & Soeterik, 2006), locus of control (Seiter & Waddell, 1989) etc. However, in order to understand the specific difficulties and develop the support recommendations needed by return migrants upon reintegration in their home of origin, it would be necessary to focus on overall mental health signals, the most characteristic of which are indicators of anxiety, stress, and depression.

So far, limited studies in Latvia have been conducted on the psychological aspects of return migration, e.g., some studies in sociology have included questions with the aim of finding out the reintegration experience of return migrants (“An emigrant communities” (Mieriņa, 2015), “Circumstances of return and conditions” (Zača, Hazans, Bela, 2018). It has been possible to assess the emotional state of return migrants more in-depth through interviews and narratives of people’s experiences in the media and social networks, but to date significant research from a broader perspective, depicting the emotional factors of re-adjustment and return has not been carried out.

Thus, this research and literature review contribute to the study of the psychological aspects of return migration in Latvia, focusing on such variables as re-entry shock, coping with shock, and the psychological re-adjustment of return migrants following return to Latvia.

The situation of re-entry in Latvia

Upon examination of the data on the volume of return migration, it is evident that approximately 145–187,000 adult return migrants lived in Latvia in the period between

2010 to 2019 (Hazans, 2020). Data from the Central Statistics Office show an increase in return migration in recent years. If, from 2013 to 2020, on average, approximately 5,500 people moved back to Latvia every year, then in 2021 the number of return migrants reached almost 7,000, and in 2022 more than 9,000 returned (Official statistics portal, 2023). Although net migration has decreased significantly, the data on repeated emigration are worrying. That is, a quarter of return migrants who lived in Latvia between 2015–2018 had moved abroad again by 2019 (Hazans, 2020).

The return of emigrants to Latvia is reported in the media in the form of success stories about starting new businesses and other achievements after their return, which in essence is an accentuation of individual successful cases, rather than objectively portraying the overall situation. For returnees, this can create false expectations, because if the portrayal contrasts with the personally experienced reality after returning home, it can result in a feeling of disappointment. The experience of failure to fit in and other emotional difficulties that do not match the positive information available in the public space may not motivate one to seek emotional support, but may be an incentive to consider repeated emigration. This could partly explain the above-mentioned data on repeated emigration.

Looking at the main reasons why people decide to return to Latvia, feelings based on emotions are predominant. In a sociological study on the reasons for return migration, respondents revealed that they missed family and friends, and also experienced homesickness (Zača, Hazans, & Bela, 2018). This differs from their reasons for leaving – in many cases, emigration is motivated by economic factors, specifically the desire to improve one's quality of life and seek broader work opportunities abroad (Hazans, 2016). A 2018 study conducted in Latvia asked the participants of the survey (return migrants) to assess how difficult it was to adapt upon returning home, and the responses showed that adaptation difficulties had been experienced to almost the same extent by all age and gender groups – 40–50% noted that it was “rather difficult”, “difficult” or “very difficult” to adapt to life in Latvia (Zača, Hazans, & Bela, 2018). Thus, by excluding psychological aspects when analysing the data on return migration, the experience of return migrants is not explained fully.

A theoretical framework for the re-entry experience of return migrants from a psychological perspective

Betina Szkudlarek (2009) made a significant contribution to research by collecting and systematising theories on return. Szkudlarek analysed more than 150 studies on the topic and introduced guidelines for looking at the conflicting and different studies when explaining the return experience of return migrants. Szkudlarek offers a three-dimensional framework for looking at theories of return: affective, behavioural and cognitive (ABC model). This is also used as the basis for the theoretical frame of this study.

The affective dimension of re-entry

The affective category is characterised by the emotional reactions and psychological well-being of return migrants. Return migrants are observed to experience a wide range

of emotions upon return: loneliness, stress, depression, anxiety, alienation, disorientation, anger, hostility, helplessness, frustration and social exclusion (Gaw, 2000; Young, 2014). One of the most intense emotions experienced by return migrants is grief (Chamove & Soeterik, 2006), which identifies a loss of the life abroad. In general, regardless of the length of absence, the purpose of emigration and the country, almost everyone experiences discomfort when returning home (Fanari et al., 2021).

The most influential and widely known theory is Reverse Culture Shock, also known as the W-curve theory (Gullahorn & Gullahorn, 1963). It is a theoretical addition to the initially developed culture shock or U-curve hypothesis (Furnham, 2019), which explained the feeling of shock experienced when encountering a foreign culture. Similar stages are attributed to Reverse Culture Shock as for the stages of Culture Shock, noting that the fall phase may not be as deep (Gullahorn & Gullahorn, 1963). The W-curve stages of adjustment have been conceptualised by other authors as well, labelling them similarly, but the general idea is the same – initially return migrants feel excitement, which turns into anxiety, but as time goes by, it gradually recovers (Szkudlarek, 2009). The W-curve is explained in terms of four stages: leaving the host country, the honeymoon, reverse culture shock, and re-adjustment stages, accompanied by strong affective reactions that can influence the re-adjustment outcome (Gullahorn & Gullahorn, 1963). It is noteworthy that the U- and W-curves have also received a lot of criticism because other researchers have failed to prove the rise and fall stages of the adaptation process (Szkudlarek, 2009). It also does not explain why individuals end up in one or another phase, as well as what the enhancing and limiting factors in each of the phases are (Black & Mendenhall, 1991). There has also been a call for culture shock and similar theories to stop their victory march and create a new research-proven concept (La Brack, 2010).

The behaviour dimension of re-entry

The premise of this theory is that when living away from the country of origin, individuals experience personal changes and learn to internalise a new spectrum of behavioural responses specific to their host country environment. Thus, some of the behavioural reactions learned in the homeland are abandoned and replaced by equivalent reactions specific to the host country (Szkudlarek, 2009). This fundamentally explains why, upon return, return migrants need time to learn about the changes that occurred during their absence and adjust their behaviour accordingly (Black & Gregersen, 1991).

The cognitive dimension of re-entry

The cognitive aspects of return are underlined by two well-known theories: the Expectations Model and the Cultural Identity Model. The Expectations Model explains the confronting difference between the expectations of return migrants before return and the reality experienced after return (Adler, 1981; Black, Gregersen, & Mendenhall, 1992; Rogers & Ward, 1993). Arman (2009) has pointed out that before returning, individuals may have various positive and negative thoughts and expectations but when faced with reality, many find that what they imagined is not confirmed, that is, return migrants do

not return to the home that they remember (Andreason & Kinner, 2005). The perceived emotional difficulties of return can be explained by the assumption that their homeland is well known and familiar to return migrants, however, contact with reality after the return reveals that having intercultural experience has significantly changed the individual, and additionally changes have taken place in the homeland (Black, Gregersen, & Mendenhall, 1992). Studies show that return migrants experience higher stress symptoms if there is no previous preparation before the return and there is a lack of understanding and knowledge about return processes (Chamove & Soeterik, 2006).

The two most known representatives of the Cultural Identity model are Sussman and Cox who theorise that return migrants experience a personality transformation characterised by changes in cultural identity and sense of belonging that become apparent when repatriation occurs (Cox, 2004; Sussman, 2000).

Re-entry shock and strategies of coping

The difference between culture shock and re-entry shock, according to researchers, is that the latter is unexpected, highlighting one of the reasons why adjustment back to the home environment can be difficult (Gullahorn & Gullahorn, 1963). A similar conclusion can be found in another study, in which culture shock was evaluated as previously predicted contact with the unknown. In contrast, re-entry shock has defined as a previously unexpected confrontation with a relatively well-known environment (Mathews, 1994).

Studies have indicated that though all return migrants may experience various symptoms of re-entry shock, the differences can only be observed to the degree to which they are expressed. But the trend is unequivocal – the longer the absence, the more pronounced the re-entry shock (Tohyama, 2008; Fanari et al., 2021). Re-entry shock is a temporary process, that is, it takes time to subside (Storti, 2001).

Another important factor that has been highlighted is the importance of prior preparation. Emigrants prepare quite seriously when leaving their country of origin, but do not take preparation seriously enough when they return (Sussman, 1986). While living abroad, one might feel that home in the country of origin remains the same. However, on return, it creates a feeling of alienation, because one must conclude that changes have taken place after all. Difficulties in understanding what people are talking about and why they are reacting in a particular way are described as signs of this (Sussman, 1986). The feeling of disappointment that follows the failure to meet expectations can be fuelled by a lack of interest from friends and family in hearing about return migrants' experiences abroad. This is explained by the fact that the peers of a return migrant may feel threatened or even jealous (Storti, 2001). The inadequacy of social support creates anxiety, loneliness, and a sense of loss for return migrants (Mooradian, 2004).

Re-entry shock is usually associated with negative and unpleasant feelings, however, it should be noted that not everyone experiences it at the level of distress, and at the same time it can also include positive aspects. For example, returnees experience new self-identities and worldviews (Le & LaCost, 2017; Mooradian, 2004), become less judgmental,

express greater tolerance and openness to others' opinions, and feel more self-confident (Allison et al., 2012). An equally important benefit is a sense of maturity, a more realistic view of the possibilities of more effective change, and a sense of accomplishment (Talanwanich, Jianvittayakit & Wattanacharoensil, 2019).

The most common among coping theories is Adler's model of four re-entry coping modes (1981), which has gained considerable popularity in the return literature. Re-entry coping modes defined by Adler are proactive, resocialised, rebellious and alienated (Adler, 1981). This model was originally created in organisational psychology to explain the return of corporate employees after gaining work experience abroad, but was eventually generalised to other groups of return migrants. Adler explains modes as the attitude with which returnees treat their return and efforts to fit back into their home environment. It is characteristic of active returnees to change themselves in order to adapt back to their home environment. For passive returnees, however, it is more difficult to make changes within themselves. Optimistic return migrants are able to integrate the experience gained abroad into the home environment and will be optimistic about their ability to adapt, while the pessimistic type tend to have a more negative attitude towards their ability to adapt again. By taking into account influencing factors, it is possible to predict which individuals may have more difficulty returning. Although the percentage distribution of modes tends to vary from study to study, in the original study conducted by Adler (1981), the four modes were divided in the following proportions: resocialised – 51%, proactive – 25%, alienated and rebellious – 12% each.

Psychological re-adjustment

Psychological re-adjustment is attributable to the emotional state, cognitive perception and personality of returnees. Return migrants may experience stress and anxiety when faced with changes after returning home (Seiter & Waddell, 1989), which may affect their ability to adjust and at the same time would be considered as indicators of re-adjustment. Signs that might indicate that the return migrant has psychologically adjusted to the home environment include the subsiding of mood swings and depression (Mooradian, 2004).

From the point of view of the experience of change, psychological re-adjustment could be compared with other life events that also require adjustment to a previously known environment, such as divorce, release from prison, surviving a serious illness, etc. The common factor for such transitions are the fundamental changes that must be learned in order to successfully adjust to the new environment or role. However, in the case of the return migration experience, the association with false expectations and unforeseen difficulties is highlighted, as home seems to be a familiar environment (Mathews, 1994). These false expectations can be referred to as an idealised view of home (Young, 2014), which prevents one from achieving the intended goal – returning home to exactly the same place from which one left. One study shows that returnees who report higher levels of re-entry shock are more likely to report adjustment problems (Gaw, 2000). Thus, it can be assumed that those who show stronger re-entry shock symptoms will

have more pronounced difficulties in readjusting to the home environment. Furthermore, some return migrants may also not be able to fully re-adjust after returning home (Brein & David, 1971). Those individuals who report difficulties in re-adjustment speak of a sense of homelessness. The feeling of alienation also marks the return home as a stage of grieving – returnees mourn the loss of personal relationships, newly acquired experiences and lifestyle (Butcher, 2002), as well as giving up an already established routine, habits, lifestyle and material resources (Arthur, 2003). Such a feeling of alienation towards home, which cannot be overcome with time, can become a reason to go to a place where one feels a sense of belonging.

On the other hand, emotional support from friends and family is one of the impacting factors that can facilitate re-adjustment (Van Gorp et al., 2017). While living in the host country, the individual's personal values and beliefs change gradually. However, upon returning home, these changes become acutely apparent (Martin, 1986) and can become disruptive and difficult to adjust to.

Individual factors affecting return

Some studies find no significant differences between genders in the return process (Sussman, 2001). Other studies show that women have higher rates of re-entry difficulties (Szkudlarek, 2009; Yoshida et al., 2009). At the same time, there are studies in which more pronounced difficulties are associated with the male gender (Szkudlarek, 2009, Rohrlich & Martin, 1991).

Studies of adults do not confirm any differences between age groups (Wolfe, 2005). Different results emerge when children and youth samples are included in studies. The results of several studies show a positive correlation of return difficulties with age – the younger the return migrant, the more difficulties he faces when returning (Black & Gregersen, 1991; Cox, 2004; Gullahorn & Gullahorn, 1963; Rohrlich & Martin, 1991). This is explained by the immature value system and unconsolidated habits that are characteristic of young people (Storti, 2003), as well as by their inherent openness to cultural differences, which means that during their absence they experience more changes under the influence of the host country (Cox, 2004). So when one comes back, there are more changes that need to be adjusted to.

Addressing family status, Wolfe (2005) does not find confirmation for the return of couples being easier than those who move alone. This contradicts previous findings in other studies that those who return home alone will experience more stress (Wolfe, 2005). The explanation is that those who move abroad alone have a stronger identification with the host country in comparison with couples, in which case partners can also be a support person for each other, overcoming the difficulties of return (Cox, 2004).

Personality traits such as neuroticism, lack of self-efficacy, and pessimism appear to exacerbate difficulties during re-entry (Kranz & Goedderz, 2020). Self-efficacy is noted in several studies as a positive aspect of more successful adjustment (Andreason & Kineer, 2005).

Research shows a relationship between length of absence and return problems, in other words, the longer the time spent away from the country of origin, the more pronounced the difficulties in adjustment upon return (Kranz & Goedderz, 2020; Cox, 2004).

The length of time after return is also an important aspect. Research shows that time is a significant predictor of adjustment, with the tendency for symptoms of re-entry shock to diminish as time passes after returning home (Gullahorn & Gullahorn, 1963).

Common to all theories of psychological re-adjustment is the emphasis on alternating stages. Adjustment is a time-varying process in which the returnee experiences discomfort and a sense of alienation, interspersed with stages of having to overcome unpleasant feelings.

Research highlights the significance of factors such as prior preparation, pre-formed expectations that may not be fulfilled upon return, loss of their previous life abroad, alienation, and a longer time away from home. Positive effects are correlated with social support and proactive personality characteristics, such as self-efficacy.

To explore the relationship among re-entry shock, modes of coping, and the indicators of psychological re-adjustment, the following *research questions* are posed:

1. What relationships exist between the scores for re-entry shock, coping modes, psychological re-adjustment symptoms and demographic indicators for return migrants after returning to Latvia?
2. How can coping modes and demographics predict the scores for re-entry shock and psychological re-adjustment (depression, anxiety, and stress)?

Methodology

Research participants

The target audience of the study are return migrants of Latvian origin who have moved back to live in Latvia after a period of absence. 117 participants between the ages of 20 and 69 commenced filling out the questionnaire (block of demographic indicators) ($M = 39.59$; $SD = 10.37$). The number of respondents who filled out the entire survey was 84 ($M = 38.76$; $SD = 9.70$).

Table 1 Absolute and relative frequencies of sample demographic indicators

	N	Percentage
Gender	117	100
Women	94	80
Men	23	20
Duration of absence	117	100
Up to 1 year	5	4.3
Up to 5 years	34	29.1
Up to 10 years	40	34.1
Up to 15 years	20	17.2
More	18	15.5
Duration since return	117	100
1 year	35	29.8
2 years	32	27.4
3 years	12	10.3
4 years	10	8.5
5 years and more	28	23.9
Reasons for return	117	100
Longing for home, family, friends	29	24.8
Family or personal circumstances	23	19.7
Wish for children to live/study in Latvia	14	12
Received an attractive job offer/plans to start own business	10	8.5
Loved one lives/returned to Latvia	6	5.1
Expired work/study contract, visa	6	5.1
Other reason	29	24.8
Covid-19 as a reason for return ^a	6	
Re-entry coping modes	92	100
Proactive mode	45	49
Resocialised mode	16	17
Alienated mode	16	17
Rebellious mode	15	16

Note. ^a 6 respondents entered the Covid-19 pandemic as a reason for return in the free text field under "Other reason".

Instrumentation

Demographic survey. Multiple-choice questions were asked about individuals' gender, age, length of absence and time since return to Latvia.

Re-entry Shock Scale (RSS, Seiter & Waddell, 1989). The translation into Latvian and the adaptation were made within the framework of this study. The RSS is a self-report survey with 16 questions where respondents answer on a Likert scale from 1 ("strongly agree") to 7 ("strongly disagree"). Internal consistency indicators are $\alpha = 0.83$.

Re-entry Coping Modes (Adler, 1981). The author of the survey is Alice Fanari (2021), who, based on the guidelines of Nancy Adler's theory and the description of the study, has created a similar version of the survey. The translation into Latvian and the adaptation were made within the framework of this study. The survey consists of 9 questions, each of which had to be evaluated on a level of difficulty of the semantic differential scale. The first block of questions determines the respondents' pessimistic or optimistic attitude, the second block of questions determines the passive or active attitude. The pessimism-optimism measure was calculated by associating a lower result with the negative spectrum, and a higher one with the positive spectrum. Similarly, passivity-activity measures were calculated. The re-entry coping modes of the respondents were calculated using the score from the pessimism-optimism dimension and the score from the passivity-activity dimension (Adler, 1981).

Resocialised mode optimism – passive	Proactive mode optimism – active
Alienated pessimism – passive	Rebellious mode pessimism – active

Figure 1 Re-entry coping modes (Adler, 1981)

Depression Anxiety Stress Scales (DASS-42, Lovibond & Lovibond, 1995), the Latvian version (Vanags & Raščevska, 2015)). The full version of the self-report questionnaire consists of 42 items and three subscales for measuring depression, anxiety and stress. The shortened version of the survey – DASS-21 – which was used in the study, includes 21 questions. Respondents were asked to rate the extent to which the statement applied to their experience in the previous week, using a Likert-type scale. The item scores of the subscales were summed to obtain depression, anxiety, and stress subscale scores. Internal consistency scores for scales across studies range from $\alpha = 0.84$ to $\alpha = 0.89$ (Vanags & Raščevska, 2015).

Procedure

The research data was collected in electronic format in March and April 2021. The online questionnaire was hosted at www.questionpro.com. In order to reach return migrants, an invitation to fill out the questionnaire was published in return migrant support groups available on social networks and on the www.latviesi.com web portal.

Respondents were informed at the beginning of the survey that their anonymity would be ensured and data would be analysed in an aggregated form, and also that data would be used for scientific purposes only. All study participants took part in the study voluntarily and received no compensation. Filling out the survey took an average of 15–20 minutes. The study has been approved by the Academic Ethics Commission of the University of Latvia.

Data analysis

Descriptive and inferential statistical methods were used for analysis of the results, using SPSS version 22. Descriptive statistical analysis of the data was performed for all study variables and the mean and standard deviation were calculated. Also, for all variables, the fit of the empirical distribution to a normal distribution was calculated using the Shapiro-Wilk test. Inferential statistical methods used: correlation analysis and regression analysis.

Results

All variables were tested for internal consistency and descriptive statistics were calculated (Table 2). Since the empirical distribution for all variables does not correspond to the statistical normal distribution, for the analysis of the inferential statistics calculations were made with non-parametric statistical analysis methods.

For the “passive-active” dimension, including all four questions, Cronbach’s alpha showed a low result. Dropping two questions improved the score, and therefore the dimension containing only the first and second questions was used in further calculations.

To answer the first question – what are the relationships between re-entry shock, the coping modes and psychological re-adjustment symptom scores, as well as their relationship with demographic indicators, correlation coefficients were calculated (Tables 3 and 4).

Table 2 Measures of internal consistency and descriptive statistics for respondents’ re-entry shock, coping dimensions and depression, anxiety and stress scales ($N = 84$)

Variable	α	M	SD	W
Re-entry shock	0.86	4.63	1.04	0.98
Re-entry coping modes				
Pessimism-optimism	0.72	4.75	1.23	0.96*
Passive-active ^a	0.61	4.33	1.47	0.96*
DASS-21				
Depression	0.88	14.38	11.30	0.93***
Anxiety	0.83	8.02	9.04	0.81***
Stress	0.91	17.60	12.47	0.93***

Note. * .05. ** .01. *** .001.

Table 3 Spearman correlation coefficients of the relationship between re-entry shock, re-entry coping modes, and DASS-21 scales (depression, anxiety, and stress) ($N = 84$)

Variable	1	2	3	4	5
Re-entry shock	--				
Pessimism-optimism	-.35**	--			
Passive-active	.00	.19	--		
Depression	.40**	-.36**	-.18	--	
Anxiety	.27*	-.21	-.01	.72**	--
Stress	.32**	-.19	-.13	.80**	.76**

Note. * .05. ** .01.

Table 4 Spearman correlation coefficients of the relationship between re-entry shock, re-entry coping modes, DASS-21 scales and demographic parameters ($N = 84$)

Variable	Gender ^a	Age	Duration of absence	Return duration
Re-entry shock	.06	-.22*	.21*	-.25*
Re-entry coping modes				
Pessimism-optimism	-.05	-.12	-.13	.27*
Passive-active	-.17	.08	.07	.24*
DASS-21				
Depression	-.09	-.09	.05	.00
Anxiety	-.16	-.05	.00	.00
Stress	-.23*	-.04	.06	.00

Note. * 0.05. ** 0.01.

Gender is coded as “woman” – 1, “man” – 2

A relationship to re-entry shock appears with all three DASS-21 scales. Those return migrants who show a higher re-entry shock score show more pronounced psychological symptoms of re-adjustment. The Re-entry Shock and Depression scale shows statistically significant negative associations with the pessimism-optimism dimension, meaning that higher pessimism scores are associated with higher respondent-reported re-entry shock and depression scores.

Several statistically significant relationships were observed. Re-entry shock showed a statistically significant negative relationship with age, meaning that younger people reported more difficulty adjusting to their return. Similarly, re-entry shock showed statistically significant associations with the duration of absence and negative associations with the duration of return – the longer the time return migrants had spent away from Latvia, the more strongly they experienced the symptoms of re-entry shock. On the other hand, the negative correlation of the return duration indicated that the shock of re-entry decreases over time and return migrants feel it more strongly immediately after their return. Coping dimensions of re-entry show statistically significant relationships with return duration. So, the longer the time has passed since return, the more pronounced

was the tendency that the respondents' attitude towards the return remained more optimistic and they became more active in evaluating their homecoming. A statistically significant negative correlation appears for gender in relation to the stress scale, which indicates that women feel stress more strongly.

To answer the second question – how re-entry coping modes and demographic indicators predict re-entry shock and psychological re-adjustment indicators (depression, anxiety, and stress), backward regression analysis was performed (Tables 5, 6, 7, and 8).

Table 5 Backward regression analysis for the dependent variable re-entry shock, independent variables: gender, age, length of absence, length of return, pessimism-optimism and passive-active dimensions of coping with re-entry shock ($N = 84$)

Independent variables	<i>B</i>	<i>SE B</i>	β
Step 1			
Gender	.21	.26	.08
Age	-.04	.01	-.34**
Duration of absence	.07	.02	.34**
Return duration	-.01	.05	-.01
Pessimism-optimism	-.30	.08	-.36**
Passive-active	.06	.07	.09
Step 5			
Gender	-.04	.01	-.34**
Duration of absence	.07	.02	.34**
Pessimism-optimism	-.29	.08	-.35**

Note. Step 1 $R^2 = .26$, .001. Step 5 $R^2 = .25$, .001.

*.05. **.01.

Table 6 Backward regression analysis for the dependent variable depression, independent variables: gender, age, duration of absence, duration of return, pessimism-optimism and passive-active dimensions of coping with re-entry ($N = 84$)

Independent variables	<i>B</i>	<i>SE B</i>	β
Step 1			
Gender	-5.37	2.99	-0.19
Age	-0.26	0.14	-0.23
Duration of absence	0.33	0.25	0.15
Return duration	0.40	0.55	0.08
Pessimism-optimism	-3.59	0.97	-0.39**
Passive-active	-1.13	0.83	-0.15
Step 6			
Pessimism-optimism	-3.43	0.95	-0.37**

Note. Step 1 $R^2 = 0.23$, .002. Step 6 $R^2 = 0.14$, .001.

*.05. **.01.

The results showed that age, length of absence and the pessimism-optimism dimension were statistically significantly associated with an increase in re-entry shock. Younger people reported higher re-entry shock. Likewise, the length of absence was an important predictor – the longer the time spent away from Latvia, the higher the re-entry shock rates. On the other hand, the negative result of the pessimism-optimism dimension indicated a relationship between pessimism and more pronounced re-entry shock symptoms. The model was statistically significant and explained 25% of the variation in variables.

The result obtained in Table 6 revealed that a more pessimistic attitude predicts higher scores on the depression scale. The model was statistically significant and its total explained value was 14% of the variation.

Table 7 Backward regression analysis for the dependent variable anxiety, independent variables: gender, age, duration of absence, duration of return, pessimism-optimism and passive-active dimensions of coping with re-entry ($N = 84$)

Independent variables	<i>B</i>	<i>SE B</i>	β
Step 1			
Gender	-4.71	2.52	-1.87
Age	-0.18	0.12	-1.55
Duration of absence	0.24	0.21	1.13
Return duration	0.03	0.46	0.07
Pessimism-optimism	-2.09	0.82	-2.55*
Passive-active	0.30	0.70	-0.43
Step 5			
Gender	-4.90	2.40	-0.21*
Pessimism-optimism	-2.07	0.77	-0.28**

Note. Step 1 $R^2 = 0.14$, 0.056. Step 5 $R^2 = 0.11$, .007.
*.05. **.01.

Table 8 Backward regression analysis for the dependent variable stress, independent variables: gender, age, duration of absence, duration of return, pessimism-optimism and passive-active dimensions of coping with re-entry ($N = 84$)

Independent variables	<i>B</i>	<i>SE B</i>	β
Step 1			
Gender	-9.58	3.44	-0.30**
Age	-0.17	0.16	-0.14
Duration of absence	0.24	0.29	0.10
Return duration	0.33	0.63	0.06
Pessimism-optimism	-2.47	1.12	-0.24*
Passive-active	-1.25	0.95	-1.32
Step 5			
Gender	-8.34	3.31	-0.26*
Pessimism-optimism	-2.47	1.07	-0.24*

Note. Step 1 $R^2 = 0.16$, .035. Step 5 $R^2 = 0.12$, .006.
*.05. **.01.

In Table 7, a higher score on the anxiety scale indicated negative associations with both gender and the pessimism-optimism dimension, i.e. women and respondents with a more pessimistic attitude showed a higher result on the anxiety scale. The model was statistically significant and explained 11% of the variation.

Women and respondents with a more pessimistic attitude had higher stress symptoms. The model was statistically significant and explained 12% of the variation.

Discussion

The aim of the study was to determine the relationships among re-entry shock, coping modes and psychological re-adjustment shown by return migrants who are Latvian nationals. In order to explain this, the relevant theory and research conducted both abroad and in Latvia were examined, and a study, obtaining and processing quantitative data, was conducted.

The results of the study suggest that return migrants who scored higher on the re-entry shock scale also reported more difficulties with depression, anxiety, and stress. This is consistent with research showing that alienation (Talawanich et al., 2019), bereavement (Butcher, 2002) and negative psychological health indicators (Gaw, 2000; Fanari et al., 2021) are associated with elevated scores on the re-entry shock scale. However, the correlation analysis does not allow us to infer the direction of the association, namely that perhaps those who face more difficulties in the return process experience more shock.

A significant result showed that younger people perceive the return as more difficult. Similar results have been obtained by other researchers (Gullahorn & Gullahorn, 1963; Black & Gregersen, 1991; Cox, 2004; Rohrllich & Martin, 1991), especially in samples of children and adolescents who experience more profound personality changes during the absence, and thus experience the return as more emotionally challenging (Storti, 2003; Cox, 2004). Higher rates of re-entry shock are also associated with the length of time spent abroad. The results obtained are consistent with the findings of other studies, showing that longer absences are associated with higher symptoms of re-entry shock (Cox, 2004; Kranz & Goedderz, 2020).

In this study, a significant relationship was additionally found between re-entry shock and time since return. Participants who have recently returned to Latvia show higher rates of re-entry shock, but the longer they have spent time back in Latvia, the more pronounced the decrease in this rate. This is consistent with the theoretical proposition that the re-entry shock curve flattens over time (Gullahorn & Gullahorn, 1963). The pessimism-optimism and passive-active dimensions of coping on return also show a similar result – the longer the time that has passed after returning to Latvia, the more successful the coping strategies indicated by the return migrants; namely a more optimistic and active attitude towards return.

Considering that re-entry coping modes and demographics predict re-entry shock and psychological re-adjustment scores (depression, anxiety, and stress); gender and re-entry coping strategies were found to be significant predictors of re-entry shock.

Return migrants who indicated a more pessimistic attitude towards returning home were also predictably associated with higher rates of re-entry shock. Studies that look at ties to the personality of return migrants show pessimism as an aggravating factor (Kranz & Goedderz, 2020). The opposite is also true. Individuals who show more successful coping strategies, for example, traits such as self-efficacy, are likely to be more able to support themselves in the return process by seeking help and information (Andreason & Kineer, 2005). In the study, a significant relationship appears between the stress scale and gender as women experience greater stress. In the Latvian context, one could speculate that different cultural environments have an impact, and that women, as primary caretakers of children, thus carry the responsibility for their well-being.

Considering future research in this area, the sample should be expanded and made more representative by including more men. Studies conducted in other countries have conflicting results regarding marital status, particularly on whether it is easier to return alone or with a family. On one hand, the family can be a supporting factor in the re-adjustment process (Wolfe, 2005; Cox, 2004). On the other hand, children are the ones who find it more difficult to adapt to the country of origin and can provide the reason for repeated emigration.

In general, the study is significant, as it confirms that return migrants who are Latvian nationals also face re-entry shock and psychological re-adjustment difficulties, and exhibit similar experiences to those shown in studies abroad. The results highlight that return migrants should receive more support: returning home causes more difficulties for younger people, women, those who have spent a longer period of time as emigrants, those who returned home relatively recently, and those who are more pessimistic about their ability to settle into life in Latvia.

These conclusions form the basis for developing interventions to psychologically support return migrants and to increase awareness in society about return processes and emotional difficulties that return migrants may face, as well as to improve migration policies in the provision of support measures, specialist education, and the involvement of non-governmental organisations and society, which would reduce repeated emigration in the future, as well as create a more supportive policy for return migrants, ultimately increasing the number of people who return to live in Latvia. The summarised information, research results, and adapted surveys are useful for anyone who works with return migrants on a daily basis.

Limitations

This research has several limitations. Although the study sample was sufficient, larger samples might reflect more nuanced results.

The sample of return migrants who returned home within the last year was insufficiently represented (35 respondents or 29.8%). This is the period of time when the re-entry shock can be felt most strongly (re-entry shock is felt from a few weeks to a year or more (Storti, 2001) and can limit the generalisability of research results.

Another limitation of this study, as recognised also by other researchers, is Adler's (1981) theoretical model of re-entry coping modes for which the original survey instrument is not available. When calculating the research data, two dimensions were used: passive-active and pessimism-optimism, which conceptually represent positions included in the theory, on which research in other countries is also based.

Conclusions

Analysing the results of the study, it was concluded that return migrants who have shown higher rates of re-entry shock also show higher symptoms of re-adjustment difficulties, such as stress, anxiety and depression. Of the surveyed return migrants, 56% confirm that they experienced signs of re-entry shock after returning to Latvia.

The symptoms of re-entry shock are felt more by younger people, those who have lived abroad for a longer period of time and have returned to Latvia relatively recently, and are also more pessimistic about returning home.

Significant predictors of difficulties with psychological adjustment are gender and the re-entry coping strategies of respondents, i.e. it is expected that women and persons with a more pessimistic attitude will experience more difficulties in re-adjusting to the home environment.

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PARENTING PRACTICES, COMMUNICATION ABOUT ADOPTION AND CHILDREN'S BEHAVIOR PROBLEMS IN ADOPTIVE FAMILIES

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ABSTRACT

Aspects relating to adoption have not been much in focus of psychology research in Latvia. The aim of the study was to investigate associations between parenting practices, attitude and communication about adoption and child behavior problems in adoptive families raising school-age children, as well as to investigate to what extent parenting practices, attitude and communication about adoption, as well as parent's perception of adopted child's adverse childhood experiences explains the internalized and externalized child behavior problems. Participants were 130 adoptive parents (94.6% women and 5.4% men) who are currently raising at least one adopted child between the ages of 7 and 18 (50.8% girls, 49.2% boys). Alabama Parenting Questionnaire, psychological control scale from Block's Child Rearing Practices Report, parent report form of the Child Behavior Checklist were used in the study, as well as Kirk's Adoption Questionnaire, which was adapted as part of the study. Results of the study revealed that adverse childhood experience, empathy for the child's understanding and feelings about adoption, maladaptive parenting practices – inconsistent discipline and low involvement predict internalized behavior problems. On the other hand, poor monitoring/ supervision, psychological control, as well as adverse childhood experience and acknowledgement of differences related to adoption by adoptive parents predict externalized behavior problems. Implications for practice include recommendation to empathize the importance of positive parenting practices during pre and post-adoption trainings for adoptive parents.

Keywords: *adoption, adverse childhood experiences, child behavior problems, communication about adoption, parenting practices*

Introduction

Out of more than 5,500 children who currently live in out-of-family care system in Latvia every year on average 86 children are adopted domestically. Every year there are also several cases where adoption is terminated (6 in 2021, 12 in 2020) (State Inspectorate for Protection of Children's Rights, 2021).

Adoption research has concluded that adopted children are at greater risk of experiencing psychological, behavioral and academic difficulties and they experience more mental health referrals than their nonadopted peers (Duncan et al., 2021). This is primarily explained by exposure to various risk factors prior adoption, such as heritable factors, prenatal adversity, adverse childhood experiences etc., but also by post-adoption influences (Paine et al., 2020). Various theoretical models have been constructed to explain the causes of behavioral problems of adopted children. Adopted children's difficulties are best explained by a model that considers both pre-adoption and post-adoption factors (Peters, 1999). It also suggests that family processes have a greater impact on child development than the child's pre-adoption experiences and emphasizes the role of adoptive family's sense of coherence (Ji et al., 2010) and the key role of relationship quality (Balenzano et al., 2018). It has been found that parenting quality mitigates the effects of negative pre-adoption experiences on behavioral difficulties (Kriebel & Wentzel, 2011).

Research also suggests that adoption as an intervention has a beneficial effect on children's physical, cognitive and psychosocial development after experienced adversity (Duncan et al., 2021, Juffer & Van Ijzendoorn, 2005, Palacios et al., 2011, Rutter, 1998), significantly improving developmental outcomes of adopted children (Paine et al., 2020). At the same time, research has concluded (Duncan et al., 2021) that adoptive parenting can be both a protective and a risk factor for adopted children's mental health and behavioral problems, depending on its nature. Research has found that this can be a significant protective factor when parenting practices moderate the impact of adverse childhood experiences. Negative parenting practices can have adverse effects on the health and behavior of adopted children, whereas positive parenting has an overall positive effect. Studies have also found a general positive relationship between communication openness about adoption and the child's behavior. However, the results of previous studies about communication openness and child's behavior are marked by inconsistency (Brodzinsky, 2006, Neil, 2009).

Since the parenting practices used by adoptive parents and the way of communication about adoption are associated with different developmental outcomes of adopted children, the aim of the study was to explore the associations between parenting practices, attitude and communication about adoption with children's behavioral problems. Furthermore, the study aimed to find out, to what extent parenting, attitudes and communication about adoption, as well as parents' perception of children's adverse childhood experiences, explain children's internalizing and externalizing behavior problems. The study was conducted in the population of adoptive parents in Latvia, which has been little studied. So far, only personality characteristics of adoptive parents have been explored in psychology research in Latvia (Slišāne & Strika, 2016).

Communication about adoption and child's behavior

According to research (Pinderhughes & Brodzinsky, 2019), communication about adoption is one of the important tasks of adoptive parents, who must decide when and what information about the adoption to share with the child.

Providing information about adoption is an evolving process that begins in the early preschool years with a relatively simple story that increases in complexity according to development of child's cognitive and emotional skills (Palacios & Brodzinsky, 2010). Communication about adoption is a family interaction process and it is more than simple exchange of information.

Communication about adoption is closely related to the so-called strategies of "acknowledgement-of-differences / rejection-of-differences", which were defined within the framework of the shared fate theory developed by Daniel Kirk (Kirk, 1964). According to Kirk's theory, some adoptive parents deny any differences with biological parenthood, but there are also adoptive parents who acknowledge their differences with biological families. These parents are more empathetic and communicate more openly about adoption with their adopted children, which in turn promotes healthier parent-child relationships and more stable family life (Palacios & Brodzinsky, 2010).

Association between communication about adoption and the behavior of adopted children has been examined in several of studies, which have revealed a general positive relationship. Two cross-sectional studies found that communication openness was associated with fewer adolescent behavior problems (Aramburu Alegret et al., 2020), emotional instability, and negativity (Soares et al., 2017). It was also found that more open communication about adoption within the family is related to fewer behavior problems in preadolescent adopted children (Brodzinsky, 2006). However, Neil's study concluded that open communication has no relationship (neither positive nor negative) with children's internalized or externalized behavior problems (Neil, 2009).

Parenting practices and behavior of children

It has been well established in research (Paine et al., 2020, Pinguart, 2017) that parenting practices both in adoptive and biological families are associated with child's behavior problems and ability to adapt. Among many parenting variables, parenting styles have been among the most frequently investigated (Aunola & Nurmi, 2005). Parenting styles – authoritative, authoritarian, permissive and neglectful have been defined by Baumrind (1966), Maccoby and Martin (1983). At least two dimensions – emotional warmth and control characterize parenting styles. Authoritative parenting style includes emotional warmth in combination with appropriate parenting control, whereas authoritarian parenting is characterized by insufficient emotion warmth in combination with harsh and tight control. Barber (1996) has introduced further distinction in the dimension of parental control – psychological control and behavioral control. The former intrudes into the psychological and emotional experience of the child, the latter attempts to control or manage children's behavior. Research has found that psychological control contributes to both internalized (depression) and externalized behavior problems (aggression, delinquent behavior) (Barber et al., 2012).

Associations between the dimensions of parenting and behavior of children have been studied largely (Pinguart, 2017) in biological families, but also in adoptive families (Duncan et al., 2021, Paine et al., 2020) Parental warmth, behavioral control, autonomy

granting, and an authoritative parenting style have negative associations with externalizing behavior problems. In contrast, harsh control, psychological control, authoritarianism, permissive and neglectful parenting have a higher association with externalizing behavior problems. The strongest correlations are observed between behavioral problems and harsh and psychological control (Pinquart, 2017). It should be noted, that the interaction between the child and the parents is bidirectional, i.e., dysfunctional parenting practices and children's behavior problems mutually influence each other.

Levels of warm, supportive communication and parental control are similar in adoptive and biological families, as well as in families with both adopted and biological children. However, the level of parent-child conflict is higher in families with adopted adolescents, and the behavior of adopted adolescents is less warm and at times more conflictual than that of non-adopted adolescents (Rueter et al., 2009). Research in the field of adoption has concluded that emotional warmth in the new family is an important protective factor contributing to a favorable adoption outcome (Anthony et al., 2019; Paine et al., 2020).

Studies of adoptive families have also concluded that the use of a positive parenting practices are associated with a significant decrease in children's internalized and externalized behavior problems over time. On the other hand, harsh parenting is unfavorable for the child's development and ability to adapt (Paine et al., 2020).

However, summarizing research findings on the factors that influence adopted children's behavioral problems and ability to adapt, it can be concluded that they are not predicted by any single risk factor, but by a set of different risk factors and protective factors (Roskam & Stievenart, 2014).

One of the relevant risk factors that influences adopted children's ability to adapt is adverse childhood experience – different forms of abuse, violence and neglect. It is found, that adverse childhood experiences are associated with a variety of physical, social, emotional, and behavioral problems (Hughes et al., 2017). However, there is little research (Juffer & van Ijzendoorn, 2005) that examines adverse childhood experiences specifically in high-risk samples, where such episodes have been experienced very likely and to a great extent. Adverse childhood experiences have been little studied in adopted child populations, although a number of studies conclude that adopted children have more pronounced emotional and behavioral problems than children from the general population. It was also concluded that negative experiences before adoption (adverse childhood experiences, time spent in institutions, older age entering the family) are associated with more explicit internalized and externalized behavior problems (Paine et al., 2020).

As previous research has indicated that parenting practices used by adoptive parents and attitude and communication about adoption are associated with different developmental outcomes of adopted children and no research about adoptive parents parenting practices and communication about adoption and its relationship with children's behavioral problems has been conducted specifically in Latvia, following research questions were proposed:

- 1) Are there associations between parenting practices, attitude and communication about adoption and child behavior problems in adoptive families?

- 2) To what extent do parenting practices, attitude and communication about adoption and parent's assessment of a child's negative early childhood experiences predict child behavior problems in adoptive families?

Methodology

Participants

130 adoptive parents participated in the study, including 123 adoptive mothers ranged in age from 20 to 65 years ($M = 45.57$, $SD = 6.02$) and 7 adoptive fathers from 40 to 47 years old ($M = 44.29$, $SD = 3.15$), raising at least one adoptive child aged 7 to 18 for at least one year. Participants were recruited using convenience sampling method by distributing electronic survey among adoptive parents via email with an invitation to participate in the study. 83% of participants stated having higher education, 4.6% unfinished higher education and 12.3% primary, secondary or professional education. Participants have reported about 130 children – 66 girls with the mean age 10.83 years ($SD = 2.89$) and 64 boys with the mean age 11.05 years ($SD = 2.93$). 50.8% of the children came to adoptive families by the age of 3. The average age of children entering the family was 3.06 years ($SD = 2.68$). 80% of children have experienced institutional care, 32.3% of the children spent 1–2 years in institutional care, 17.7% 2–5 years, 26.9% less than a year, 3.1% more than five years. 72 participants reported to have one adopted child, 41 – two adopted children, 13 families – three adopted children, and 4 families – four adopted children. In addition, 23.1% of participants are also fostering children. 31.5% of participants reported having also biological children.

Procedure

Research was carried out in accordance with research ethics guidelines of the University of Latvia. A checklist on observation of ethical principles was completed and approved by the supervisor of the study project before the survey was conducted. Participation in the study was voluntary through an internet-based survey. Data were collected during the period from November 2022 to January 2023. Invitations to participate in the study were sent out by the Ministry of Welfare and seven out-of-family-care support centers to the databases of adoptive parents at their disposal.

Measures

Parenting practices were measured using the Latvian version of Alabama Parenting Questionnaire (APQ; Shelton et al., 1996, Kalniņa, 2006). APQ measures dimensions of parenting in five subscales: (1) positive involvement with children, (2) use of positive discipline techniques, (3) supervision and monitoring, (4) consistency in the use of discipline and (5) use of corporal punishment. 35 out of original 42 items were used in the study. The study did not include seven items about individual disciplining methods, which are included in original questionnaire as separate questions without combining them to a scale. In addition to APQ 18 item psychological control scale from Block's

Child Rearing Practices Report (CRPS; Roberts et al., 1984, Sebre & Skreitule-Pikše, 2009) was used to measure parenting practices of adoptive parents. Participants were asked to rate each item on a 5-point scale (1 = not like me at all, 5 = very much like me). The internal reliability of scales were as follows: Involvement .87, Positive Parenting .77, Poor Monitoring/Supervision .84, Inconsistent Discipline .50, Corporal Punishment .71, and Psychological Control .81.

The children's internalizing and externalizing behaviors were measured by parental form of Latvian version of the Child behavior Checklist for ages 6 to 18 years old (CBCL 6–18, Achenbach & Rescorla, 2001, Sebre & Laizāne, 2006, Skreitule-Pikše et al., 2013). This questionnaire includes 112 items that assess the child's emotional and behavioral problems. Parents were asked to rate each item on a scale from 0 – 2, where 0 is “not true”, 1 – “somewhat or sometimes true”, 2 – “very true or often true”. In this study, two aggregated scales were used – internalizing behaviors, including anxious/ depressed, withdrawn/ depressed and somatic complaints, and externalizing behaviors, including aggressive and rule-breaking behaviors. The internal reliability of the internalizing behaviors scale was .89 and .93 for externalizing behaviors.

Communication and attitudes towards adoption were measured using a parental parent self-report measure – Kirk's Adoption Questionnaire (KAQ), which has been developed in 1981 to validate the shared fate theory (Kirk, 1981). KAQ was adapted as part of this study. Adaption was based on the Latvian version of a self-assessment questionnaire included in Latvian edition of the book “Telling the Truth to your Adopted or Foster Child. Making Sense of the Past” by Smalley and Schooler (2012), which in turn is based on Kirk's original survey (Smally & Schooler, 2012, Smolija & Skūlere, 2022). Two of the articles have been clarified and adapted to modern days and cultural context. For example, the question included in the original survey “How often have you told your child whether his parents were married?”, which was relevant in US cultural environment in the last century, has been replaced by a question more relevant to the modern context “How often have you answered the child's questions about his parents honestly and as completely as possible?”.

KAQ measures following dimensions of adoption in three subscales: (1) acknowledgement of differences (AOD), (2) parents empathy for the child's understanding and feelings about adoption and (3) communication about adoption. Measure of AOD was recently validated by Lo and colleagues in a study about relevance of the shared fate theory in the current era of open adoptions (Lo et al., 2021). Parents were asked to rate each of 14 items using 4-point scale, where 1 is “never”, 2 – “infrequently”, 3 – “sometimes” and 4 – “often”. The internal reliability of AOD scale was .85, Empathy .85 and Communication .93.

In order to measure adoptive parent's perception of their child's adverse childhood experiences parents have been asked to rate the statement “My child has faced adverse childhood experiences (physical, emotional or sexual abuse, neglect, loss of relatives, etc.) using 5-point scale, where 1 is “strongly disagree” and 5 – “strongly agree”.

Data processing

Spearman's correlational analysis was used in order to examine associations between parenting practices, attitude and communication about adoption and child behavior in adoptive families. Linear regression analysis with stepwise procedure was used to establish to what extent the parenting practices, attitude and communication about adoption and parents' perception of the adopted child's adverse childhood experience predict child's behavior in adoptive families. Internalizing behavior problems and externalizing behavior problems as dependent variables were examined separately. The data were processed and the results were calculated using the statistical data processing program IBM SPSS Statistics 22.

Results

To answer the research question about associations between parenting practices, attitude and communication about adoption and child behavior in adoptive families, Spearman's correlations were computed (see Table 1). Significant associations were found between all parenting practices and child behavior problems, ranging from $r_s = .20, p < .05$ to $r_s = .44, p < .01$. Negative correlations were found between involvement and positive parenting and both – internalizing and externalizing child behavior problems. Strongest correlations were found between poor supervision and externalizing behavior problems ($r_s = .44, p < .01$), and psychological control and externalizing behavior problems ($r_s = .38, p < .01$).

Regarding adoption, significant positive associations were found between parent's empathy towards the child's understanding and feelings about adoption and child's internalized behavior problems ($r_s = .20, p < .05$), and communication about adoption and child's internalized behavior problems ($r_s = .28, p < .01$). Significant positive correlations were also found between acknowledgement of differences and externalizing behavior problems ($r_s = .29, p < .01$), and communication about adoption and externalizing behavior problems ($r_s = .26, p < .01$).

Table 1 Intercorrelations between parenting practices, attitude and communication about adoption and child behavior problems ($n = 130$)

	Behavioral problems	
	Internalised behavior	Exsternalised behavior
Involvement	-.29**	-.31**
Positive parenting	-.24**	-.26**
Poor monitoring/ supervision	.33**	.44**
Inconsistent discipline	.24**	.26**
Corporal punishment	.20*	.26**
Psychological control	.20*	.38**
Acknowledgement of differences	.15	.29**
Empathy	.20*	.16
Communication	.28**	.26**

* .05, ** .01

To answer the research question, to what extent the parenting practices, attitude and communication about adoption and parents' perception of the adopted child's adverse childhood experience predict child's behavior in adoptive families, linear regression analysis with stepwise procedure was performed. Internalizing behavior problems (see Table 2) and externalizing behavior problems (see Table 3) as dependent variables were examined separately.

From all the variables used as independent variables conducting the stepwise regression analysis with internalizing behavior problems as the dependent variable, four yielded statistically significant results (see Table 2) – adverse childhood experiences, empathy for the child's understanding and feelings about adoption, positive involvement and consistency of discipline in the model explained 21% of internalizing behavior problems variance ($F(4, 125) = 8.35^{**}$, $p < .001$, $R^2 = .21$).

From all the variables used as independent variables conducting the stepwise regression analysis with externalizing behavior problems as the dependent variable, four yielded statistically significant results (see Table 3) – poor monitoring/supervision, psychological control, adverse childhood experience, and acknowledgement of differences in the model explained 42% of externalizing behavior problems variance ($F(4, 125) = 22.58^{***}$, $p < .001$, $R^2 = .42$).

Table 2 Linear regression analysis results of internalized behavior problems with stepwise procedure ($n = 130$)

Variable	<i>B</i>	<i>SE B</i>	β
Adverse childhood experiences	1.44	.4	.29**
Empathy	.51	.21	.19*
Involvement	.26	.13	.17*
Incontistence	.44	.87	.27*

Note. $F(4, 125) = 8.35$, $.001$, $R^2 = .21$
 * .05, ** .001

Table 3 Linear regression analysis results of externalized behavior problems with stepwise procedure ($n = 130$)

Variable	<i>B</i>	<i>SE B</i>	β
Poor supervision/ monitoring	.62	.15	.31***
Psychological control	7.97	1.88	.3***
Adverse childhood experiences	1.64	.55	.21**
Acknowledgement of differences	.49	.2	.18*

Note. $F(4, 125) = 22.58$, $.001$, $R^2 = .42$
 * .05, ** .01, *** .001

Discussion

The study was conducted with the aim of finding out what associations exist between parenting practices, attitudes and communication about adoption and children's behavior problems in adoptive families raising school-age children, as well as to establish to what extent parenting approaches, attitudes and communication about adoption, as well as parents' perception of children's adverse childhood experiences predict behavior problems of children.

The results revealed correlations – negative and positive, between all parenting practices used by adoptive parents and children's internalizing and externalizing behavior problems, confirming once again that parenting practices are reflected in children's behavior, and vice versa – children's behavior induces parents' actions.

Adoptive parents' active involvement in children's lives and positive parenting is associated with fewer internalizing and externalizing behavior problems. By using positive parenting practices and being more involved in child's activities, adoptive parents can help child to reduce or prevent behavioral problems. At the same time, the results also indicate that parents respond more positively to children having less behavioral difficulties.

Correlations have also been found between unfavorable parenting approaches – poor supervision, inconsistent discipline, corporal punishment, psychological control, and more expressed internalized and externalized behavior problems. This demonstrates that use of negative parenting approaches is associated with both externalized and internalized behavioral problems in children.

The results of this study are in line with findings in previous adoption studies concluding that positive parenting approaches in adoptive families are associated with a significant decrease in children's behavior problems over time, but harsh parenting, characterized by negative and intrusive interaction, is unfavorable for child development (Paine et al., 2020).

The most pronounced correlations in the study were found between lack of parental supervision over the child's activities, and psychological control, which is characterized by limiting and manipulating the child's psychological and emotional experience, and children's externalized behavior problems. These findings are in accord with previous studies of biological families (Pinquart, 2017). It can be concluded that the relationships between adoptive parents' child-rearing behavior and adopted children's behavioral problems display similar trends as found in studies of biological families.

Parents' empathy for the child's understanding and feelings about the adoption correlates with child's internalizing behavior problems. This association could be explained by the fact that an adoptive parent who is empathetic to the child's feelings about the adoption notices also child's internalized behavior problems.

Acknowledgement of differences indicating the extent to which adoptive parents recognize the adoption as having implications for themselves and for adopted children, and communication about adoption, characterized by the presence and intensity of dialogue with the adopted child about adoption, are significantly related to externalizing behavior problems. The results of previous research on the relationship between open

communication about adoption and its correlation to children's behavior are mixed. Some studies have concluded that open communication is associated with fewer child behavior problems (Aramburu Alegret, et al., 2020, Audet & Le Maret, 2011 Brodzinsky, 2006, Tarroja, 2015), however, there are also studies where the relationship between open communication and child behavior problems has not been found (Neil, 2009). It could be assumed that the positive association found in this study between acknowledgement of differences, communication about adoption and more pronounced externalizing behavior problems could be explained by the fact that families facing children's behavioral problems communicate more about the adoption. As long as adoptive families do not face children's behavioral problems, parents may choose not to talk about adoption with the child and do not acknowledge differences from biological families. Such an assumption is in line with Brodzinski's thesis that rejection of differences in the adoptive family is not always a conscious choice or avoidance strategy, but may mean that the family has not yet faced any adoption related problems. When problems arise, the family may choose to not only acknowledge differences, but also even to emphasize them, which, in turn, may also become an indicator of family system dysfunction (Brodzinsky & Schechter, 1990). At the same time, it could be concluded from the results of this study that the existence of open communication with the child about adoption in itself is not related to fewer behavioral problems of the child. Content of the communication about adoption could be an important aspect in the dialogue between adoptive parents and child.

The results of the regression analysis revealed that adverse childhood experiences, adoptive parents' empathy towards the child's understanding and feelings about adoption, as well as unfavorable parenting approaches – inconsistent discipline and low parental involvement explain 21% of the child's internalized behavior problems. It can be concluded that in cases where a child with adverse childhood experience is placed in an adoptive family, where the parents show empathy towards the child's feelings about the adoption experience, but are little involved in his upbringing and are inconsistent in raising and disciplining the child, the child could feel depressed, anxious and suffer from somatic symptoms.

Poor supervision, psychological control, as well as adverse childhood experience and acknowledgement of differences explain 42% of children's externalized behavior problems. Therefore, it can be predicted that in cases where a child with adverse childhood experience is raised by adoptive parents who emphasize adoptive families differences from biological families, but do not supervise the child's activities and use psychological control, such as creating feelings of guilt and shame, emotions denial, manipulation of self-esteem and unjustified criticism, the child could behave more aggressively and break the rules more often.

The study also has several limitations – it is cross-sectional and relies on parents' report only. In further research it would be meaningful to include third persons reports (e.g., teacher), as well as study parenting practices and child behavior longitudinally. Attitudes and communication about adoption were measured using the Kirk's Adoption Questionnaire, which differs from the methods used in other studies of communication openness in

adoption research (child surveys and semi-structured parent interviews), thus the obtained results should be interpreted with some caution. For the analysis of the adverse childhood experience parents' assessment of the child's experience was used, which is by no means comprehensive, because adoptive parents in Latvia mostly have only limited information about the child's family history and experiences before entering the adoptive family.

Despite the limitations, results of the study could be used for further research about different factors contributing to child behavior problems in adoptive families and about the role of communication about adoption in adoptive families. Study results may also be used to justify the need for pre and post adoption parent training programs with emphasis on development of positive parenting skills.

Conclusions

The results of the study generally confirm that positive parenting practices – parental involvement, positive and warm parenting can be considered as protective factors in adoptive families that positively influence children's behavior, while less successful and negative parenting practices – poor supervision, inconsistent disciplining, physical punishment and psychological control are considered risk factors and are associated with child's behavior problems. However, at the same time, it should be noted, that the study found correlations, not causal relationships, and children's behavior affects also the parenting practices chosen by adoptive parents. It can also be concluded that open and empathetic communication with the child about adoption, as well as acknowledgement of the differences are not associated with fewer behavioral problems of the child, on the contrary, acknowledgement of the differences related to adoption, empathy towards the child's understanding of adoption and communication about adoption in this study showed associations with child behavior problems.

The results of the study provide a basis for the assumption that communication about adoption and empathy for the child's feelings have positive impact in cases when they are combined with positive and adaptive parenting practices. In cases where parenting practices chosen by parents are not consistent and implemented with insufficient involvement, communication and empathy about adoption can also contribute to the child's behavior problems. Certainly, this assumption should be tested in further research.

The results of the study confirm that an important risk factor for a child's successful development is adverse childhood experience, which, together with other variables, predicts both internalized and externalized behavior problems.

Despite of several limitations, this study provides valuable information on adoptive parents' parenting practices, attitudes, and communication about adoption and their correlations to the internalized and externalized behavior problems of the adopted child, as well as gives insight about the factors that predict child behavior problems in the adoptive families. The findings empathize the need for pre and post-adoption parent training programs with focus on positive parenting practices.

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ON A PATHWAY TOWARDS A HOLISTIC APPROACH TO VIRTUE EDUCATION: A CASE OF THE E-TAP CURRICULUM

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ABSTRACT

A holistic approach is becoming increasingly significant in 21st century education. To address the cognitive, affective, and behavioural aspects of morality, the holistic approach to character (virtue) education as part of 21st century school education is essential. For the purpose of this research, the virtue education curriculum launched in Latvia in 2021 within the research project “e-TAP” was chosen. This article aimed to analyse the e-TAP curriculum (fall 2022 version), corresponding to the requirements for a well-designed character education programme. To address the research goal, the following research questions were put forward: Does the e-TAP curriculum meet all the criteria proposed for a character education programme prototype? Has the holistic learning approach been incorporated into the e-TAP curriculum at various design levels? For this empirical study, an explanatory sequential research design was implemented. To address the first research question, a 19-item questionnaire with a 4-point Likert scale was used involving three independent experts to evaluate the e-TAP curriculum according to the criteria and indicators for a character education programme prototype. To address the second research question, the Excel data matrix was used as an evaluation form to analyse the e-TAP curriculum at different design levels. Employing deductive content analysis, two independent experts collaborated while coding the e-TAP curriculum activities ($n = 574$), which were combined in 124 lessons grouped into 17 topics within five modules. According to the experts’ consolidated evaluation results, the e-TAP curriculum fully corresponded to the requirements of a well-designed character education programme: it met all the proposed criteria for a character education programme prototype and addressed the holistic learning approach on all its design levels (activity, lesson, topic, and module). Some implications for researchers and practitioners were proposed.

Keywords: case study, character education, curriculum design, holistic approach, virtue education

Introduction

The holistic approach to education includes a broad range of philosophical directions and pedagogical practices; its focus is on the wholeness, inclusion, connectedness, and

balance between different aspects of life, for instance, individual and collective, internal and external, analytic and intuitive, spiritual and material (Mahmoudi et al., 2012; Miller, 2019). In the holistic approach, a person is viewed as a whole, if a person can live a harmonious life, being in cooperation with the surrounding world, and has equally developed all areas of life: spiritual, intellectual, physical, social, and emotional. This approach is becoming more and more popular and relevant in 21st century education (Badjanova & Iliško, 2015; Cedefop, 2019; Drew, 2022; Gazibara, 2013; Lieģeniece, 2013; Mahmoudi et al., 2012; Miseliunaite et al., 2022; Van Kuyk, 2009), considerably expanding the idea of what education is, what effective curricula should be like, what the efficient learning, teaching, and upbringing process ought to be and what the role of educational institutions (including the teacher) is required to be.

It is possible to implement the holistic approach at all levels of education, including preschool, lower-secondary, upper-secondary, and higher education. In the model developed by Lieģeniece (1999) “A holistic approach to raising 5–7-year-old children”, the development of all areas of the child’s personality is emphasised for the advancement of self-regulation, which occurs in everyday situations and deliberately organised interactions with adults. Self-regulation is one of the most essential resources of a child’s internal development, which affects both readiness for school, achievement at school and success in social situations, helping people to realise themselves throughout their lives (Lieģeniece, 2013, Van Kuyk, 2009). Van Kuyk (2009) believes that the holistic approach is the best choice for developing an effective curriculum in preschool to promote connections between different areas of children’s development, because an effective curriculum must ensure a good balance between promoting children’s self-regulation and optimising their development on the part of the teacher.

Badjanova and Iliško (2015) concluded in their study that the holistic approach to education can considerably affect the quality of the teaching and learning process at school. Thus, to improve a conceptual framework for an effective teaching and learning process based on a holistic approach, it is essential to evaluate not only the structure of teaching and learning, but also the content and procedural aspects of teaching and learning (e.g., students’ interaction with the teacher and other students).

In higher education, the holistic approach to teaching and learning advances students’ determination to be critical, confident, and independent; aims to make learning a process of self-improvement that explicitly recognises the self and the social context of learning and teaching and recognising the needs of the individual learner in the interaction (Patel, 2003).

The holistic approach has been actualised in 21st century education (Bruhlmeier, 2010; Gazibara, 2013) based on the beliefs of Johann Heinrich Pestalozzi regarding the necessity to develop the powers of ‘head, heart, and hands’ through education. It integrates the affective (emotional), psychomotor (practical), and cognitive (intellectual) domains of learning, acknowledging the culture of ‘head, heart, and hands’ learning (hereinafter: the 3H learning). This approach is oriented to satisfying individual’s intellectual, emotional, and practical needs and interests, which is one of the main objectives of contemporary education.

Figure 1 illustrates the transition from a single learning domain to the triple learning domain model that encompasses three domains of learning (the 3H learning) as the focus of this study.

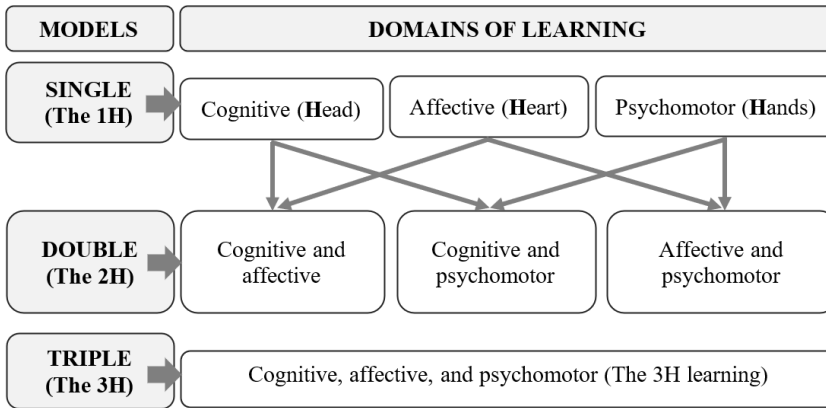


Figure 1 Learning domain models (developed by the authors)

The single learning domain model (i.e. the 1H learning model) is based on implementing one learning domain (e.g., cognitive, affective or psychomotor). The double learning domain model (i.e. the 2H learning model) is based on implementing various pairs of learning domains (e.g., cognitive and affective or cognitive and psychomotor or affective and psychomotor). The triple learning domain model (i.e. the 3H learning model) is based on the holistic approach implementing all three learning domains (i.e., cognitive, affective, and psychomotor).

Character education as an essential part of 21st century school education embraces the explicit and implicit educational activities that help students to develop virtues as stable traits of character with the aim of promoting human flourishing through implementing ‘caught’, ‘taught’, and ‘sought’ approaches (Arthur et al., 2022; Harrison et al., 2015; The Jubilee Centre, 2022). These three approaches put an emphasis on various domains of learning. For instance, the ‘taught’ approach stresses the cognitive aspects and the development of the mind (the head), the ‘caught’ approach emphasises the emotional aspects, the inspiration through examples (the heart) and the ‘sought’ approach highlights the practical involvement (the hands). Despite this emphasis, all three learning domains should be addressed in each approach implemented in holistic character education. According to Lickona (1999), “Character must be broadly conceived to encompass the cognitive, affective, and behavioural aspects of morality: moral knowing, moral feeling, and moral action. Good character consists of knowing the good, desiring the good, and doing the good habits of the mind, habits of the heart, and habits of behaviour” (p. 78). In order to advance character in all its dimensions and address the previously mentioned aspects of morality, a holistic approach to character education is needed, therefore the holistic character education must be based on the 3H learning model in which ‘caught’, ‘taught’, and ‘sought’ approaches are embedded (see Figure 2).

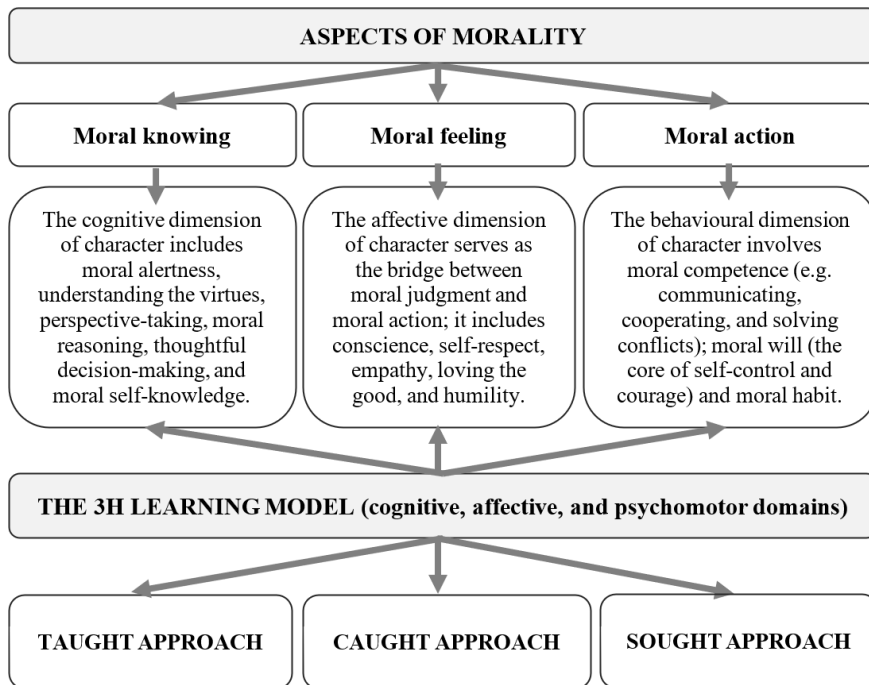


Figure 2 The holistic learning approach to character education (developed by the authors based on previous research (Lickona, 1999; Arthur et al., 2022; Harrison et al., 2015; The Jubilee Centre, 2022))

McGrath (2018) proposed the criteria for elaborating and assessing a character education programme prototype, i.e., it is school-based, structured, it addresses specific positive psychological attributes, it addresses identity, moral growth, holistic growth, and the development of practical wisdom (p. 26). In broader contexts, according to Miseliunaite et al. (2022), “[...] there has been a lack of analysis of holistic educational curricula to reveal how the balance among the different dimensions of human development (intellectual, physical, social, aesthetic, spiritual, and emotional) is maintained in the educational curriculum design” (p. 17).

The current needs for the holistic approach to character education in Latvian schools were revealed by several recent need analysis studies (Fernández González, 2019; Surikova & Pigozne, 2018). There are various initiatives (including programmes) to address one or more character education aspects in Latvia. For example, the programme “Support for positive behaviour” is a systemic prevention and intervention programme for reducing violence in schools, creating a positive, supportive, and safe learning environment, promoting the positive behaviour of students (Daniela & Nīmante, 2016). “MOT” is a motivational programme for teenagers, the concept of which is based on the desire to create a safer society by strengthening young people’s understanding and courage – the courage to live, care and say no. “Leader in me” is a change programme for the whole

school, based on the principles and actions of personal, interpersonal and organisational efficiency, including the assumption that every child and young person has strengths and the ability to take responsibility for their future or be a leader in their life. “PROMEHS” is a mental health promotion programme aimed at promoting social-emotional learning, encouraging vitality, and reducing social, emotional, and behavioural problems at school and in the family (Martinsons et al., 2022).

The authors of this article have selected the virtue education curriculum launched in Latvia in 2021 within the research project “e-TAP”. This curriculum is distinctive because it addresses issues within the curriculum through the perspective of character development. The curriculum was developed, approved, and improved by practising teachers in cooperation with the research team. It is based on research conducted in Latvia and abroad and a deep philosophical basis – personalist virtue ethics (Akrivou & Fernández González, 2021).

It was created in a five-module system which was interconnected through the curriculum’s moral values and virtues, which are its learning outcomes (see Figure 3).

The e-TAP curriculum (fall 2022 version) offers 124 detailed lesson plans accompanying PowerPoint slides and printable resources for each lesson to shape 5–15-year-olds’ character. The curriculum also includes an introductory module (“Toolbox” for grades 1–3, grades 4–6 and grades 7–9) on virtue ethics, which is the philosophical approach of the curriculum. The introductory module introduces students to the concepts related to virtues and provides an understanding of the process of virtue development.

This article aimed at analysing the e-TAP curriculum congruence, e.g., correspondence to the requirements to a well-designed character education programme. To address

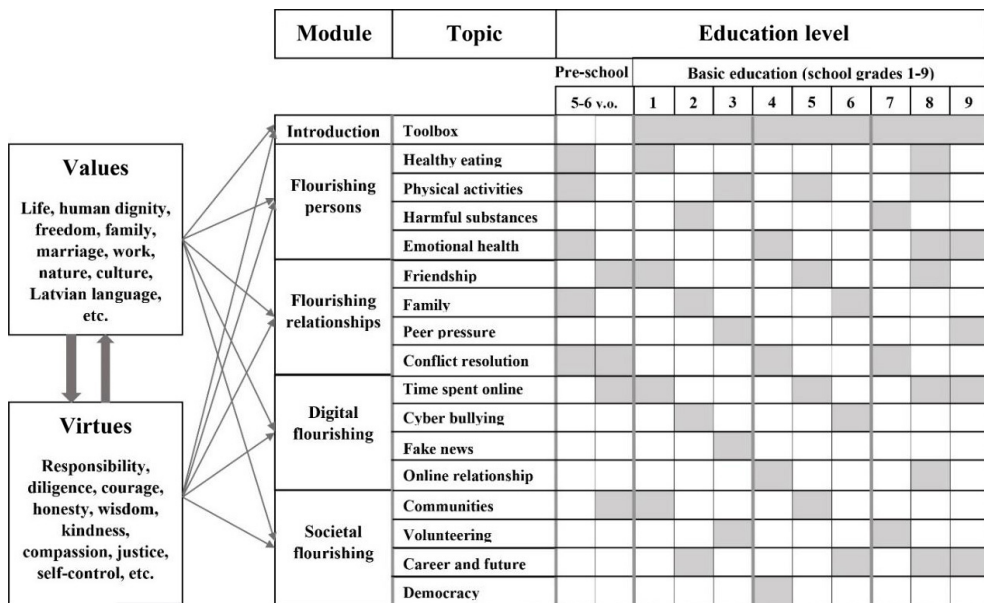


Figure 3 A structure of the e-TAP curriculum (fall 2022 version)

the research goal, the following research questions were put forward: Research question 1 (RQ1): Does the e-TAP curriculum (fall 2022 version) meet all the criteria proposed for a character education programme prototype? Research question 2 (RQ2): Has the holistic learning approach been incorporated into the e-TAP curriculum (fall 2022 version) at various design levels (activity, lesson, topic, and module)?

Methodology

Research design

For this empirical study, the explanatory sequential research design was implemented, in which the quantitative data were collected and analysed to identify results for follow-up, followed by qualitative data collection and analysis to explain quantitative data gathered initially.

Research instruments and methods

Data collection instruments and methods

With a focus on addressing the RQ1, a 19-item questionnaire with a 4-point Likert scale (1 = absent; 2 = unsure; 3 = probably present; 4 = definitely present) was used involving three independent experts to evaluate the e-TAP curriculum according to the criteria and indicators for a character education programme prototype proposed by McGrath (2018).

To examine the RQ2, the Excel data matrix was used as an evaluation form to analyse the e-TAP curriculum at different design levels from the perspective of implementing affective, psychomotor, and cognitive domains of learning (based on Gazibara, 2013) and encompassing the cognitive, affective, and behavioural aspects of morality (based on Lickona, 1999).

Data processing and analysis methods

Cohen's kappa (IRR) and intraclass correlation coefficients (ICC) were calculated to estimate reliability between two or three independent experts' ratings assuming that IRR and ICC values of .40 to .74 are considered poor to moderate agreement and values of $\geq .75$ represent good to excellent agreement. There was poor agreement between Expert 1 and Expert 2 (IRR = .275), between Expert 2 and Expert 3 (IRR = -.015), between all three experts (ICC = .305) and moderate agreement between Expert 1 and Expert 3 (IRR = .683). Descriptive statistics were computed per each independent expert and per each evaluation indicator. The consolidated evaluation was proposed based on mode (M_o) values.

The e-TAP curriculum activities ($n = 574$) combined in 124 lessons which have been grouped in 17 topics within five modules were coded by two experts employing deductive content analysis while searching concrete domains of learning implemented or aspects of morality encompassed (see Table 1).

Firstly, each expert coded independently, then the coding results of both experts were compared, discussed, and consolidated regarding each curriculum activity. Based on

the consolidated results, the learning domain models implemented on different design levels of the e-TAP curriculum were analysed. The assessment criteria for each design level of the curriculum were specified, considering that the evaluation results of the highest design levels are based on the assessment results of the lowest ones with some modifications (Table 2).

Table 1 The deductive content analysis aspects

Analysis aspect	Aspects of activity potential		
	Cognitive	Affective	Psychomotor
Learning domain (keywords)	Cognitive (<i>intellectual activity, students analyse, compare, define, summarise, group, provide examples, answer questions, discuss, etc.</i>)	Affective (<i>emotional activity, students share their feelings, sympathise, become emotionally involved, remember their emotions and feelings, emotional experience, etc.</i>)	Psychomotor (<i>practical activity, students draw, glue, dance, sing, write, play theatre, work in pairs/groups, watch videos, etc.</i>)
Aspects of morality (keywords)	Cognitive (<i>moral knowing, understanding, perspective-taking, moral reasoning, etc.</i>)	Affective (<i>moral feeling, empathy, compassion, loving the good, fairness, joy, satisfaction, etc.</i>)	Behavioural (<i>moral action, communicating, cooperating, solving conflicts, etc.</i>)

Table 2 The assessment criteria for each design level of the curriculum

Design level	The assessment criteria		Learning domain model (rank)
	A main criterion	An additional criterion	
Activity	Encompasses one aspect of morality (e.g., cognitive) (Table 1).	Addresses one related learning domain (e.g., cognitive) (Table 1).	Single (1)
	Encompasses two aspects of morality (e.g., cognitive and affective) (Table 1).	Addresses two related learning domains (e.g., cognitive and affective) (Table 1).	Double (2)
	Encompasses all three aspects of morality (cognitive, affective, and behavioural) (Table 1).	Addresses all three learning domains (cognitive, affective, and psychomotor) (Table 1).	Triple (3)
Lesson*	$M \leq 1.2$	–	Single (1)
	$1.3 \leq M \leq 1.9$	There are at least two activities of the lesson with a rank 2.	Double (2)
	$2.0 \leq M$	There are at least two activities of the lesson with a rank 3.	Triple (3)
Topic**	$M \leq 1.2$	–	Single (1)
	$1.3 \leq M \leq 2.3$	–	Double (2)
	$2.4 \leq M$	–	Triple (3)
Module***	$M \leq 1.2$	–	Single (1)
	$1.3 \leq M \leq 2.5$	–	Double (2)
	$2.6 \leq M$	–	Triple (3)

Note. * Mean (M) of lesson is a sum of the ranks of activities of the lesson divided by the number of activities.

** Mean (M) of topic is a sum of the ranks of lessons within the topic divided by the number of lessons.

*** Mean (M) of module is a sum of the ranks of topics within the module divided by the number of topics.

Results

RQ1: Does the e-TAP curriculum (fall 2022 version) meet all the criteria proposed for a character education programme prototype?

According to experts' consolidated evaluation results (Table 3), the e-TAP curriculum (fall 2022 version) fully corresponds to the requirements to a well-designed character education programme ($M_o = 4$ for fifteen indicators, $M_o = 3$ for four indicators). The e-TAP curriculum is structured ($M_o = 4$ for all indicators), addresses specific positive psychological attributes, moral and holistic growth ($M_o = 4$ for all indicators), school-based ($M_o = 4$ for two indicators, $M_o = 3$ for one indicator), addresses identity ($M_o = 4$ for three indicators, $M_o = 3$ for two indicators) and practical wisdom ($M_o = 4$ for one indicator, $M_o = 3$ for one indicator).

Table 3 The e-TAP curriculum correspondence to the criteria proposed for a character education programme prototype: The results of experts' evaluation

Criteria	Indicators	Expert 1	Expert 2	Expert 3	<i>M</i>	<i>Me</i>	<i>Mo</i>	<i>SD</i>	Consolidated
School-based	Takes place on school premises	4	3	4	3.67	4.00	4	.577	4
	In-school time used	4	4	4	4.00	4.00	4	.000	4
	Compulsory for all students	3	3	3	3.00	3.00	3	.000	3
Structured	A formal curriculum is available	4	4	4	4.00	4.00	4	.000	4
	The curriculum lists lesson plans and activities	4	4	4	4.00	4.00	4	.000	4
Specific positive psychological attributes	Positive attributes are targeted (attach a list of target attributes)	4	3	4	3.67	4.00	4	.577	4
Identity	Strengths spotting in self and others	3	4	3	3.33	3.00	3	.577	3
	Encourages self-statement about strengths	4	4	4	4.00	4.00	4	.000	4
	Discusses character	4	4	4	4.00	4.00	4	.000	4
	In programs for adolescents and adults, addresses the future person	4	4	4	4.00	4.00	4	.000	4
	Focuses on ideal self	3	4	3	3.33	3.00	3	.577	3

Criteria	Indicators	Expert 1	Expert 2	Expert 3	<i>M</i>	<i>Me</i>	<i>Mo</i>	<i>SD</i>	Consolidated
Moral growth	Discusses moral role models	4	4	4	4.00	4.00	4	.000	4
	Discusses moral decision-making	4	4	4	4.00	4.00	4	.000	4
	Discusses moral dilemmas	4	4	4	4.00	4.00	4	.000	4
	Focuses on moral issues	4	4	4	4.00	4.00	4	.000	4
Holistic growth	Addresses strengths or virtues in combination	4	4	3	3.67	4.00	4	.577	4
	Addresses conflicts among strengths or virtues	4	3	4	3.67	4.00	4	.577	4
Practical wisdom	Addresses practical problems in using strengths or virtues	4	4	4	4.00	4.00	4	.000	4
	Discusses overuse and underuse of strengths or virtues	3	3	4	3.33	3.00	3	.577	3
	Mean (<i>M</i>)	3.79	3.74	3.79					3.79
	Std. Error of Mean	.096	.104	.096					.096
	Median (<i>Me</i>)	4.00	4.00	4.00					4.00
	Mode (<i>Mo</i>)	4	4	4					4
	Std. Deviation (<i>SD</i>)	.419	.452	.419					.419

RQ2: Has the holistic learning approach been incorporated into the e-TAP curriculum (fall 2022 version) at various design levels (activity, lesson, topic, and module)?

Taking into consideration both independent experts' evaluation results regarding the e-TAP curriculum activities (see Table 4), it has been established that the first expert (E1) has most seen the cognitive potential of the curriculum activities in all stages of education (98–100%), less – affective and psychomotor potential (46–71%). A similar trend can be observed in the evaluations of the second expert (E2), except for affective potential at pre-school (87%). The evaluation results of the second expert are higher in all indicators except the activity cognitive (77%) and psychomotor (96%) potential at pre-school as well as activity cognitive potential in grades 1–3 (46%). According to the experts' consolidated evaluation results, the holistic learning approach has been embedded on curriculum activity level including cognitive (99%), affective (83%), and psychomotor (65%) aspects.

Table 4 Summarising the coding results regarding potential aspects applied at the activity design level of the e-TAP curriculum (by education levels)

Education level (age)	Aspects of activity potential								
	Cognitive			Affective			Psychomotor		
	E1	E2	Cons	E1	E2	Cons	E1	E2	Cons
Pre-school (5–6 y.o.)	98%	77%	99%	46%	87%	90%	54%	46%	59%
Grades 1–3 (7–9 y.o.)	100%	96%	99%	47%	70%	71%	62%	73%	68%
Grades 4–6 (10–12 y.o.)	100%	100%	100%	70%	74%	86%	65%	75%	66%
Grades 7–9 (13–15 y.o.)	100%	100%	100%	71%	75%	84%	66%	79%	67%
The e-TAP curriculum	99%	93%	99%	60%	77%	83%	62%	68%	65%

Note. E1 – results of the coding conducted by the Expect 1; E2 – results of the coding conducted by the Expect 2; Cons – consolidated results discussed and agreed by both experts.

Table 5 Learning domain models implemented at different education and design levels of the e-TAP curriculum (based on the experts' consolidated evaluation results)

Education level (age)	Design level	Learning domain model			Total
		Single a	Double b	Triple c	
Pre-school (5–6 y.o.)	Activity	3% (<i>n</i> = 3)	47% (<i>n</i> = 46)	50% (<i>n</i> = 50)	100% (<i>n</i> = 99)
	Lesson	–	29% (<i>n</i> = 7)	71% (<i>n</i> = 17)	100% (<i>n</i> = 24)
	Topic	–	25% (<i>n</i> = 2)	75% (<i>n</i> = 6)	100% (<i>n</i> = 8)
	Module	–	25% (<i>n</i> = 1)	75% (<i>n</i> = 3)	100% (<i>n</i> = 4)
Grades 1–3 (7–9 y.o.)	Activity	16% (<i>n</i> = 26)	30% (<i>n</i> = 48)	54% (<i>n</i> = 88)	100% (<i>n</i> = 162)
	Lesson	2% (<i>n</i> = 1)	28% (<i>n</i> = 11)	70% (<i>n</i> = 28)	100% (<i>n</i> = 40)
	Topic	–	31% (<i>n</i> = 4)	69% (<i>n</i> = 9)	100% (<i>n</i> = 13)
	Module	–	20% (<i>n</i> = 1)	80% (<i>n</i> = 4)	100% (<i>n</i> = 5)
Grades 4–6 (10–12 y.o.)	Activity	6% (<i>n</i> = 9)	36% (<i>n</i> = 53)	58% (<i>n</i> = 85)	100% (<i>n</i> = 147)
	Lesson	–	7% (<i>n</i> = 2)	93% (<i>n</i> = 27)	100% (<i>n</i> = 29)
	Topic	–	–	100% (<i>n</i> = 12)	100% (<i>n</i> = 12)
	Module	–	–	100% (<i>n</i> = 5)	100% (<i>n</i> = 5)
Grades 7–9 (13–15 y.o.)	Activity	9% (<i>n</i> = 14)	31% (<i>n</i> = 52)	60% (<i>n</i> = 100)	100% (<i>n</i> = 166)
	Lesson	–	10% (<i>n</i> = 3)	90% (<i>n</i> = 28)	100% (<i>n</i> = 31)
	Topic	–	8% (<i>n</i> = 1)	92% (<i>n</i> = 12)	100% (<i>n</i> = 13)
	Module	–	–	100% (<i>n</i> = 5)	100% (<i>n</i> = 5)
The e-TAP curriculum	Activity	9% (<i>n</i> = 52)	35% (<i>n</i> = 199)	56% (<i>n</i> = 323)	100% (<i>n</i> = 574)
	Lesson	1% (<i>n</i> = 1)	18% (<i>n</i> = 23)	81% (<i>n</i> = 100)	100% (<i>n</i> = 124)
	Topic	–	12% (<i>n</i> = 2)	88% (<i>n</i> = 15)	100% (<i>n</i> = 17)
	Module	–	20% (<i>n</i> = 1)	80% (<i>n</i> = 4)	100% (<i>n</i> = 5)

Note. ^a The single learning domain model is based on implementing one learning domain (e.g., cognitive, affective or psychomotor) within the virtue education curriculum design level.

^b The double learning domain model is based on implementing various pairs of learning domains (e.g., cognitive and affective, cognitive and psychomotor, affective and psychomotor) within the virtue education curriculum design level.

^c The triple learning domain model is based on the holistic approach to virtue education by implementing all three learning domains (i.e., cognitive, affective, and psychomotor) within any design level of the virtue education curriculum.

Based on both experts' consolidated evaluation results, the learning domain models implemented on different design levels of the e-TAP curriculum were analysed (see Table 5).

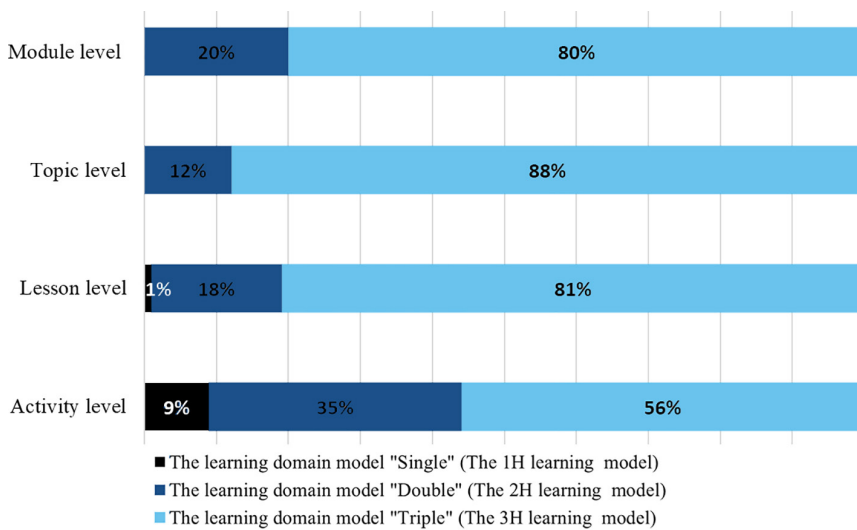


Figure 4 Learning domain models implemented at different design levels of the e-TAP curriculum (based on the experts' consolidated evaluation results)

All types of learning domain models (single, double, and triple) were identified to all education levels within the activity design level as well as in grades 1–3 and on the curriculum level within the lesson design level. Two types of learning domain models (double and triple) were identified on three education levels (pre-school, grades 4–6, and grades 7–9) within the lesson design level. Only the triple learning domain model was identified within topic design level in grades 4–6 as well as within module design level in grades 4–6 and 7–9.

According to experts' consolidated evaluation results (see Figure 4), the holistic learning approach has been incorporated in the e-TAP curriculum on all design levels: the triple learning domain model is implemented in 56% of activities, 81% of lessons, 88% of topics and 80% of modules. These results are in line with the findings identified during previous research activities to address the RQ1. Answers to both RQ1 and RQ2 provided the evidence regarding the e-TAP curriculum well-designed and comprehensive structure, addressing moral and holistic growth including cognitive, affective, and behavioural aspects of morality and embedding the holistic approach to the character education based on implementing the triple (the 3H learning) model.

Discussion

The results of this study are encouraging for those interested in elaborating on and evaluating a curriculum for promoting children's and youth's moral and holistic growth. According to the experts' consolidated evaluation results, the e-TAP curriculum fully corresponds to the requirements of a well-designed character education programme: it meets all the proposed criteria for a character education programme prototype and addresses the holistic learning approach on all its design levels (activity, lesson, topic, and

module) with possible further improvements regarding strengthening the psychomotor (practical) potential of the activities at all education stages, especially for pre-schoolers.

The research results align with recent theoretical and empirical research findings (McGrath et al., 2022; Miller, 2019; Miseliunaite et al., 2022; Niehues, 2020). According to the article's authors, the concepts of holistic education and character (virtue) education are interrelated because character encompasses the cognitive, affective, and behavioural aspects of morality. Therefore, character education should be holistic to address all three aspects. Miseliunaite et al. (2022) stressed that "[...] holistic education is a type of spiritual education that uses reflection" and other activities "to create an inner connection with oneself and nature" (p. 13). According to character education experts (McGrath et al., 2022), the term "holistic" is one of the keywords describing character education features. Holistic education (particularly holistic character education) could be implemented using an integrated, interdisciplinary, and contextual curriculum (Miller, 2019; Miseliunaite et al., 2022; Niehues, 2020; White & Shin, 2017).

Well-designed, comprehensive curricula based on implementing holistic learning models might help address the "knowing and doing" gap in character education (Harrison et al., 2020) by integrating knowledge, feelings, and actions into the learning process. Furthermore, Arthur et al. (2022) noted,

Belonging to a school community is a deeply formative experience: it shapes pupils' character. Character education, both implicit and explicit, can permeate all subjects as well as the general school ethos. Underpinning the focus on a school's ethos is the belief that a school's approach to character education should be holistic. (p. 8)

On the one hand, authentically implemented character education can improve the school climate (Pulgarin, 2022); on the other hand, school ethos, climate, and the environment might be an enabler or disabler for implementing character education.

Finally, it should be stressed that well-designed character education curricula are not guarantees of success without considering the quality of the environment, relationships, and human resources involved in their implementation. Berkowitz (2021) emphasised that humans are organic wholes engaged in various interacting social systems; therefore, human learning is better seen through an organic framework than looking for a set of lessons, a curriculum, or another event to develop character. This organic approach is not only about ways of knowing, feeling, and doing, but also about ways of being. Being proactive, comprehensive, and collaborative about moral and holistic growth will make character education more effective and more prone to success (Berkowitz, 2021).

Conclusions

During the elaboration of this research, the main conclusions were drawn, and some implications for researchers and practitioners were crystallised:

- The e-TAP curriculum is a step forward in the pathway towards holistic character education in Latvia.

- The more detailed the curriculum is, the more extensively and objectively its design can be evaluated at all levels, and the easier it is for teachers to implement it.
- When planning the development of a holistic curriculum, all its design levels (curriculum, module, topic, lesson, and activity) should be considered, beginning with the general and ending with the specific. The more holistic a curriculum is at the activity level, the more holistic it is at all other levels.
- The younger the children are, the more holistic the curriculum should be. Curriculum developers must ensure that all aspects of learning (cognitive, affective, and psychomotor) are included, at least at the lesson level.
- During the implementation of the curriculum, teachers can promote its effectiveness by compensating its weaknesses with their strengths and making it even more holistic. Conversely, teachers can reduce the effectiveness of the curriculum by neutralising its strengths with their weaknesses.

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CHALLENGING AND REPRODUCING THE DISCOURSE OF “INTENSIVE MOTHERING” IN FAMILY MAGAZINE “MANS MAZAIS” (2018–2022)

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ABSTRACT

The dominant discourse of motherhood in Western civilization is of “intensive mothering”, coined by Hays in 1996, which views the mother as the primary caregiver with absolute responsibility over the child’s physical and psychological needs, promoting unrealistic standards, pressure on the mother, not to mention discrediting the benefits of a more present, engaged father, who is constructed mainly as a “bread winner” and assistant-parent. As recommended by Jansone-Ratinika (2013), the media should focus on egalitarian forms of family, thus, in doing so, gradually transforming hegemonic stereotypes in society. Therefore, the aim of this paper is to explore the various discourses of motherhood in the 21st century over a period of 5 years (2018–2022) in the family magazine “Mans Mazais” (*My Little One*). A critical discourse analysis has been conducted, illustrating the reproduction and challenge to the dominant discourse. The study provides insight into a variety of motherhood discourses (re)produced in the 36 issues of the family magazine “Mans Mazais” from 2018 to 2022, providing a spectrum of experiences and motherhood ideologies from “intensive mothering” to alternatives. However, the dominance of “intensive mothering” discourse is overbearing, displaying a portrait of an ideal family – a married Latvian heterosexual couple with happy children, who are cared after by the parents without any constraint in financial, emotional, physical resources, treating any challenge as a passing inconvenience.

Keywords: *motherhood, intensive mothering, intensive parenting, Mans Mazais, critical discourse analysis*

Introduction

Even though the dominant discourse of motherhood in Western civilization has been of “intensive mothering” (Hays, 1996), due to ongoing transformation of society towards more liberal and egalitarian values, the balance of different motherhood discourses is also undergoing change. The hegemonic discourse of “intensive mothering” focuses on traditional gender roles and views the mother as the primary caregiver with absolute responsibility over the child’s physical, psychological, and other needs, whereas the father

is seen as mainly a “bread winner” and assistant-parent (Schoppe-Sullivan et al., 2017; Feasey, 2017). “Correct” mothering within the dominant discourse implies satisfaction with the role as a mother (Orton-Johnson, 2017), positive attitude and loving affections towards the child, and classifying struggles with motherhood and such emotions as sadness, fear or anger, as inappropriate (Murray & Finn, 2012, p. 56). It also implies a “pro-natalist” position and medicalisation of motherhood experience (Tiidenberg & Baym, 2017).

As the “intensive mothering” discourse does not capture the subjectivity and diversity of parenthood and motherhood, numerous scholars have critiqued it as promoting unrealistic standards, pressure on the mother, not to mention discrediting the benefits of a more present, engaged father or, in the context of gender equality, endangering women’s mental health (Das, 2019; van Belle, 2016; Auðardóttir, 2022) due to the weight of child-care responsibilities. Social norms are conveyed through media and social media images and rhetoric; thus, the communication of an “ideal family” or “ideal mother”, the “visible and easily accessible nature of media” provides a platform for mothers to compare themselves against (Forbes et al., 2020, p. 64.). As recommended by Jansone-Ratinika in her dissertation on the father’s pedagogical competences (2013), media should focus on egalitarian forms of family, and, in doing so, gradually transform the hegemonic stereotypes in society. However, even though the representation of parenthood and motherhood in media plays an important role in the formation of public opinion and discourses, the media do not always represent the full spectrum of different motherhood discourses. Therefore, the aim of this paper is to explore the various discourses of motherhood in the 21st century, their prevalence and inter-balance over a period of 5 years (2018–2022) in the family magazine “Mans Mazais” (*My Little One*). The research questions are:

1. Which motherhood discourses are represented in the family magazine “Mans Mazais” (2018–2022)?
2. Through which main discursive themes is the dominant discourse of “intensive mothering” challenged in in the family magazine “Mans Mazais” (2018–2022)?

Discourses of motherhood

To begin with, it is essential to distinguish between terms “intensive parenting” and “intensive mothering”. Some researchers consider them to be equal, although Hays (1996) speaks of “intensive mothering”, while Rizzo, Schiffrin and Liss define “three tenets of this parenting ideology, which are the belief that mothers are inherently better parents (essentialism), the belief that mothering should be child centered, and that children should be considered sacred, delightful, and fulfilling to parents”, also stressing that “the intensity required to parent well, parenting can be quite challenging and require wide-ranging skills and expertise” (2013, p. 615). Some aspects of “intensive parenting” – “stimulation”, “fulfilment” from childcare and “child-centered” attitudes – are in regard to both parents, while “intensive mothering” refers strictly to mothers (Rizzo et al., 2013). Therefore, as, for instance, Forbes calls for further research to differentiate between parenting and mothering attitudes (Forbes et al., 2020, p. 70), in this paper, the term “intensive mothering” is used, as the research mainly focuses on the mother’s role.

In contemporary society “normative good mothering” is considered to be following the guidelines of “intensive mothering” ideology (Chae, 2022; Hays, 1996). It implies parents to be responsible “not only for their children’s physical, cognitive, and intellectual development, but also for their social and emotional wellbeing and for their overall success in life” (Mainland et al., 2016, p. 86), “investing vast amounts of emotional labour and energy into raising their children [...] above and beyond the perhaps obvious strength of emotions” (Das, 2019, p. 499), often neglecting their own needs and desires. This ideology urges parents to nurture their children for future gain, as well as taking upon risks, thus, parents become “risk-managers” (Mainland et al., 2016). “Intensive mothering” also supports traditional gender roles – an idealized heteronormative married couple with the mother devoting her time to childcare and father overseeing the family’s financial stability (Das, 2019, Schoppe-Sullivan, et al., 2017). Lastly, as “intensive mothering” is anchored in the context of neoliberalism, it also maintains that a “right” choice needs to be made and “individuals are to encompass feelings such as positivity, joy and resilience at all times” (Auðardóttir, 2022, p. 2), causing anxiety, stress, and even threats to mental well-being (Forbes et al., 2020, pp. 65–70) especially to those mothers, who face challenges with their journey into motherhood.

As the “real face” of motherhood and the average family profile differs from the “intensive mothering” rigid norms, several mothering discourses are distinguished in other research, which are illustrated by the author with in Figure 1 (Discourses of motherhood). These either “companion” or “conflicting” discourses (Sunderland, 2000, p. 249) challenge or suggest an alternative to the hegemonic discourse of “intensive mothering”, regarding 1) mother’s identity and social roles, 2) behaviour and actions, and 3) emotions. “Challenging” and “alternative” motherhood discourses lift the veil from otherwise shrouded other forms of normality, permitting the woman to have her own voice and agency.

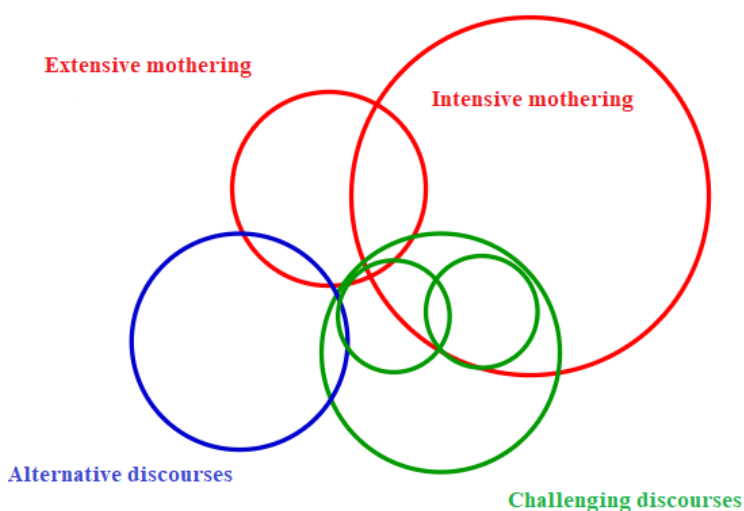


Figure 1 Discourses of motherhood

As illustrated in Figure 1, the dominant discourse of “intensive mothering” has a prominent position with “extensive mothering” as a complimentary discourse by its side, differing only in the fact that “extensive mothering” allows the mother to be employed and, thus, to become a “manager” of the household, delegating different tasks of child-care to others, while maintaining the strict “intensive mothering” guidelines, absolute responsibility and sacrifice of mother’s needs over the interests of the child (Orton-Johnson, 2017; Meng, 2020). Within the “intensive” and “extensive” mothering discourses, mothers adjust their expectations, depending on work status: stay-at-home mothers emphasize “accessibility”; part-time working mothers emphasize “quality interactions”, and full-time working mothers emphasize “empowering children and providing financial resources to support their children’s activities” as central to their ideal mothering, justifying their status as beneficial to children (Liss et al., 2013, p. 623)

While “challenging” discourses accept the prevailing norms of “intensive” and “extensive” mothering discourses, they try to cause a disruption. The scene of these “counter-narratives” is fragmented, as they contrast and interact with one another and the hegemonic discourse as well (Micalizzi, 2020). Tiidenberg and Baum (2017), and Malatzky (2017) speak of “yummy mummies” who challenge “intensive mothering” by accenting their sexuality and femininity in contrast to the “saint-like” predisposition of a mother in the dominant discourse, whereas Orton-Johnson (2017) reveals a “slummy mummy” discourse that rejects superficial beauty and endless beauty-routines and focus on the “average” woman and need for rest, alone-time and casual appearance (illustrated by two smaller circles as part of the “challenging” discourses). However, the disruption of “intensive mothering” discourse is relative, as “challenging” discourses acknowledge the dominance of the hegemonic discourse.

Lastly, “alternative” mothering discourses include discursive themes otherwise invisible to the “dominant” discourse, trying to detach from norms and values of the neoliberal, patriarchal society, and more aggressively pursuing the individual voice and agency of the mother. “Alternative” discourses include mothers with different social roles, identities or choices, for instance, younger or older than average mothers (Snickers & Rommes, 2020; Shea et al. 2016; Yläne, 2016), mothers with physical or psychological challenges (Cummins & Brannon 2022), as well as mothers from marginalized communities due to ethnicity or sexuality (Tiidenberg & Baum, 2017; Ray, 2017), as well as relationship status (single or solo-mothers, divorced mothers, or stepmothers, etc.), income and social status (Mackenzie & Zhao, 2021; Elliott et al., 2017; Roper & Capdevila, 2020; Jovanovski & Cook, 2019; Lazard, 2022), etc. For instance, solo-mothers are often perceived as a “risk” as they do not provide a “traditional” family model and opportunity to explore one’s genetic origin, thus, earning the title of being “selfish” (Graham, 2017). As “intensive mothering” discourse also regulates normative and “correct” behaviour as well as feelings and emotions, “alternative” discourses open up space for discussion about otherwise “taboo” topics – domestic violence, reproductive challenges, death of child, maternal ambivalence and regret (Moore & Abetz, 2019), etc. Mothers, represented in “alternative” discourses often face and acknowledge stigmatization as they supposedly pose a “risk” to

the child's wellbeing and development, according to prevailing social norms, even though not complying to social norms is not always an individual choice.

Methodology

This research employs critical discourse analysis (CDA), focusing on the main interviews with mothers and the overall thematic structure of each issue, illustrating the reproduction and challenge to the “intensive mothering” discourse. Discourse in this paper is defined as

“a group of statements in so far as they belong to the same discursive formation; it does not form a rhetorical or formal unity, endlessly repeatable, whose appearance or use in history might be indicated (and, if necessary, explained); it is made up of a limited number of statements for which a group of conditions of existence can be defined. Discourse in this sense is not an ideal, timeless form that also possesses a history.” (Foucault, 1972, p. 117)

Discourses do not only reflect the world, the social entities and relations, they “construct” them (Fairclough, 1992, p. 3.), therefore, the grammatical and lexical choices that have been made, as well as what has and has not been mentioned, may show what is “assumed” about the world (Sunderland, 2000, pp. 254–256.). Sunderland also stresses, that texts can be seen as “specifically shaping practices surrounding fatherhood and motherhood, and accordingly constituting both gender identities and gender relations” (2000, pp. 253–254).

According to Jørgensen and Phillips, CDA engages in concrete, linguistic textual analysis of language use in social interaction, focusing on the linguistic features of the text, discursive practice and social practice (2002, p. 61.). CDA deals with micro-analysis of linguistic forms that participate in macro-level discursive constructs (Coffey-Glover, 2020, p. 10046). The analysis, following the steps of Auðardóttir (2022), focuses on publicly displayed discourses of mothers, mediated through journalists, as “more so than in blogs or on social media, written words in print media are curated to fit a wide audience and rely on common understanding and assumptions so that the reader can understand and relate to the topic at hand” (p. 3.).

At first (*Figure 2. Research design*), a pilot study was conducted, focusing on 6 issues of the magazine “Mans Mazais”, to distinguish linguistic items from different semantic fields that tend to repeat and patterns of how the interviews had been structured, as well as to recognize discursive themes and to form categories which to measure quantitatively.

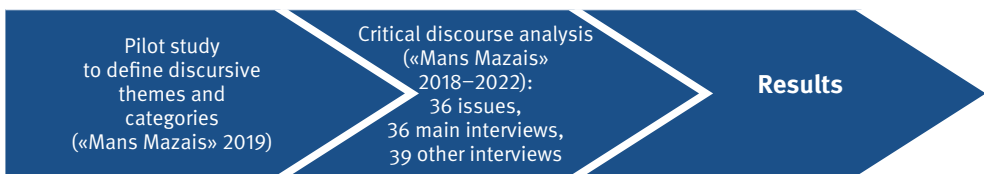


Figure 2 Research design

Next, a total of 30 categories were defined for the quantitative part of the analysis of the main interviews, concentrating on discursive themes of family status, pregnancy, birth, emotions, gender roles, and intellectual stimulation (education), to determine the compliance of each main interview with three of the types of overarching motherhood discourses (“intensive”, “challenging” or “alternative”). A separate category for main theme of the issue was also created, along with descriptive information about the particular issue. Then, a separate table was created to describe the “other” (not main) interviews with mothers and families. As other interviews were significantly shorter, a more basic approach was used, focusing on only the main theme of the particular interview.

The magazine “Mans Mazais”, which is the only printed commercial magazine in Latvia dedicated to parental themes from pregnancy to early childhood, according to the media agency “Inspired”, has been steadily losing its popularity, as in 2018 the print was 9200 issues, whereas in 2023 it is only 4360 issues (Ingūna Folberga, February 22nd, 2023). The magazine has also shrunk in size as in 2018 it has had 84 pages, whereas from the third issue in 2020 it has 68 pages. Lastly, the number of issues per year has also decreased from 12 issues in 2018 to 6 issues from 2019 to 2022.

Each issue has a similar structure – a main theme with several pages dedicated to it and articles and opinion pieces formed in a certain pattern. The main themes during the period from 2018 to 2022 have mainly been connected with the child’s wellbeing (care, upbringing, nourishment, etc.) – 22 of 36 issues are dedicated to this theme; for 7 issues the main focus was the woman (wellbeing, physical and mental health, career etc.), for 5 issues the main theme was couple relationships. Only 1 issue was dedicated to the father’s role and 1 – to relationship with grand-parents. Each issue has a main interview with a celebrity family in the front of the magazine, at least one interview with a family at the back. All of the issues from 2018 to 2022 have had a “father’s diary” and a “pregnancy diary” – on average 2 pages long, as well as interviews with experts about various themes regarding child rearing, birth, pregnancy etc. The CDA was conducted on a sample of 36 issues, covering 5 years of the magazine “Mans Mazais”, analysing 36 main interviews and 39 other interviews with mothers and families. The sample did not include interviews with experts, interviews shorter than 1 page, or diaries by mothers or fathers.

Results

Main interviews

From 2018 to 2022, from 36 main interviews, published in “Mans Mazais”, 21 interviews were conducted with both the mother and father, while 15 interviews were with only the mother’s side of the story. All of the main interviews featured a Latvian celebrity family. Of these 36 different couples, the absolute majority – 33 couples – were married and 1 was in a civil partnership; in 2 interviews the relationship status was not clarified. The majority of couples had only 1 child (16 couples); however, the proportion of families with more than 3 children was high (*Figure 3*).

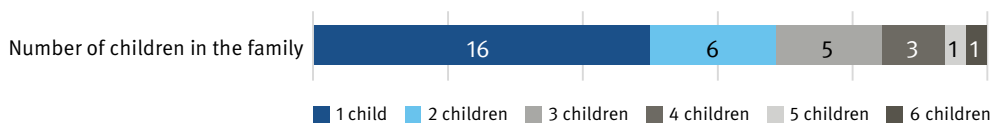


Figure 3 Number of children in the family

When speaking about the **pregnancy**, the main discursive theme, that comes across strongly, is trying to enjoy or enjoying the special experience with either no or only minor complications (25 of 36 interviews). Elīna Šimkus reveals: “The pregnancy went by in harmony, labour experience was wonderful, perhaps that is why Bernard is such a calm and cheerful baby.” (Klapere, 2018b, p. 15). Even when problems arise, they are rarely grave. For instance, Aivis Ceriņš, on the difficulties on getting pregnant, reveals that the doctor urges to “clear one’s mind” first, even though father acknowledges, it is an urgent matter to many couples (Bērziņa, 2020e, p. 12).

Labour also is a harmonic, “natural” and transformative experience, according to the majority of interviews. Of these 36 couples, 23 experienced physiological birth – and in 7 cases the woman gave birth at home; in 6 interviews there is mention of epidural analgesia and in 8 cases there was a caesarean section (in 5 cases the form of birth was not specified). The descriptions regarding birth spread out into a spectrum from more esoteric views, for instance, Jānis Šipkvēvics characterising it as the moment when “the mother’s instinct blossoms and then shines on as the sun every day” (Meiere, 2019b, p. 20), to a more pragmatic approach. Views on father’s participation in birth also differ, as some see birth as a “intimate woman’s thing”, where the presence of man is unnecessary (Bērziņa, 2018b, p. 14), but more than half of the couples see it as a “team effort”.

Mention of **medical procedures** and the caesarean operation comes through guilt or a self-defensive attitude, focusing on the benefits and wonders of modern medicine in saving the lives of women and children. For instance, Dināra mentions: “I felt very guilty about having a caesarean section, for not birthing myself” (Andersone, 2019, p. 18), but goes on how the doctor had debunked her notions on the operation. Whereas, in another interview, where the mother reveals she has had a planned operation, the journalist asks: “Don’t you regret not trying to give birth by yourself?” (Strūberga, 2019a). The dominant discursive theme of giving birth “naturally” and without medical assistance, is strong and acknowledged. “The emotions you come with [to give birth] are the emotions you receive”, says Dana, regarding the experience of birth in a hospital (Bērziņa, 2022d, p 11). Furthermore, in almost 1/3 of the interviews, there is mention of “**mother’s instinct**”, guiding the woman through pregnancy, birth and childrearing; there is no mention of father’s instinct.

While the dominance of physiological, “as natural as possible” birth is evident, the struggles with **breastfeeding** come across more freely. In 14 of 36 interviews there is no mention of complaints or complications with breastfeeding, but in 9 interviews the couple share their problems. Some women feel the struggles are their fault. For instance, Kārlis mentions that his wife Anna blames problems with baby’s sleep or

appetite on herself (Bērziņa, 2021b, p. 13). Other challenges, strong, negative **emotions** and even postpartum depression also is mentioned in 15 interviews, but in most cases – in passing, as the main discursive theme is contentment with the parent's role. A more frequent discursive theme is **weariness** (mentioned in 23 of 36 interviews). For instance, Ieva says: “Knowing how hard it is, I doubt I would plan such a small gap of years in between babies again” (Bērziņa, 2018e, p. 18), although the title of the interview is “All struggles will be forgotten”. Struggles and problems are acknowledged but presented as “worth it” and even through laughter. Māra Upmane-Holšteine cites her husband “I hope this nightmare ends! (*Laughs*). So that the time when children are small, ends faster!” (Bērziņa, 2020a, p. 14).

Most of the interviews mention the woman's **career** (27 of 36), but the narratives mostly focus on the child and how the career is managed around the family or put on pause. Almost half of the interviews speak of the **mother's guilt**, but none speak of father's guilt. Mothers speak of feeling guilty when leaving the baby to return to work or associate it with choices that do not comply with the dominant narrative. For instance, Marta Selecka speaks of pausing breastfeeding during a working trip, and, even though everything, to her mind, was “ok”, she acknowledges that “from the way others reacted, I should have felt guilty” (Strūberga, 2019a, p. 14). Despite that, the majority of interviews (23 of 36) acknowledge the need and urge others to seek **support** from the extended family, relatives or a nanny to find time for the couple or individuals. Support and sense of preparedness comes also from books and parenting **courses** as 2/3 of interviews mention attending parenting classes during pregnancy, reading books etc.

When speaking about **fathers**, the major discursive theme is **support** for the mother, as in 32 of 36 interviews mothers speak of how their husband helps with the children. Some women express gratitude, for instance, Iveta says “I am thankful to Armands for finding time to watch the kids so I can do something for myself” (Bērziņa, 2018c, pp. 17–18), whereas Inese, mother of four, says that she has “a lot of energy” and that her husband “simply doesn't allow to spoil myself with weakness” and does not allow her to “emotionally be other than my best self” (Bērziņa, 2019a, p. 19). However, in more than half of the interviews it is mentioned that the father works a lot to support the family and, thus, is away from home. Evelīna Strazdiņa says “He is frequently and for long periods of time away abroad, therefore, our meetings are pure festivities and fireworks” (Meiere, 2018a, p. 16), while Egons Reiters acknowledges that his wife would like him to spend more time at home, but “it is what it is” (Bērziņa, 2022e, p. 11). The fathers more or less acknowledge the importance of participating in household tasks, for instance, Raimonds Celms even mentions that he supports fathers taking parental leave (Bērziņa, 2022a, p. 12) but the leading role of managing the house falls onto the woman's shoulders.

Lastly, as these interviews are mediated through a journalist, the interviewer's presence in the stories is visible, and often even obvious, provoking or steering the conversation in a particular way. As Auðardóttir stresses, the “media's portrayal of the ideal motherhood thus becomes a tool for social class reproduction in society” (2022, p. 3). The journalist has the power to place emphasis on specific themes or choose not disclose others, and,

in doing so, reproducing a particular discourse. For instance, Meiere asks the mother “Are the children born at home different, than the ones that are born in hospital?” (2018a, p. 14), while Meluškāne comments “I actually know women who have said that they do not want children and later have regretted their choice” (2018b, p. 13). Bērziņa wonders “Are you still sure that one child is enough?” (2021b, p. 17), while in another interview she asks: “Doesn’t having a child motivate you to get married?” (Bērziņa, 2021b, p. 17). The loaded questions are frequent, but subtle, often regarding reading up on pregnancy or attending parental courses, pain regarding medicalized labour (stimulation or caesarean section), jealousy of siblings or women finding time for attending the marital relationship.

To conclude, the main interviews are with Latvian celebrity families, who are well situated, heterosexual, mostly married couples with small children that have mainly experienced “natural” childbirth and have or are breastfeeding. Figure 4 illustrates the discourses that each interview would be classified among, according to their characteristics, and the overall scene.

Although “challenging” discourses are visible, the dominance of “intensive mothering” is still prominent and only one interview could be classified as belonging to the “alternative” motherhood discourses – the interview with Liene Sebre which mainly focused on her career as a children’s TV-series star, but also faintly spoke about having a child at an early age in life and raising the child on one’s own while completing education. “Challenging” discourses still acknowledge the value system of “intensive mothering” while simultaneously shedding light on the woman’s careers, wants, needs, as well as a more egalitarian distribution of housework and childcare. However, the dominance of “intensive mothering”, advertising essentialism (traditional gender roles), child-centred attitudes (need for stimulation, preparation with aid of experts), and positioning childcare as a very demanding, but ultimately rewarding task, is visible – prominently positioned at the beginning of each issue, 5 to 7 pages long.

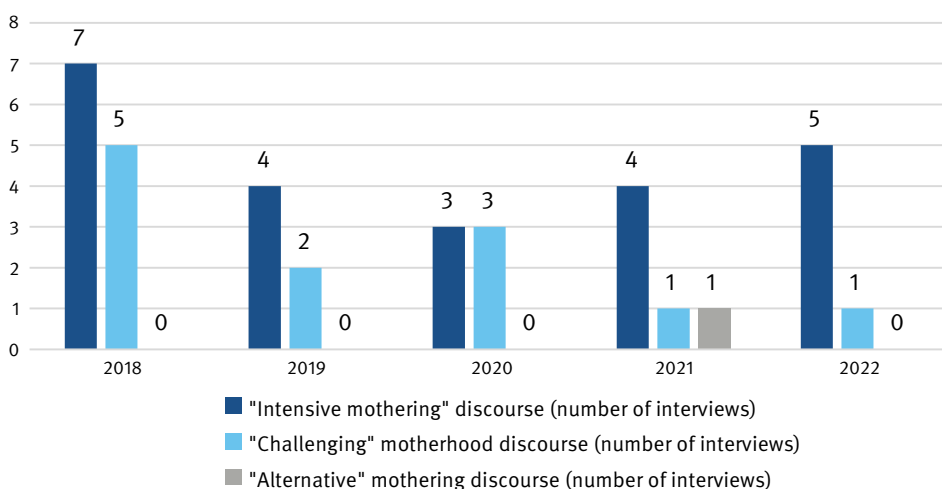


Figure 4 Motherhood discourses in main interviews

Other interviews

There are 39 other interviews, published in “Mans Mazais” from 2018 to 2022, that were included in the sample. Most of these interviews were situated at the back of the magazine in such columns as “Family”, “Waiting for the baby”, “For a happy mum” and were only 2 to 3 pages long. Almost all of these interviews did not include the journalist’s questions but rather followed a monologue or paraphrased a narrative with few citations.

Of these 39 interviews, 12 could be classified as belonging to the “intensive mothering” discourse (see Figure 5. Motherhood discourses in other interviews). 6 interviews featured joyful and positive stories about Latvian heterosexual, well situated families with 3 and more children, others focused either on travel experiences, etc. The interviewed families complied to the “intensive mothering” discourse in confirming that the child’s interests are the centre of parent’s attention, conforming to traditional gender roles and displaying idealistic domestic life. Only 3 interviews could be classified as complying to the “challenging” motherhood discourse – 1 interview stressed that although the family adheres to a more egalitarian model, the mother works from home (and coincidentally invests more time into menial household and childcare tasks), while in another interview a mother of 3 spoke about her career as a pilot and guilt for choosing to pursue her career over a “normal” desk-job. The third interview features a family, whose father comes from Africa and has a darker skin colour; thus, the interview displays how the couple is “typical” in almost every aspect, except cultural background.

Most interviews (24 of 39) could be classified as outside the “intensive mothering” discourse and more in compliance to “alternative” motherhood discourses. 7 of 24 interviews speak of a “traditional” family overcoming an obstacle – an illness or complication in life, for example, the loss of a child, premature birth, complications due to genetics, as well as complications during birth. All these stories, however tragic, focus on resilience and perseverance despite challenges. 5 stories share different “alternative” birthing experiences (hypno-birth, homebirth, unassisted homebirth), resisting the medicalisation of labour and stressing the empowerment of woman. 3 interviews share different

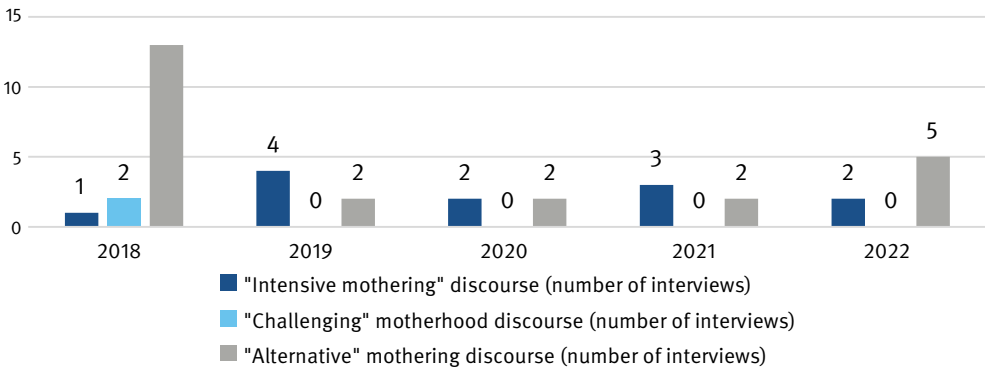


Figure 5 Motherhood discourses in other interviews

lifestyle approaches, for instance, travelling for a long period of time with small children or leaving home to work abroad and taking the child with them. Therefore, while these interviews could be classified primarily belonging to “alternative” mothering discourse, they also in a sense overlap with the “intensive mothering” discourse in essentialism and child-centred views by parents. These interviewees have either faced or chosen a different path than mainstream families and, thus, provide an “alternative”.

Only 4 of these 24 interviews share insights of an alternative family model. Two of the stories (one of which – anonymous) shared the experience of a member of the LGBT community, one anonymous interview is with a mother, raising a child from a married man, alone, and one account is from a father who has lost his wife to cancer and is raising children on his own. 3 interviews shared an adoption story, and only 2 interviews explicitly shared the mother’s point of view when choosing to fulfil her dream: one interview with was the former minister of health Anda Čakša, who’s narrative stressed the importance of woman’s career and also shared experience of woman in power and pregnant after 40; the other interview shared a story of a woman going on the journey of Santiago, while her children stayed behind.

To conclude, although the other interviews in a sense balance the dominance of the “intensive mothering” discourse in main interviews and colorize the spectrum of motherhood discourses, the narratives are 1) at the back of the magazine, 2) much shorter than the main interviews, 3) more focused on outer factors leading to this “alternative” path and less on the individual choices. Therefore, for almost half of these interviews their presence in the “alternative” space of motherhood is rather a serendipity than a mindful action to follow a different path.

Discussion

Although the magazine “Mans Mazais” provides different narratives and a variety of motherhood discourses, the dominance of the “intensive mothering” discourse in interviews from 2018 to 2022, is overwhelming, thus, the magazine is presenting mainly the glamorous side of parenting and motherhood, displaying mostly traditional family patterns and stressing the importance of child-centred attitudes.

According to the Central Statistical Bureau of Latvia (CSB), 36.6% of children in Latvia are born outside of marriage (2022), while almost all main interviews were with married, heterosexual and well-situated Latvian families. The most common type of family in Latvia in 2021 was a single parent with underage child or children (CSB 2021), and this type of family is represented by a single main interview and 3 smaller other interviews in the sample. Moreover, according to the Health Statistic Database of Latvia, in 2021 from 17 206 total births only 242 were planned, assisted births at home (or 1.4%); whereas epidural analgesia to ease the pain was applied to 21.9% (of total births) (The Centre for Disease Control and Prevention, 2023), while the magazine stresses the importance of “natural” birth, resisting medicalization. “Intensive mothering” also stresses the responsibility of parents, especially mothers, over their children. Chae associates the “3Cs of

contemporary motherhood” with “comparison, competition, and consumption” and in a neoliberal educational context links the “responsibilization” of mothers with being more engaged in children’s education, investing in education as a “means to reproduce social status or to achieve upward mobility, and thus it is like “purchasing hope”” (Chae, 2022, pp. 550–561), and this aspect is also visible in the main interviews as the need to educate and prepare oneself via courses and literature is mentioned in the majority of interviews. Furthermore, the issue of weariness from childcare and household tasks does appear in main interviews, however, it is mainly presented as an inconvenience or through jokes, although according to Trapežņikova, women in Latvia are burdened with the majority of unpaid housework (Trapežņikova et al., 2019, pp. 47–51, p. 68).

Although the dominance of “intensive mothering” is confronted with “challenging” and “alternative” discourses, the hegemonic ideology still prevails as counter-narratives are presented less frequently, through laughter and focusing on perseverance despite outer challenges. As Auðardóttir notes, “boundary setting between appropriate and inappropriate motherhood has taken place through the medium where the ideal middle-class motherhood is publicly portrayed and the inappropriate motherhood of the racialised or classed other is removed from the readers’ gaze”, and, thus, the “perceived perfect, middle-class values of motherhood and childrearing become the benchmarks for others” (2022, p. 3). Consequently, if this ideal, represented in the media, is not achieved, the comparison takes a toll on the mother (Forbes et al., 2020, p. 64). Such darker and more grim themes as violence in the family, divorce settlements, the spouse refusing to pay childcare etc. are completely absent from main interviews and only vaguely appear in other interviews.

The study has limitations as it covers only a period of 5 years and concentrates on the main themes of issues and interviews with parents. The sample could be broadened by including analysis of interviews and features of experts, as well as individual diaries by mothers and fathers. For instance, from 2018 to 2019, several issues were published with excerpts from a book by child psychologist Vita Kalniņa which, in one interview was characterized by mother Māra as “fantastic”, but too idealistic for real life – “everything written in the book should be divided by two” (Bērziņa, 2020a, p. 17), whereas for 6 issues in 2021 the diary of a parent was written by a single mother with twins. Lastly, the time period could also be extended, thus, analysing the patterns of themes and changes over the years.

Conclusion

There is a variety of motherhood discourses (re)produced in the 36 issues of the family magazine “Mans Mazais” from 2018 to 2022, providing a spectrum of experiences and motherhood ideologies from “intensive mothering” to alternatives. However, the dominance of “intensive mothering” discourse is overbearing, displaying a portrait of an ideal family – a married Latvian heterosexual couple with happy children, who are cared after by the parents without any constraint in financial, emotional, physical resources,

treating any challenge as a passing inconvenience. The main characteristics of “intensive mothering” – essentialism, child-centred attitudes, and view of childcare as a demanding, but ultimately rewarding task – is prevalent in most interviews. There is evidence of challenging discourses, which acknowledge the value system of “intensive mothering” but try to challenge its dominance through suggesting more egalitarian family models, providing counter narratives of respecting, for instance, woman’s career path and desires, as well as stressing a more equal division of household tasks. There is also evidence of “alternative” motherhood discourses which share mainly narratives of everyday people with “different” family models (single parents, divorced parents, members of LGBT, adoption) or different lifestyle choices (travelling, working abroad) or individual choices (unassisted homebirth etc.). However, examples of “alternative” discourses appear mainly in interviews at the back of the magazine and a large share of them express stories of unforeseen and unfortunate circumstances (loss of a child, genetic illness, premature birth, loosing of a spouse), and, thus, these stories mostly concentrate of the perseverance of the human spirit and fighting against all odds, not illustrating a contrasting and mindful approach to motherhood or parenthood. Therefore, in light of Jansone-Ratinika’s recommendations in her dissertation on the father’s pedagogical competences (2013), there are noticeable strides to illustrate the subjectivity and diversity of motherhood, however, there is room for improvement to stimulate the gradual transformation of hegemonic stereotypes regarding motherhood in society.

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STUDENT TEACHERS' INSIGHTS ABOUT A CURRICULUM FOR MORAL EDUCATION IN SECONDARY EDUCATION

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ABSTRACT

The goal of this study was to explore what student teachers think about moral education in the context of the assessment of the new curriculum 'e-TAP+' for secondary education pupils (Year 10 to 12). The research questions were: What was student teachers' overall opinion about the moral education curriculum? Which aspects of moral education at high school were most important for student teachers? This mixed-method survey research used an online questionnaire. In March-April 2023 89 first year student teachers assessed the 36 lessons of the curriculum, filling 169 questionnaires. Participants' overall opinion about the curriculum was very positive. The curriculum potential to prompt discussions and to promote pupils' reflection was highlighted, as well as the usefulness of the lesson plans and presentations, and the lessons' fit to pupils and topicality. The aspects of moral education at high school highlighted by participants were a pupil centred approach (fit to pupils' age, importance of engagement and dialogue, pupils' comfort and well-being), the quality of the content (its relevance, depth, contemporariness, connections with other subject areas, national (Latvian) dimension), and the technical quality of educational materials. The results will be useful for initial teacher education trainers and for moral education researchers.

Keywords: curriculum assessment, moral education, upper secondary education, student teachers.

Introduction

Moral education in Latvia

Moral education is accepted as an essential part of 21st century school education (e.g., Rubin, 2017; Retnowati et al., 2018; Singh, 2019, Kristjánsson, 2019, OECD, 2021, The Jubilee Centre, 2022). Moral education is outlined in the three most important normative acts regulating education in Latvia. The Education Law (Saeima, 1997), in its

formulation of the purpose of education (article 2, paragraph 3), states that moral development of the learner shall be ensured. The article 10 of the Education Law states that the education system shall ensure the moral development of the learner [...] in accordance with the values enshrined and protected in the Constitution of the Republic of Latvia: life, human dignity, freedom, family, marriage, work, nature, culture, the Latvian language, and the State of Latvia.

The Cabinet of Ministers (Cabinet of Ministers, 2016) Regulation No 480 (part I, paragraph 3) defines moral education as the formation of a system of values and the cultivation of virtues for the formation of relationships, cooperation, civically responsible and successful life in society. The document specifies (in paragraph 7) the virtues to be developed in the process of moral education: responsibility, diligence, courage, honesty, wisdom, kindness, compassion, moderation, self-control, solidarity, justice, and tolerance.

The moral aspect of education is regulated in the State Basic Education Standard (Cabinet of Ministers, 2018) and in the General Secondary Education Standard (Cabinet of Ministers, 2019), in reference to the Cabinet of Ministers (2016) Regulation No 480. In those standards, some of the learning outcomes in several learning areas refer explicitly to the development of virtues, albeit inconsistently and incompletely (for example, the virtues of wisdom, diligence, kindness, moderation, compassion, self-control and solidarity are not mentioned in any of the sections of the learning outcomes of the standards).

The above suggests that the need for ethical and moral education is theoretically guaranteed by the State, but, unfortunately, the specific way and time at which this could take place in schools is not clearly defined. In addition, in the newly reformed education curriculum (Skola2030, 2017), there is no separate subject 'Ethics' in either primary or secondary general education (as there was before 2017): Ethics is integrated into the subject 'Social sciences' in the Basic education curriculum. Philosophy as a specialised course with only 35 teaching hours is not compulsory, although it is mentioned in the General Secondary Education Standard: it is only actually offered in some secondary schools. Some philosophy topics are mentioned in the Basic Education Standard, e.g., reasoning about existential questions ('Expected outcomes in social and civic area of learning', point 6.1). However, there is nothing similar in the Secondary General Education Standard.

Given the limited opportunities for moral education in the areas of learning and in the subjects of the current education curriculum, the main place and way of pursuing moral education as an aim of education and of cultivating virtues is during the homeroom lessons. Homeroom lessons can also partially compensate for the lack of philosophy and ethics in the secondary school curriculum by encouraging students to understand themselves, their relationship to society and the cosmos, to be aware of universal human values and ideals, and to seek a mission in life. While there are homeroom lessons for every class, the most recent programme that offers teachers a sequence of how they could organise these lessons was developed in 2016 by the National Centre for Education (2016). Enough time has passed, so it is advisable to offer teachers a newer and more up-to-date approach to moral education.

Moral education in secondary school

From a developmental perspective, the secondary school marks the transition from adolescence (15–18) to emerging adulthood (19–29), in which autonomous identity formation is a fundamental process. The need for autonomy could be said to develop at an accelerated pace in high school, fostered by cognitive and physical development, the complexity of social relationships, and increasing rights, responsibilities, and choices such as those related to further studies, career, romantic relationships (Zimmer-Gembeck & Collins, 2003). Cognitive development in this age is characterised by a recently acquired capacity for metacognition and abstract thinking, which in turn actualizes the search for identity, moral reasoning, and the formation of a belief system (Padilla-Walker, 2016). Thus, there is a new necessity to search for meaning and a heightened openness to different possible answers to life's big questions and decisions (McNamara Barry & Abo-Zena, 2014). This search is named the moratorium stage, which is seen as necessary for identity formation and, if experienced fully, is associated with higher levels of cognitive ability, ego development, moral judgement, relationship skills and more mature personality (Kroger, 2007). Moratorium is positively associated with openness of mind and curiosity (Schwartz et al., 2005, 2013). Hence, there is a necessity for open-minded moral inquiry at high school.

The developmental process of identity formation is characterised by 'separation' and 'individuation' (Lapsley & Woodbury, 2014). On the one hand, high school age is associated with a growing need for freedom: separation from the authority of parents and teachers and a desire to define oneself outside of relationships with them. A high need for a sense of freedom implies a low tolerance of adults 'moralising' about life or giving ready-made worldviews. On the other hand, the search for identity (individuation) and the construction of the self (which are linked to the 'big questions' raised by moral philosophy about human nature, relationships, the meaning of life and values) are becoming increasingly important and require a social context: Healthy development through late adolescence and emerging adulthood consists of the integration of these forces for a person to fully develop their individual identity *within* relationships with others (Lapsley, 2010).

The process of individuation requires a reassessment of one's beliefs about oneself and others to be able to function as an autonomous individual in the context of different life relationships and to take responsibility for one's own life (Lapsley & Woodbury, 2014; Magolda & Taylor, 2015). The ability to understand and integrate one's own and others' perspectives in a social setting, rather than imposing one's own worldview on others or sacrificing it to the desires of others, is one of the key aspects that social-cognitive development strives for (Lapsley & Woodbury, 2014). Such a skill requires a shift from hierarchical (parent-child, teacher-student) to equal (two adults) relationships. An educational environment in which the young person is perceived as an equal and which is emotionally supportive for expressing and reflecting on one's experiences, but also challenges the complex search for meaning and becoming the author of one's life, is important for identity development (Magolda & Taylor, 2015). Listening to and discussing peers' experiences and ideas can help one to see new perspectives or understand

one's own (Kerpelman & Pittman, 2001; Pasupathi & Wainryb, 2010). Thus, a dialogical approach to moral education emerges as supportive of a high school pupil's identity formation and stabilisation.

Framework of the research

These national and developmental challenges for moral education are addressed by one of the activities of the recent project 'e-TAP+' (2022–2024), during which a set of materials for discussing values and virtues in the classroom (Year 10 to 12) is being elaborated. The curriculum addresses existential questions mostly in a dialogic form, as advised in recent international education policy documents: as the OECD report on values-education states, it is important to “ask ourselves about what it is to be a human” and to “support students to ... find a sense of purpose with their own moral compass” (OECD, 2021, Executive summary). Also, the UNESCO guidelines for education insists on the relevance of a dialogical group context for individual learning (International Commission on the Futures of Education, 2021).

The curriculum 'e-TAP+' is based on the theory of the 'person of moral growth' (Fernández González, 2019a, 2019b), which proposes a synthetic approach to pupils' moral growth through four components: 1) understanding of moral growth; 2) commitment to moral growth; 3) practical involvement in moral behaviour; and 4) personal and social recognition/identity. Those four components were operationalized in the structure of the questionnaire used for this research.

The goal of this paper was to explore what student teachers think about moral education in upper secondary education in the context of the assessment of this new curriculum. First year student teachers were chosen as participants for this research because they constitute a group with a unique two-sided perspective. Since the majority start their undergraduate studies right after high school graduation, they are still emerging adults (similar to the curriculum target group: high school pupils), yet their choice to study pedagogy accounts for a deeper perspective on education. Therefore, at the same time they provide a young person's (pupil's) perspective on the content of the lessons and a teacher's perspective, able to provide a deeper and more nuanced reflection on the pedagogical aspects of the curriculum. Two research questions were formulated to guide the research process:

- RQ1. What was student teachers' overall opinion about the curriculum? This question was split in two sub-questions.
- RQ1-a: How did they rate the usefulness of the lesson plans, the fit of the curriculum topics to pupils' needs and Latvian context, and its usefulness for developing each component of moral growth?
- RQ1-b: Which lessons corresponded best to these criteria? Which lesson topics attracted student teachers more?
- RQ2. Which aspects of moral education at high school were most important for student teachers?

Methodology

A summary description of the curriculum assessed is presented first, which may be useful for better understanding the methodology and results of the study.

Description of the curriculum

Description of the curriculum. The curriculum consists of four modules for each Year: ‘Flourishing personalities’, ‘Flourishing relationships’, ‘Flourishing society’ and ‘Flourishing in the digital world’. Each module contains three lessons (40 minutes each), and each lesson has an introductory activity, several activities (discussions in pair or groups, individual work, quotes to discuss, moral exemplars, moral dilemmas, etc.) and a final reflective activity. A PowerPoint presentation and eventually a worksheet are also included. The lesson topics are, for example: ‘What makes me valuable?’, ‘Me and my values in the digital environment’, ‘What could be my life project?’, ‘Generosity and gratitude’, ‘Is there a meaning to life and what is it?’, ‘Why is life hard and worth living?’, ‘Romantic relationships’, ‘The search for meaning and happiness in the digital age’ (see details in Table 1).

Table 1 Curriculum: lesson topics, lesson codes, sets of lessons and number of assessments per lesson

Module	Module topic	Lesson code	Lesson topic	Set	Assessments
<i>Year 10</i>					
Flourishing personalities	Who am I? What am I like?	10-1-1	• Who am I?	X	8
		10-1-2	• What am I like?	X	11
		10-1-3	• What makes me valuable?	X	12
Flourishing relationships	With whom am I? (non-chosen relationships)	10-2-1	• My relationships with my classmates	Y	4
		10-2-2	• My relationships with teachers	Z	5
		10-2-3	• My family relationships	X	10
Flourishing society	“Me” within society, the world and the universe	10-3-1	• Me within society	Z	1
		10-3-2	• Me within my community	X	10
		10-3-3	• The Universe, the world and I	X	10
Flourishing in the digital world	“Me” in the digital world	10-4-1	• Me and my values in the digital world	Z	1
		10-4-2	• Unchosen relations in the digital world	Y	3
		10-4-3	• Happiness and digital world quality	Z	1

Module	Module topic	Lesson code	Lesson topic	Set	Assessments
<i>Year 11</i>					
Flourishing personalities	What do I want to be like?	11-1-1	<ul style="list-style-type: none"> • What could be my life project? • What to do with my free time? • School: struggles or opportunities? 	Y	6
		11-1-2		Z	1
		11-1-3		Y	6
Flourishing relationships	What am I like and what do I want to be like in relationships?	11-2-1	<ul style="list-style-type: none"> • Communication culture • Generosity and gratitude • Attitude towards things and life events 	Z	1
		11-2-2		Y	2
		11-2-3		X	10
Flourishing society	Relationships, society, and justice	11-3-1	<ul style="list-style-type: none"> • My relationships and society • Growth, change and travel • On social justice 	Y	3
		11-3-2		Z	1
		11-3-3		Z	1
Flourishing in the digital world	Growth in the digital world	11-4-1	<ul style="list-style-type: none"> • Who to become in online world? • Me and my digital relationships • Digital world and citizenship in the future 	X	11
		11-4-2		Z	1
		11-4-3		X	10
<i>Year 12</i>					
Flourishing personalities	Why do I exist? In search for meaning and happiness	12-1-1	<ul style="list-style-type: none"> • Is there meaning to life? What is it? • Why is life hard yet worthwhile? • Why is it worth doing good if not easy? 	X	8
		12-1-2		X	8
		12-1-3		Z	2
Flourishing relationships	Who would I like to be with? (chosen relationships)	12-2-1	<ul style="list-style-type: none"> • Friendship • Romantic relationships • Stable relationships 	Z	1
		12-2-2		Y	2
		12-2-3		Y	2
Flourishing society	The local and the global	12-3-1	<ul style="list-style-type: none"> • On local society: my country • On global society: Europe and the world • Local vs global: opposite or complement? 	X	8
		12-3-2		Y	1
		12-3-3		Y	1
Flourishing in the digital world	Meaning, relations and globalisation on the internet	12-4-1	<ul style="list-style-type: none"> • Meaning and happiness in the digital age • Friendship and romance online • Ideal digital state and ideal digital world 	Z	1
		12-4-2		Y	3
		12-4-3		Z	3

Research design, instruments, and methods

This exploratory study adopted a survey research design, using mixed methods. The main research instrument was an online questionnaire with closed and open questions.

Data collection instrument and participants

The questionnaire had three sections: the section A contained 9 items that addressed the usefulness, user-friendliness, attractiveness and layout quality of lessons materials, including the lesson plan, presentations, and additional materials (e.g., 'Is the proposed lesson plan useful?', item code A_Plan_useful); the section B contained three items that addressed the fit of the lesson topic to pupils' needs and to Latvian context (e.g., 'Does the topic of the lesson correspond to the developmental characteristics and needs of secondary education pupils?', code B_topic_fit to pupils); and the section C contained 7 items about the usefulness of materials for enhancing moral growth in each of the moral growth components, i.e. understanding, commitment, practice, identity (e.g., 'Does the lesson help secondary education pupils understand that they can morally improve and how to do it?', code C_understanding) and for promoting reflection and discussion in the classroom. Participants rated each item in a 4-point Likert scale ('No', 'Rather no', 'Rather yes', 'Yes'), with an additional option 'I cannot answer'. After each section, an open question prompted participants to comment particularly on the lowest ratings of the section (questions O1, O2 and O3). At the end of the questionnaire two additional open questions were added: 'What do you think is good, not so good or could be improved in this lesson?' (O4) and 'Is there anything else you would like to add?' (O5). The questionnaire was available online in a Microsoft form (see item details in Table 3).

Data collection happened on March (groups 1a to 1d, see Table 2) and April (groups 2 and 3) during six lessons of the study courses 'Class management' and 'Organisation of the educational process in basic education' for 1st year undergraduate student teachers of the professional bachelor's degree programmes 'Teacher' and 'Basic education teacher' offered by the Department of Education, Psychology and Arts of the University of Latvia. At the beginning of the lesson the project leader presented the program to participants for 15–20 minutes, emphasizing the importance of their contribution for enhancing its quality and explained more in detail the four moral growth components that the program intends to develop, which were included in the questionnaire. After that, the course teacher shared the link to the set of lesson materials and to the assessment form. Participants from groups 1a to 1d had a set of 12 lessons to assess (lesson set X, see Table 1), participants from group 2 had 11 different lessons (lesson set Y) and participants from group 3 had 13 different lessons (lesson set Z). The teacher assigned each participant one lesson to assess and, after assessing it, they could choose freely another one to assess from their lesson set. Participants worked on the lesson assessment for environ one hour.

Overall, 89 student teachers participated in lesson assessment: 16 were males (18%) and the rest females. 31 participants were part-time students (35%) and the rest full-time students. 169 questionnaires were collected (see Table 2). All 36 lessons were assessed.

Table 2 Participant groups, questionnaires per group, lesson sets, questionnaires per lesson

Student group	Number of students	Study program	Study form, modality	Questionnaires	Set of lessons (N)	Mode (range) of questionnaires per lesson
1a	12	Teacher	Full-time, presence	25	X (12)	10 (8–12)
1b	11			21		
1c	17			34		
1d	18			36		
2	17	Basic education teacher	Part-time, online	33	Y (11)	3 (1–3)
3	14			20	Z (13)	1 (1–6)
Overall	89			169	36	

However, there was an unequal number of questionnaires per lesson: e.g., 12 lessons were assessed once, other lessons – ten, even 12 times (see Table 1, last column). The reason was that the four participant groups working in March (groups 1a to 1d) assessed the lesson set X, due to the non-availability of the other lessons. The average was 4.5 questionnaires per lesson. When reporting participants' opinion about the concrete lessons, to avoid bias in the analysis, only the lesson assessed 3 times or more were retained (i.e., 20 lessons out of 36).

Data processing and analysis methods

The primary data were collected in an Excel file. It contained 2902 ratings of the 19 items. Participants wrote 10223 words answering to the 5 open questions: 1824 words about the lesson materials (question O1), 492 words about the topic fit (O2), 1179 words about the program ability to enhance moral growth (O3), and 5091 words about the general assessment (O4) and 1637 words as additional comments (O5). The amount of qualitative data denotes the quality of the data collection process and the involvement of participants.

Quantitative analysis was done using SPSS 22 for descriptive analysis of frequencies, Means and Modes, and MS Excel (with pivot tables). After data cleaning and anonymisation procedures, each lesson was given a code referring to the Year, the module, and the order of the lesson in the module for facilitating the analysis. For example, the code 11-2-3 means that it was in the Year 11, module 2 ('flourishing relationships'), lesson number 3. The Cronbach's Alpha test indicated a very high reliability of the data set ($\alpha = 0.870$).

For making sense of the amount of qualitative data, thematic analysis was implemented. Two researchers read all participants' comments, looking for themes and relevant quotations revealing participants' concerns and understanding of moral education in high school. The preliminary themes and quotations were collected using MS Word files, which were jointly discussed for defining the main qualitative findings and structuring them.

Results

The presentation of results was structured according to the research questions.

RQ1: Student teachers' overall opinion about the curriculum

The analysis of quantitative data provided a general overview of participants' rating of the different aspects of the curriculum (Table 3).

Overall, participants rated very positively the compliance of the curriculum with the criteria used for analysis (see Table 3): out of 2902 ratings, only eight ratings were 'No', only 3% ($n = 100$) were 'Rather no', 35% ($n = 1010$) were 'Rather yes', and 61% ($n = 1784$) were 'Yes' (65% for section A (about the lessons), 66% for section B (about the fit of the lesson topic), and 53% for section C (about the usefulness of materials for enhancing moral growth)).

Within this very positive landscape there were some nuances. The curriculum ability to promote discussions in the classroom (criterion C6) received the highest number of 'Yes' ($n = 129$, 80%). All answers ($n = 165$) regarding the usefulness of the lesson plan (A1) were 'Yes' or 'Rather yes'. The usefulness of presentations (A6) and the topic fit to law (B3) also received a high percentage of 'Yes' (respectively, 72%, $n = 118$; and 71%, $n = 120$).

Table 3 Participants' overall opinion about the curriculum

Item code	'No'		'Rather no'		'Rather yes'		'Yes'		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
A1_Plan_useful	0	0	0	0	36	22	129	78	165	100
A2_Plan_easy	0	0	8	5	61	37	96	58	165	100
A3_Activity_number	0	0	4	2	57	34	105	63	166	100
A4_Activity_content	0	0	6	4	60	36	101	60	167	100
A5_Activity_interesting	0	0	9	6	51	32	101	63	161	100
A6_Presentation_useful	1	1	3	2	43	26	118	72	165	100
A7_Presentation_layout	3	2	11	7	57	35	92	56	163	100
A8_Worksheet_useful	0	0	2	2	29	33	56	64	87	100
A9_Worksheet_layout	0	0	4	5	25	29	56	66	85	100
B1_Topic_fit to pupils	0	0	6	4	61	36	102	60	169	100
B2_Topic_topicality	0	0	8	5	50	30	111	66	169	100
B3_Topic_fit to law	0	0	2	1	47	28	120	71	169	100
C1_Lesson_coherence	1	1	2	1	66	43	84	55	153	100
C2_Lesson_understanding	0	0	11	7	77	50	65	42	153	100
C3_Lesson_commitment	1	1	4	3	80	52	68	44	153	100
C4_Lesson_practice	0	0	8	5	65	42	80	52	153	100
C5_Lesson_reflection	1	1	4	3	54	35	94	61	153	100
C6_Lesson_discussion	0	0	3	2	27	18	123	80	153	100
C7_Lesson_satisfaction	1	1	5	3	64	42	83	54	153	100
Overall % mean		0		4		35		61	2902	100

Two criteria received slightly less than 50% of 'Yes': the curriculum ability for promoting of understanding (C2; $n = 65$, 42%) and for promoting pupils' commitment to moral growth (C3; $n = 68$, 42%). The quality of the presentation layout (A7) received the highest, but still negligible low number of 'No' ($n = 3$, 2%) and of 'Rather no' ($n = 11$, 7%).

RQ1-a: Student teachers' rating of the lessons

This section presents the lesson ratings for the most relevant criteria. As mentioned in the methodology, given the unequal number of questionnaires per lesson, only the lessons rated by 3 or more participants were considered for this analysis.

Regarding the lesson materials, according to participants, the most useful lesson plans (code A1) were 'Who am I?' (lesson code 10-1-1), 'My relationship with teachers' (10-2-2), 'Attitude towards things and life events' (11-2-3), and 'My relationship and society' (11-3-1). All participants who rated the usefulness of these lesson plans chose the option 'Yes' (Mean = 4 out of 4). The lessons whose the activities were most interesting (A5) were 'Friendship and romantic relationships online' (code 12-4-2; $M = 4$ in a 4-point scale), 'Ideal digital state and ideal digital world' (12-4-3; $M = 4$) and 'What makes me valuable?' (10-1-3; $M = 3.92$).

The lesson that proposed the most appropriate topics for pupils (B1) were 'What makes me valuable?' (10-1-3; $M = 4$), 'Is there meaning to life? What is it?' (12-1-1; $M = 3.88$) and 'On local society: my country' (12-3-1; $M = 3.88$). The most topical lesson topics (B2) were 'Who am I?' (10-1-1; $M = 4$), 'Who do I want to become in the digital environment?' (11-4-1; $M = 4$), 'Friendship and romantic relationships online' (12-4-2; $M = 4$) and 'Is there meaning to life? What is it?' (12-1-1; $M = 3.88$).

As regards the lesson impact on pupils' moral growth, according to participants the lessons most apt for developing pupils' understanding of moral growth (C2) were 'My relationship with teachers' (10-2-2; $M = 3.80$) and 'Attitude towards things and life events' (11-2-3; $M = 3.75$). The lessons most apt for promoting pupils' commitment to moral growth (C3) were 'Attitude towards things and life events' (11-2-3; $M = 3.88$) and 'My relationship with teachers' (10-2-2; $M = 3.80$). The lessons most apt for promoting pupils' practice of virtues (C4) were 'Attitude towards things and life events' (11-2-3; $M = 4$) and 'Who do I want to become in the digital environment?' (11-4-1; $M = 3.89$). The lessons most apt for enhancing pupils' satisfaction with moral growth (C7) were 'My relationship with teachers' (10-2-2; $M = 4$) and 'Attitude towards things and life events' (11-2-3; $M = 3.75$).

Regarding the lessons that better prompted pupils' reflection (C5), seven lessons got a mean of 4 out of four for this criterium (all participants chose the option 'Yes'): 'Who am I?' (10-1-1), 'My relationship with teachers' (10-2-2), 'School: struggles or opportunities?' (11-1-3), 'Attitude towards things and life events' (11-2-3), 'Digital environment and citizenship in the future society' (11-4-3), 'Is there meaning to life? What is it?' (12-1-1) and 'Why is life hard yet worthwhile?' (12-1-2). The lesson that better prompted pupils' discussion (C6) were 'What makes me valuable?' (10-1-3; $M = 4$) and 'Is there meaning to life? What is it?' (12-1-1; $M = 3.83$).

Only some lessons received an average rating below 3 (out of 4) in some criteria: ‘My family relationship’ (10-2-3) $M = 2.80$ in the ‘Topicality of the topic’ (B2); ‘Why is life hard yet worthwhile?’ (12-1-2) $M = 2.83$ in the criterium ‘Enhancing pupils’ satisfaction with moral growth’ (C7); ‘My relationship with my classmates’ (10-2-1) $M = 2.75$ in the criterium ‘Promoting pupils’ commitment to moral growth’ (C3) and ‘The Universe, the world and I’ (10-3-3) $M = 2.89$ in the criterium ‘Developing pupils’ understanding of moral growth’ (C2).

RQ1-b: Which lesson topics attracted student teachers more?

As explained above, after assessing the first lesson assigned to them, participants could choose other lessons to assess from the lesson set provided to them. This free choice was considered as an indicator of which topics attracted student teachers more. Within the lesson set X (free choices $n = 68$), the most often chosen lesson were ‘What makes me valuable?’ (code 10-1-3; $n = 8$, 12% of choices in the group), ‘What am I like?’ (10-1-2; $n = 7$, 10%) and ‘Who to become in online world?’ (11-4-1; $n = 7$, 10%). Within the lesson set Y (free choices $n = 22$), the most often chosen lesson were ‘What could be my life project?’ (11-1-1; $n = 5$, 23%), ‘School: struggles or opportunities?’ (11-1-3; $n = 5$, 23%) and ‘My relationship with my classmates’ (10-2-1; $n = 3$, 14%). And within the lesson set Z (free choices $n = 7$), the most often chosen lesson were ‘My relationship with teachers’ (10-2-2; $n = 5$, 57%) and ‘Ideal digital state and ideal digital world’ (12-4-3; $n = 2$, 29%).

Summarizing this section, while most of the lessons received very high ratings in most of the criteria, some of them were massively rated very high. The lessons ‘Attitude towards things and life events’ (11-2-3) and ‘My relationship with teachers’ (10-2-2) were the best rated for promoting practically all the aspects of moral growth, and both also for proposing a useful lesson plan and promoting reflection. The latter (10-2-2) was also one of participants’ preferred ‘free choice’. The lesson ‘Is there meaning to life? What is it?’ (12-1-1) was the best rated for promoting both pupils’ dialogue and reflection; it was also outstanding rated for its topic fit to pupils’ needs and topicality. Finally, the lessons ‘Who am I?’ (10-1-1) and ‘What makes me valuable?’ (10-1-3) were also massively rated high in 3 criteria: usefulness of materials, topicality, and promoting pupils’ reflection (the former) or discussion (the latter, which was also one of participants’ preferred ‘free choice’).

RQ2: Aspects of moral education at high school were most important for student teachers

Student teachers’ answers to the five open questions in the survey (O1 to O5) were analysed to determine what aspects of moral education at high school were most important to them in relation to the curriculum they assessed. Three main themes (with several sub-themes) emerged from the thematic analysis of their opinions: pupil centred approach, content quality and technical quality.

Pupil centred approach

Fit to pupils' age

Participants rated the fit of topics and activities to high school age as one of the most important aspects to consider. They appreciated the use of “*real-life stories*” and thought-provoking questions, as well as age-appropriate topicality (e.g., the use of cartoon characters to illustrate temperament types or use of language appropriate for high school pupils) as valuable aspects of the curriculum.

Doubts were expressed as to whether a particular activity will either be too difficult or too easy and child-like for pupils of the given age. For example, one student teacher was sceptical about reading a fairy tale to raise the topic of life's difficulties. They also commented on the relevance of the topic to the age group, for example, “*I don't think pupils will be directly interested in the topic of family relationships, I think they will feel that they are still perceived as small children*”, whereas the topic on the meaning of life seemed relevant because “*at that age most people face this question*” and the lack of an answer “*might result in depression*”.

Participants also stressed that there were differences within high school age groups. They paid attention to whether a lesson was suitable for Year 10 or Year 12. According to student teachers, Year 12 pupils are “*already practically adults*” and should be spoken to as such.

As participants were first year university students, they have only recently graduated from high school themselves and accordingly also assessed the lessons through the prism of their own experience. For example, they said that the topic ‘What makes me valuable?’ was still relevant to them personally or that it was interesting for them to learn more about themselves by finding out about their temperament while they were assessing an activity on this topic.

Pupil engagement and the importance of dialogue

Student teachers expressed support for the engagement of pupils in the lesson process (e.g., “*it is good to ask for pupils' opinions and their thoughts*” or “*I really liked that the lesson starts with an activity where all pupils are involved*”). Participants stressed that it is a good idea to have ‘discussion time’ during the homeroom lesson instead of a traditional, hierarchical lesson where the teacher alone speaks.

Student teachers emphasized that sharing their problems and reflections with their classmates can help pupils both to understand themselves better and to “*realize that they are not alone*”. They appreciated that the lessons asked thought-provoking, ‘tricky’ questions, which can sometimes lead to “*more questions than answers*”.

Yet concerns were also expressed regarding pupils' engagement in discussions about big questions: “*I see a risk that pupils who do not communicate with each other on a daily basis will not want to discuss in class*” and “*the key is not to force pupils to answer questions, but to make them want to join in and participate*”.

Pupils' comfort and well-being

When assessing the lessons, student teachers placed great emphasis on pupils' well-being, so that nobody feels excluded and there are no uncomfortable situations. For example, assessing an activity where pupils had to name an association they have with a classmate, student teachers stressed the need to specifically instruct pupils not to say anything offensive. Measures should be taken to prevent bullying. Sometimes, situations where pupils were asked to talk about their problems were questioned – there was a worry that a pupil might not open up “*because s/he is afraid that his/her openness will be turned against him/her and the problem will get worse*”. Hence, to some participants the classroom does not seem like a safe space of open-hearted conversation.

Student teachers also underlined the necessity to be inclusive. For example, in activities about mobile phone use, they pointed out that pupils from disadvantaged backgrounds could be excluded from the conversation if they do not have such a device.

Participants also stressed that activities should be cognitively accessible for pupils, for example observing that “*the questions are quite philosophical, not every pupil will be able to answer them*” and suggesting that pupils could be able to reflect better if given “*more time to think about the questions*”. Overall, student teachers expressed concern for pupils' well-being and comfort.

Content quality

Relevance and depth of content

In several participants' responses, there was a sense of satisfaction that philosophical themes were offered (“*I am happy to see philosophical topics*”). Among the values offered to work on in the curriculum, cultivating compassion, humanity, and overcoming suffering were positively valued. Other topics appreciated in the comments were: awareness of the links between the different aspects of life, life in a technological environment, the problems of digitalization, finding out one's temperament, developing character and virtues, and the problem of procrastination. Commenting the lesson ‘What could be my life project?’ a participant said: “*I was very surprised that such a thing could be done in a class lesson. Interesting and useful*”. Participants also appreciated that interesting personalities and their life experiences were explored in the lessons, noting that the pupils might not have known about them before.

Contemporariness

Student teachers also assessed the content of the lessons in terms of their relevance to their understanding of a modern worldview. For example, one participant commented that “*it is not worth focusing too much on religious values*”, but rather on “*developing the values of modern society*”, offering as moral exemplars not religious figures like Mother Teresa, but secular ones like Princess Diana. Specific comments were also made on whether the cartoons chosen, such as *The Powerpuff Girls*, which participants remember from their childhood, would be familiar to young people at present and in the future. There was also a general concern about whether young people will be interested in the big

questions raised in the lessons, “because today’s generation does not always like to open their souls and discuss spiritual, human topics”. They also emphasized the need to discuss various newest technologies (including Artificial Intelligence) in depth.

Connections with other subject areas

Several student teachers noted as positive the connection of the lesson plans with different school subjects (they found connections with geography, cultural studies, literature, history, natural sciences). For example: “It is great that the story about Dante and Beatrice is given, can also be used in language or history lessons”. The opportunity to work with teachers from different subject areas to coordinate topics was noted.

Local (Latvian) dimension

Some student teachers suggested to deepen the local culture aspect, the Latvian component within the various topics. One of the suggestions was “to include images of various traditional celebrations (family at the table on Christmas Eve, Summer Solstice (Jāņi), other family gatherings)”. Student teachers were also interested in Latvian pre-ancient culture: “Among the things that still need to be improved – maybe we could include something related to how our ancestors perceived the Universe”.

Technical quality

Student teachers were very concerned about the feasibility of the whole lesson plan within the 40 minutes of the lesson: “a bit too many activities, it could be very difficult to do everything in one lesson”. There were specific comments on whether a particular lesson will be too long, and which activities could be taken out or left as optional. Several comments also referred to the use of technical tools. It was suggested that even more video materials should be used. Several student teachers commented on the design of the presentation materials, printable materials for pupils’ independent work, the text layout, and the use of illustrative images. Participants also appreciated the logical structure of the lessons. They commented on the internal and thematic coherence and the logical connections of the activities (e.g. “the lesson is very well structured and interesting”). Some analysed the sequence of activities and suggested possible changes to it. Participants stressed the importance of using a clear and comprehensible language: “It is good that the references and language used can be very well understood by which young people”. Moreover, language related mistakes and typos were carefully pointed out for correction.

Discussion

In the results, some topics emerged as very topical for high school. Such was the case for the lessons ‘Is there meaning to life? What is it?’, ‘What makes me valuable?’ and ‘Who am I?’. This finding is in line with other recent research pointing to the actualization of existential questions (Rumianowska, 2020; Splitter, 2019) and the search for identity and one’s own worldview in adolescence and emerging adulthood (McNamara Barry & Abo-Zena, 2014; Padilla-Walker, 2016).

Student teachers were also very appreciative of the discussion-based approach and the space given for pupils to explore and express their own thoughts, confirming the appropriateness of our proposition for a dialogical pedagogy for moral education at high school. However, they also voiced some concern about whether pupils who are not used to openly talk in class will be ready to do so, especially about philosophical questions that are quite personal. Student teachers emphasized there should be measures taken to prevent that what pupils say in class could be used against them – the class should be a safe environment. The issues they pointed out are important both in relation to a dialogical approach and to the exploration of one's identity in class. This highlights the necessity to support teachers in creating a suitable class environment and guiding such discussions. The authors of this paper have previously researched what support teachers need in implementing such an approach (Keiša & Fernández González, 2022) and this research should be furthered.

Another aspect worth of discussion is the existence of antinomies (contradiction between two opposing statements) that can be found in participants' assessments, and which have been identified as fundamental to education by several researchers (Winkel, 1988; Burbules, 1993; Jermolajeva, 1997). At least four examples of such opposing views can be found in participants' answers: 1) Some participants emphasised and recommended the deepening of the national, patriotic, Latvian, local aspects in the curriculum, e.g., looking for motivation for moral action in the examples of the past: Latvian history and culture. However, other participants stressed the need to address contemporary global issues. 2) On the one hand, there was a desire for modernity, including contemporary heroes, stories. On the other hand, there was a concern that current affairs change at a fast pace and what was relevant this year might not bear much meaning in the near future. 3) On the one hand, participants highlighted the need to use technology and adapt to the digital world of different media. On the other hand, they mentioned also the need to understand and manage oneself in order not to become addicted (mobile phones, social media, games). 4) On the one hand, participants were concerned about pupils' comfort and well-being at school. On the other hand, they recognize the need to talk about issues that are always difficult (suffering, violence, conflict, illness, death, procrastination, etc.), which can undoubtedly evoke different, not always positive emotions. All these trends will have to be considered in the further development of the curriculum, so as to achieve a balance and not lose the depth and relevance of the content, the emotional security and well-being of the pupils, the opportunity to help them prepare for the challenges of life, and both the local and the global components. A curriculum for moral education should highlight the contradictions that help to create an interesting discussion with secondary education pupils.

Another interesting finding was that participants valued the idea of curriculum integration and pointed out potential cross-curricular connections, which are fundamental in the current Latvian education reform (Skola2030). These qualitative data could be used to specifically highlight cross-curricular connections in the lesson plans, indicating in which subject matters they can be integrated.

Some directions for further research can be pointed to. As stated initially, student teachers simultaneously provided the perspective of a young adult, which is close to a high school pupil's perspective, and the perspective of a to-be-teacher, who can also assess pedagogical aspects of the curriculum. However, first year student teachers lack experience about what it is like to work with young adults as a teacher. Moreover, some of them are studying to become primary school teachers and admitted in their written responses that they lack the competence to evaluate what is suitable for high school. Hence, further research could focus on expert high school teachers for a deeper perspective on the pedagogical aspects and challenges of the curriculum.

A surprising finding was that the lesson 'My relationship with my classmates' scored relatively low in the criterium 'Promoting pupils' commitment to moral growth'. This lesson was of an unusual format where classmate pairs who usually do not communicate much were given a menu of big, personal questions to discuss together. A possible explanation to this could be that lessons that have a very open approach to the topic and promote exploration, by their nature cannot guarantee to result in very particular, strong commitment to an idea. Similarly, lessons based on open-ended questions might not strongly enhance understanding in the common sense of the word since there will not be one correct answer. This possible opposition between open-ended conversation on the one hand and understanding and commitment on the other could be addressed in future research.

Conclusions

This paper presented student teachers' insights about a curriculum in development for moral education in high school. Participants' overall opinion about the curriculum was very positive: they appreciated particularly the curriculum potential to prompt discussions in the classroom and to promote pupils' reflection. They also highlighted the usefulness of the lesson plans and presentations, the appropriateness and topicality of the topics. Some participants spontaneously said they would have liked to participate in such lessons. This fresh perspective of young participants, which was given without being asked, disclosed particularly well the meaningfulness of the curriculum.

While most of the lessons were highly rated, some of them were most massively rated very high, as, for instance, 'Attitude towards things and life events', 'My relationship with teachers', 'Is there meaning to life? What is it?', 'What makes me valuable?', and 'Who am I?'. The predominance of existential topics in the top rankings is worth to be explored further.

The aspects of moral education at high school which were most important for student teachers were a pupil centred approach (fit to pupils' age, pupil engagement and the importance of dialogue, pupils' comfort and well-being), the quality of the content (its relevance and depth, its contemporariness, its connections with other subject areas and its local (Latvian) dimension), and the technical quality of educational materials (timing of the lesson plans, use of technical tools, logical structure of the lesson, and clarity of

language). Participants' views reflect general educational issues present in Latvia and beyond. These insights on 1st year student teachers' views can be useful for initial teacher education trainers and for moral education researchers.

Authors' note

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FAMILY AND ENVIRONMENTAL FACTORS INFLUENCING CHILD DEVELOPMENT

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ABSTRACT

Long-term studies have provided evidence that child development potential is influenced not only by genetic factors but also by various family, home, and broader contextual environmental factors. The aim of the theoretical review is to identify the most significant socioeconomic factors of the environment/family environment that can negatively affect early child development, predicting lower school readiness, school performance, and lower academic achievements. The theoretical review sought answers to the following questions: which socioeconomic environmental factors, family factors influence the early child's developmental potential, and what is their relationship with the child's academic achievements? How are socioeconomic/family risks identified? The theoretical study determine several main groups of factors that can predict high family risks and hinder and negatively impact early child development. The results were used to construct the part of the screening instrument developed by University of Latvia researchers in cooperation with University of Liepaja and Riga Stradiņš University researchers. The instrument – Early Childhood Development Screening Toolkit (In Latvian: *Bērnu agrinās attīstības skrīninga instrumentu komplekts – BAASIK*).

Keywords: *early child development, environment, family factors, socioeconomic factors, preschool.*

Introduction

Long-term studies have provided evidence that the child's developmental potential is influenced not only by genetic factors but also by various family, home, and broader contextual environmental factors. So called socioeconomic (SES) factors within the family environment, in interaction with genetic factors, can negatively impact child development, leading to lower school readiness and academic achievement. Theoretical literature often mentions parental socioeconomic status as risks that can diminish the child's potential for achieving higher academic outcomes (Jimerson et al., 1999, Sirin, 2005). The child's academic achievements are influenced not only by the family's socioeconomic status but also by the conditions and functioning of the family. Li and Qiu (2018) found out that two pathways through which family influences children's academic

performance – better educational opportunities lead to better academic performance and parenting behaviour and educational support for their children could cultivate children's learning habits and affect academic performance.

Current paper was developed during the project “Preparatory Research for the Development of a Methodological Toolset for Assessing Early Childhood Development Needs”. The project was implemented based on the agreement between Latvia's state, Interdepartmental Coordination Centre and University of Latvia, No. 4.1-1/18-2021 in the period: November 25, 2021 – September 30, 2022. Objective of the project: Develop and test a screening method (SM) that is in line with modern scientific achievements and suitable for better psychological/pedagogical/medical assessment practices worldwide. The screening method consists of a set of multiple instruments (BAASIK – in Latvian) (for parents, child, preschool teacher, and physician) and is intended for children aged 1.5 to 6 years. In the first stage there was a task to develop a theoretical framework for developmental disorders based on integrated information from the latest scientific literature and disease classification systems such as DSM-5, ICD-10/11, and ICF for children aged 1 to 6 years. As part of the theoretical framework in order to include in the screening (BAASIK- in Latvian) Parent Survey was planned to include so-called the socio-demographic section, where the respondents – parents had to provide information about their socio-demographic status.

Thus the theoretical review sought answers to the following questions:

- Which socioeconomic environmental factors, family factors influence the child's developmental potential, and what is their relationship with the child's academic achievements?
- How are socioeconomic/family risks identified?

Methodology

Review of theoretical literature was used as a systematic way to collect, analyse and synthesizing previous research. It was used qualitative, integrative approach (Toracco, 2005). The approach was chosen as there is growing research on the topic that was chosen and there was a clear need for new review. Review of theoretical literature with the aim of identifying the main socio-demographic, family environment and educational environment influencing factors of the child's development potential was used. Therefore the aim of the research was not to cover all the literature on the specific problem, the author included in the review articles of the entire spectrum both recently published literature and literature of previous years. The articles from databases (Scopus, Web of Science) were examined. There were the key-words used while searching in the databases: *socioeconomic factors, family factors, family environment, preschool children, achievement, and early child development*. Specifically there were searched for Meta studies and longitudinal studies.

Thus the paper will delve into these issues, first exploring the relationship between the influence of family factors and the child's academic achievements, then seeks to find

out what are the means to identify family related risks, finally make conclusions and propose the groups of family factors that should be known when developing the Sociodemographic Information and Family Environment Block of the Screening Parent Survey in (BAASIK- in Latvian).

Theoretical background

The relation between the influence of SES, family factors and the child's academic achievements

The relation between SES factors and child academic achievement has been acknowledged by several Meta analyses. Sirin (Sirin, 2005) conducted a meta-analysis of researches carried out from 1990 to 2000. The aim was to determine the impact of socioeconomic status on student achievement. The conclusions confirmed previous findings (a similar study was conducted in 1982), indicating that there are correlations between socioeconomic status and academic achievement in the majority of the evaluated studies. Korous et al. (2022) analyzed 14 meta-analyses published between 1982 and 2019, which indicating that SES is a meaningful contributor to the development of cognitive ability and achievement. Selvitopu & Kaya (2021) conducted a Meta-analytic study of the effect of SES on academic performance. 48 independent studies were analyzed that included 62 different samples, and the total sample was 386.601. Findings revealed that the relation between SES and academic performance represented a moderate positive correlation. Letourneau et al. (2013) conducted a meta-analysis to research the relationship between SES and developmental outcomes for children and adolescents between the ages of birth to 19 years of age. The results revealed very small to small, but significant effects of SES on aspects of the three outcome variables of literacy and language, aggression, and internalizing behaviours including depression. Peverill et al. (2021) in their Meta analyses among 26,715 participants aged 3–19 years, found that children raised in families with low socioeconomic status (SES) are more likely to exhibit symptoms of psychopathology, however, it is likely to vary in different populations of children and in different communities.

Children living in poverty are at a higher risk of developmental and behavioural problems compared to their peers from higher-income families. These differences can be observed even at a very young age (de Paiva et al., 2010). Research by Fernald et al. (2013) revealed differences in early language proficiency among infants from advantaged and disadvantaged families. Significant disparities in vocabulary and language processing efficiency were already evident at 18 months between infants from higher- and lower-SES families, and by 24 months there was a 6-month gap between SES groups in processing skills critical to language development. In the research by Lawson et al. (2018) relation between childhood SES and executive function (EF), that refers to the cognitive processes, supported by prefrontal cortex, that regulate goal-directed behaviour, has been established.

At the same time, research in so-called underdeveloped countries, showing that there is a relation between SES and student achievement, however it is overall weak (Kim et al., 2019).

This indicates that in so called developed countries, where there is social stratification, these issues of inequality are much more relevant, according to which SES has a stronger influence on children's development opportunities.

The studies examine both SES factors and broader sociodemographic or family factors relation to child development. In a study conducted in the United States, the authors examined the relationship between family factors and children's school readiness, as well as their academic achievement at the age of 4 (literacy skills, mathematical abilities, behaviour, socio-emotional skills). They found that so-called family factors or risks predicted lower school readiness among children. The study included both socio-demographic risks (family income, parental divorce, single-parent households, race/ethnicity, minority status) and family process risks (low parental involvement, limited cognitive stimulation, parental mental health aspects, specifically maternal depression symptoms, and parental harshness associated with child punishment and less frequent parent-child interactions) (Pratt et al., 2016). Often, these risks are interconnected, for example, if parents have low income, they may not have the means to afford stimulating toys, materials, and books. The role of mothers in relation to child's development and achievement has been examined for some time. It was acknowledged, for example, that maternal employment can effect negatively child's development (Brooks-Gunn et al., 2010). It is important the time mothers spend with their babies and the most important – the quality of the time spent together. It was concluded that maternal interaction quality with a child (her physical and mental availability) has impact to later child's cognitive outcomes, including reading comprehension skills (Taylor et al., 2008). In the research by Caputi et al. (2017) was concluded that mother-child relationship at age 5 correlate with children's academic achievement at age 9, controlling for early background and verbal abilities. In Meta analyses conducted by Madigan et al. (2019) about parenting behaviour (i.e., sensitive responsiveness or warmth) and child language, was revealed, that the association between parents sensitive responsiveness and child language was statistically higher than that of warmth and child language, the effect sizes were stronger in low and diverse SES groups compared with middle to upper SES groups.

In Australia, in 2014, a study (Heath et al., 2014) was conducted in which the prereading and reading skills of 102 four-year-old children (46 girls and 56 boys) were assessed several times- before the pre-literacy period, then, at the ages of five, six, and seven, their reading skills were evaluated again. The study found that children from families with high risk factors (low socioeconomic status, history of language difficulties, and parental phonological awareness difficulties) had lower reading proficiency indicators. The study by Chiu et al. (2015) on the relationship between family social capital and their children's reading proficiency revealed that social capital has a direct impact on both the child's reading motivation and reading behaviour. In analysing the theoretical literature, Ha (2021) concluded that not only the socioeconomic status of families but also positive parental involvement in early and primary school education influences the development of reading skills. Studies indicate that family income and parental education level are

directly related to beliefs about parental roles and parental involvement in education (Tekin, 2011).

Park et al. (2017) conducted a longitudinal study that assessed the academic performance of 914 children from preschool age, focusing on the aspect of school culture and three types of parental involvement (direct involvement in improving school life, involvement in their child's educational development, and communication and networking with other parents). The results of the study confirmed a relationship between parental involvement (direct involvement in improving the overall school experience, such as volunteering, fundraising, project work, and networking with other parents) and students' achievements in mathematics and reading. Importantly, these students from the participating schools showed higher average results compared to other schools. The study also concluded that parental networking, in particular, was beneficial for children from lower socioeconomic status families, as parental involvement reduced the negative impact of socioeconomic factors.

The longitudinal study conducted in Australia (Hood et al., 2008) revealed that parental involvement in their children's education during the preschool years had a positive impact on the development of children's reading skills, particularly in expanding their vocabulary and overall reading proficiency. Niklas and Schneider (2013) emphasize that for the comprehensive development of children's reading and writing skills, not only letter knowledge, phonological awareness, vocabulary, and cognitive abilities are important but also several social aspects such as family SES, whether the child comes from a family with migration experience, and the "home literacy environment." The authors focused on the "home literacy environment" and its influence on children's reading development. The home literacy environment is characterized by the literacy resources available in the family and the interactions within the family that support the child's linguistic development and promote reading skills, as it is closely related to the child's language development (Niklas et al., 2020). The results of the longitudinal study (Niklas & Schneider, 2013) showed that the home literacy environment plays a significant influential role, particularly in the growth of children's vocabulary and overall reading proficiency. Moreover, it partially mitigates the negative impact of other factors such as socioeconomic status and migration background. The home literacy environment is a good predictor of children's academic performance in reading and mathematics (Niklas & Schneider, 2017). Shared reading with children has a positive impact not only on their linguistic development but also on socio-emotional learning (Wirth, 2020). The study conducted in the United States (Barnes & Puccioni, 2017) examined both the qualitative aspect of shared book reading (the depth of discussions parents engaged in with their children regarding the content) and the quantitative aspect (how much reading occurred). Researchers concluded that the quality of shared reading is directly associated with better mathematical performance in children, while the quantity of reading is related to improved reading skills. Parental involvement and stimulating children through educational activities positively affect both their readiness for preschool and later academic achievement (King et al., 2020).

However, with the introduction of technology into the home environment, it may have an influence on children's achievements. So far, studies have not found a connection between the digital home literacy environment and children's language and reading development (Segers & Kleemans, 2021), but further research is needed in this area.

Similarly, the association between the home environment promoting mathematical skills and children's mathematical and spatial skill development, as well as later performance in mathematics, has been evaluated. Some studies indicate a relationship, while others do not confirm it (Purpura et al., 2020). The home environment promoting mathematical skills includes both direct and indirect training of children's mathematical skills. Direct training includes activities that explicitly teach mathematical concepts, such as counting. Indirect training refers to a broader everyday experience that indirectly teaches and helps acquire mathematical skills (e.g., comparing sizes, measuring, discussing money). Additionally, skills related to spatial experience activation are emphasized, including the perception of various spatial objects and their placement in space (e.g., drawing maps, measuring objects, building, solving puzzles), as well as the development of geometric prerequisites. In a replicative study (Purpura et al., 2020), it was found that only direct training, supplemented with indirect training of mathematical skills within the family, significantly predicted a child's performance in calculation and higher-level mathematical skills. In Germany (Anders et al., 2013), a study was conducted revealing that socioeconomic factors play a significant role and have an impact on the development of children's mathematical skills from ages 3 to 7. At the same time, the study demonstrated that the activities of preschool institutions can positively influence children's mathematical skill development in such cases.

Another significant factor related to the family environment that can negatively impact a child's development is elevated family stress. Studies have established a connection between increased family stress and a child's performance in pre-school, specifically in terms of reading skills, mathematical skills, letter recognition, and numeral recognition (Bramlett et al., 2000), as well as their behaviour. McEwen (2000) describes the allostatic model of chronic stress developed in 1998, which explains how an organism reacts to stress to regain homeostasis, highlighting the "cost" the organism pays to recover from stress and what happens in the brain and body when "engaging" and subsequently "disengaging" from a stressful situation. The long-term effects of chronic stress, also known as toxic stress (when negative and adverse events persist in a person's life), are described as negative and can affect both physical and mental functioning. Even in very young children, prenatal and postnatal stress, including prolonged separation (180 minutes) from the mother during the early stages of life, can influence their stress hormone levels later in life in various situations. Importantly, the experiences children undergo in early childhood directly impact their later life outcomes. Traumatic events in childhood (emotional, physical, or sexual abuse, neglect) can affect the development of cognitive impairments in later stages of life and lead to other problems such as aggressive behaviour, depression, increased risk of suicide, and substance abuse. McEwen (2017) points out that adverse early life experiences interact with specific gene alleles, resulting

in long-lasting effects on the brain and body through epigenetic mechanisms. However, there is hope in research that demonstrates the possibility of developing and implementing preventive and supportive programs that promote interactions between the child's brain and body through therapeutic techniques and interactions, aiding the child in recovering their psychoemotional equilibrium, thanks to the plasticity of the child's brain. Although this is one of the factors predicting children's academic achievement, the impact of these factors cannot be solely attributed to educational institutions (Bramlett et al., 2000), as these interactions primarily involve therapeutic approaches.

The quality of parenting, including parental skills and parenting style, also plays a significant role in influencing a child's developmental potential. It acts as an important mediator between sociodemographic risk factors and child developmental outcomes, particularly in the areas of cognition, language, and speech (Burchinal et al., 2008). Both parenting style and skills, as well as changes in them even during infancy, can predict a child's cognitive abilities (Burchinal et al., 2008).

In the context of importance of experiences in the early years of life in creating the bases for the child's future the importance of early childhood education in children's development has been emphasized in research. Research concludes that children who attend preschool achieve higher outcomes in school compared to those who do not attend preschool (Sheehan et al., 1991), and their achievements are higher in both mathematics and literacy (Weiland & Yoshikawa, 2013). Furthermore, studies show that the duration of preschool attendance, whether half-day or full-day, does not significantly affect students' performance (Gullo & Clements, 1984). Children who attend preschool demonstrate better results in mathematics, such as counting, recognizing and distinguishing geometric shapes, compared to those who do not attend preschool (Aslan & Arnas, 2015). If a child attends preschool, even as early as three years old, it predicts higher math achievement in fourth grade (Santin & Sicilia, 2018). A study conducted in the United States found that pre-writing/pre-math skills in preschool are strong predictors of higher achievement in third grade for all students, including those from low socioeconomic status and ethnically diverse families. All students who attended preschool showed higher results in both reading and mathematics in third grade (Manfra et al., 2017). The greatest benefits of preschool attendance are observed in children from socioeconomically disadvantaged families (Zhang, 2017, Duncan & Magnuson, 2013, van Huizen & Plantenga 2018). Preschool programs in short run improve children's school readiness, their pre-academic skills, in long run, however results are not always straight forwarded – effects children's later life chances, improving educational attainment and earnings and, in some cases, reducing criminal activity (Duncan & Magnuson, 2013). Preschool education is significant for all children, more precisely qualitative preschool education (van Huizen & Plantenga 2018), but it is particularly essential for children from low socioeconomic status families as it provides an opportunity to mitigate negative socioeconomic family risks.

How is it possible to identify family environment-related risks?

To evaluate the family environment and potential risks, it is believed that the best approach to use as a method is through interviews and direct observation. This requires special training (Gledhill & Garralda, 2005). However, there are questionnaires that can be filled out by parents themselves, although these questionnaires may not always be stable and reliable from a psychometric perspective. The authors (Gledhill & Garralda, 2005) mention two assessment questionnaires that parents can complete: the McMaster Family Assessment Device and the Global Family Environment Scale. In the McMaster Family Assessment Device, parents rate each statement on a 4-point scale: ‘strongly agree,’ ‘agree,’ ‘disagree,’ and ‘strongly disagree.’ If parents agree with 24 or more statements (out of 30), the family is considered to have poor or unhealthy functioning. The Global Family Environment Scale is user-friendly and requires minimal training. It assigns a score from 1 to 90 according to established guidelines.

Another assessment tool is screening, which can help identify social factors that may negatively impact a child’s development and well-being. Screenings should be used over an extended period of time (longitudinally) to assess progress repeatedly. The interpretation of screening results should involve a professional team, and the risk of stigmatization should be avoided by correctly interpreting the screening outcomes. Screenings should evaluate both general known risks (such as poverty) and specific risks that are less common but still significantly impact a child’s development, such as risks related to violence (Chung et al., 2016). One of the most popular screening instruments developed in the United States in the 1970s to assess the home environment is called the “Home Observation for Measurement of the Environment” (HOME) screening (Bradley, 1993). Its updated version is still widely used in various parts of the world (Liang, 2019). It assesses demographic indicators of the child (age, gender, academic performance), parents (mother’s age, education, ethnicity, father’s age, education, ethnicity), family structure (divorced, intact), and marital satisfaction (yes or no). The home environment is evaluated through multiple aspects, and the term “caregiver” is used in the screening, encompassing the idea that caregivers can be parents, grandparents, foster parents, or other individuals who have taken primary responsibility for the child’s care. Each statement is divided into several subscales: daily routine; stimulating active growth; positive emotional behaviour; environmental variety; caregiver involvement in school activities; caregiver engagement, interpersonal and communication stimuli.

Discussion

Parents’ socioeconomic status (SES), which is typically characterized by parental income level, employment, educational level, can be a risk factor that reduces or limits a child’s developmental potential and affects their chances of success in preschool and school. It is important to note that a child’s achievements are influenced not only by the family’s socioeconomic status but also by the family’s life and functioning conditions, which can change in one direction or another throughout the child’s life. The impact

of these factors remains significant throughout all the child's developmental periods throughout preschool and school, and there is theoretical and empirical evidence to support this claim. Evidence from research suggest that the importance of socioeconomic factors that influence children achievement remains important throughout years globally, since 1990 these relations have strengthened (Liu et al., 2022). At the same time it show that in developed countries there are more educational inequalities, which creating a new challenge for developing countries as they expand school access (Kim et al., 2019). Trends that are globally characterized by educational expansion that focuses on increasing educational opportunities does not seem to reduce inequalities in academic outcomes between high- and low-SES school children in educational system (Liu et al., 2022).

Identifying early family risk factors (preferably from birth) that may negatively impact children's academic achievements is one way to provide timely and targeted support to families. This can involve offering specific interventions and support programs that serve as preventive measures. These interventions can be implemented within families themselves, in preschool educational institutions, or through a combination of both settings, as well as outside the family, such as in preschools, support services, or centres. It would be wise to focus interventions on family and community factors that contribute to child's developmental outcomes across the socioeconomic spectrum. One significant factor is the attendance of preschool educational institutions, which can mitigate the negative socioeconomic risks faced by families.

Studies indicate that a single socioeconomic factor in the family environment does not always influence a child's academic difficulties. Instead, multiple factors in various combinations affect a child's academic achievements in preschool and later in school (Evans et al., 2013). Those can be combination of several factors, for example preterm-born children with low SES (Potijk et al., 2013).

Protective factors, which mitigate the negative effects of these factors, have also been analysed in research. For example, close emotional relationships between mother/parents and children, targeted involvement of educational institutions or caregivers in promoting a child's development, can reduce the risks associated with poverty and negative impacts on a child's development (Burchinal et al., 2008). However, it should be acknowledged that it is not always possible to assess SES and family environmental risks at an individual level theoretically and empirically to accurately predict their impact on an individual child's developmental potential. Nevertheless, research clearly shows that the more of these risks, which can form various combinations, exist, the greater the likelihood that they will have a negative impact on a child's development.

Conclusion

In conclusion, there have been identified the most significant factors that have the potential to impact a child's early development – some factors can have negative effects on children's development, for example, low family income or mother work, however they can be balanced by significantly positive indirect effects, for example early

preschool attendance. Screening is one of the means of early identification of negative factor impacts on child development. Therefore, in a parental survey (in Latvian version BAASIK) using a screening instrument, it would be advisable to identify several groups of key factors or constructs (see Table 1) that can predict high family risks and hinder child development.

Table 1 Family factor groups that should be explored when developing a screening parent questionnaire on socio-demographic information and family environment block

Factors	Description	Source
Socioeconomic/ sociodemographic factors include: <ul style="list-style-type: none"> • Income level/ employment; • Family status; • Migration experience; • Parental education level. 	Poverty risk (lack of income, dependence on benefits, low-income status, unemployed parents), single-parent family, single earner, child being raised by a single parent/caretaker. Migration experience. Risk related to parental education level (possible education levels: completed primary school, incomplete secondary school, completed secondary school, incomplete higher education, completed higher education at the bachelor's or professional level, master's degree, doctorate).	(Sirin, 2005; Niklas & Schneider, 2013, Chiu et al., 2015, Pratt et al., 2016, Chung et al., 2016 Purpura, 2020, Fernald et al., 2013)
History of family/ parents include: <ul style="list-style-type: none"> • History of illness in the family; • First-degree relative who has experienced difficulties with language, reading skills, or mathematics. 	Mental disorders in the family history (a specific diagnosis or difficulties with language, reading/writing, parents' phonological awareness difficulties, parents' mental health problems) have been present in a first-degree relative who has experienced difficulties with language, reading skills, or mathematics.	(Pratt et al., 2016, Chung et al., 2016)
Child stimulation/ involvement at home include: <ul style="list-style-type: none"> • A stimulating home environment; • Promoting reading skills; • Creating a literacy-enhancing home environment; • Promoting foundational math skills; • Quality interaction with child; • Enhancement of child experience by visiting museums, library, etc. 	Parental competence and skill in interacting with the child from early childhood, purposefully doing something together every day (playing, etc.), creating meaningful interactions, being responsive, engaging in emotionally responsive interactions. There are stimulating toys available at home, engaging in art activities at home, going on excursions, walks, trips, visiting museums, cultural events with parents. Parents' reading habits (how often they read), establishing reading habits together with the child – how often parents read, the quality of reading time together. Reading in front of the child, reading together with the children. Visiting the library, the number of books at home. Parents directly encourage counting objects together (big and small), indirectly encourage measuring different volumes, components, and talking about money.	(Pratt et al., 2016, King et al., 2020) Niklas, Schneider, 2013, Niklas et al., 2020, Purpura et al., 2020, Taylor et al., 2008)

Factors	Description	Source
Parent involvement in education process and preschool include: <ul style="list-style-type: none"> • Direct involvement; • Indirect involvement; • Parents networking with other parents 	Direct parental involvement in improving preschool life (such as participation in parent councils, etc.). Parents engage in preschool activities, support all kinds of preschool/school activities (such as attending events). Parents, together with their child, complete assigned homework, activities, project work in education. Parents actively communicate with other parents and teachers, building networks, for example, to discuss children's progress, how to better complete homework, and what additional activities can be done at home to promote child development. They meet with other parents, network.	(Hood et al., 2008, Park et al., 2017, Henderson & Mapp, 2002, Pratt et al., 2016)
Family stress involve: <ul style="list-style-type: none"> • Postnatal stress; • Parental stress; • Violence in family. 	Perinatal, as well as postnatal stress, including prolonged separation, increased parental stress, prolonged traumatic situations, violence (emotional, physical, sexual, neglect).	(Bramlett et al., 2000, McEwen, 2017, Pratt et al., 2016, Chung et al., 2016).
Parent child interactions and parenting style involve: <ul style="list-style-type: none"> • Availability; • emotional availability; • Warm relationships. 	The parenting style used by parents – neglectful or authoritarian style, which involves neglecting the child or using punishment, having little emotionally warm relationship with the child, and limited interaction between the child and parents. For mother there is not enough to be just present, emotional availability is very important factor. Mother and child relations.	(Pratt et al., 2016, Burchinal et al., 2008, Sorce & Emde, 1981, Caputi, et al., 2017, Madigan et al., 2019)
Attending preschool and quality of preschool programs involve: <ul style="list-style-type: none"> • Early preschool attendance; • Preschool attendance. 	Attending a preschool education institution (private or public). Early initiation of preschool education.	(Aslan & Arnas, 2015, Zhang, 2017, Miller et al., 2017, Santin & Sicilia, 2018, Duncan & Magnuson, 2013, van Huizen & Plantenga 2018)

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BYSTANDERS IN BULLYING SITUATIONS IN SCHOOLS. DOES IT MATTER? LITERATURE REVIEW

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ABSTRACT

Bullying is a model of social behaviour that develops and escalates if not recognized and accordingly addressed. Bullying can be verbal, physical, or cyberbullying. The causes of bullying and violence in schools are peers' physical deficiencies, gender, social inequality, ethnic, linguistic and cultural diversity, gender identity. The impact of bullying on personal development can be substantial and include lowered self-esteem, anxiety, greater levels of depression, fear, school refusal, isolation, and even suicide. When analysing bullying situations in schools, the social context must be taken into account. Attention should be shifted from perceiving bullying as a relationship between two persons (perpetrator and victim) to perceiving bullying as a process involving and affecting bystanders – students who are present in bullying situations and taking certain roles towards it. Even apparent neutrality in bullying situations does not mean non-intervention, as non-reaction could be associated with the passive support of the bully. In deciding whether to stand up for the victim, students must consider their existing relationships, their position in the classroom, and their ability to influence the process. In addition, there is a fear that each of the victim's defenders can become the next victim. The actions, behaviour and attitudes of bystanders can both increase and decrease the level of bullying. The study aims to explore the trends and challenges regarding the role and impact of bystanders in bullying situations in schools. Research suggests that targeting bystanders and giving them the tools and encouragement to intervene should be an integral component of bullying interventions.

Keywords: *bystanders in schools, bystanders motivation, bullying prevention strategies, bullying circle, anti-bullying programs*

Introduction

According to international studies (PISA, 2018, UNESCO, 2019), the most common form of violence in schools is bullying. Bullying can take the form of verbal, physical, and in cyberspace.

Bullying is a form of violent relationship that exists between peers in schools with the purpose to harm the other in various ways (physically, emotionally, and in cyberspace). The main characteristics of bullying are that it is intentional and takes place over

a long period. Bullying can take place on several levels, from spreading rumors and hiding belongings, to intimidating and controlling the victim. The imbalance of power between the bully, the initiator of the bullying, and the victim (physical, numerical, social) also play an important role. In accordance with the research, around 80% of bullying episodes take place in front of bystanders, peers, whose actions, behavior, and attitude could escalate or deescalate the bullying situation (Salmivalli et al., 2010; Padget & Notar, 2013; Thornberg et al., 2012). Olweus (2003) and Salmivalli (2014) provide a wide spectrum of roles that a student could take in bullying situations, from bully supporters to victim defenders. However, the majority of the bullying circle consists of those who are present in the situation but do not take an active role (Padget & Notar, 2013; Salmivalli et al., 2010; Jenkins et al., 2018). To enlarge the awareness of bystanders toward the actuality of bullying and to empower them to take up the responsibility and play an active role in bullying prevention the strategy should be built up (Cornu et al., 2022; Lodge & Frydenberg, 2013; Schott & Søndergaard, 2014). In order to get the awareness of bullying mechanism and the strategies that peers mostly use in bullying situations: direct verbal confrontation, direct physical violence, indirect intervention and remaining passive, researchers (Salmivalli & Voeten, 2004; Rigby & Johnson, 2006) recommends the use of video film stories as well as role-plays and drama exercises. By combining problem-solving methods with group dynamics theory, the process of bullying could be understood both cognitively and emotionally (Schott & Søndergaard, 2014). The process of empowerment of bystanders should move from problem awareness to decision-making (Padget & Notar, 2013; Dunn, 2010). The teacher must create an environment where students understand and appreciate their abilities to find out solutions to bullying situations (Jungert et al., 2016). At the same time, bystander empowerment should be closely related to, and an integral part of bullying prevention strategy in schools (Salmivalli, 2014; Ruggieri et al., 2013). In that way, the whole school approach to bullying prevention will be promoted (Cornu et al., 2022).

The study aims to explore the trends and challenges regarding the role and impact of bystanders in bullying situations in schools. To achieve the research aim, the research questions were raised: How does the motivation of bystanders to intervene in bullying situations could be promoted? What is the role that bystanders are taking in bullying prevention strategies in schools?

Methodology

The literature review describes the main approaches of how educators have attempted to link bullying prevention with the motivation of bystanders and collaboration among learners. It notes trends and challenges presented in the literature regarding the place and role taken by bystanders in bullying situations and makes recommendations for enabling bystanders to become upstanders and to change class and school climate accordingly.

In order to reveal the role and capacity of bystanders to intervene in bullying situations, research has been carried out using the latest scientific literature found in Scopus, Science Direct and & Francis that are published in English in the time period 2000–2020. Following the method given by Xu Xiao and Maria Watson (Xiao & Watson,

2019) the systematic review was realised in five phases. In the first phase, initial keywords were identified having considered the researcher's knowledge of the field and the research question: bystanders in schools, bystanders motivation. After reviewing databases 26 potentially relevant articles were found and identified for further research. In the second phase based on the review of abstracts, specific searches were conducted and criteria for inclusion and exclusion were defined (see Table 1).

Table 1 Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Studies in the English	Studies in other languages.
Studies from the school education field.	Studies from other fields.
Scientific articles, reviews or books, monographs.	Conference review
Pedagogical approaches toward bystanders	Bystanders in the broader context as school education

After reviewing of articles 3 articles were excluded based on chosen criteria. To obtain more articles the keywords: bystanders in schools – were combined with the term – bullying prevention strategies, as these terms represent the borders of this research. As a result, 5 more articles were added to the selected list.

Results

In the third phase in accordance with the screening results, full texts of studies (3 scientific monographs, 1 literature review, and 22 empirical studies) were reviewed in order to realize quality assessment and to work out data extraction and analysis (Xiao & Watson, 2019). The time period analyzed in the review was 2000–2020 covering the following countries: Sweden, Australia, United States, United Kingdom, Taiwan, Switzerland and China. During the fourth phase, the characterization of the studies (Xiao & Watson, 2019) was realized. Following the inductive method information from each study was extracted and divided into research areas. After reviewing the studies the following thematic categories were constructed: Characterization of bystanders, Motivation of bystanders to intervene in the bullying situations, The place of bystanders in the bullying prevention strategies.

Table 2 Thematic categories of systematic review

Thematic Categories	Authors
Characterization of bystanders	Lodge & Frydenberg, 2013; Xie, 2019; Salmivalli & Voeten, 2004; Salmivalli, 2014; Schott & Søndergaard, 2014; Padgett & Notar, 2013; Olweus, 2003; Guerra et al., 2011; Thornberg & Delby, 2019
Motivation of bystanders to intervene in the bullying situations	Waasdorp et al., 2022; Jungert & Perrin, 2019; Jungert et al., 2016; Rigby & Johnson, 2006; Thornberg et al., 2012; Macaulay et al., 2019; Knox et al., 2021; Pavlich et al., 2017; Boulton & Macaulay, 2022; Ma & Bellmore, 2016
The place of bystanders in bullying prevention strategies	Wood et al., 2017; Ruggieri et al., 2013; Jenkins et al., 2018; Olweus & Limber, 2010; Salmivalli et al., 2010; Woods & Wolke, 2003

Discussion

The fifth phase reveals the usage of the Thematic inductive analysis to explore and analyse the content of the studies in accordance with categories (see table Nr2). Thematic analyses allow operating with a wide range of theoretical studies that could respond to the study questions and could assist in forming the research design.

Characterisation of bystanders

In order to de-escalate the bullying process, it is necessary to clarify the social processes that have created it, including the personally formed meanings that determine student behaviour in a bullying situation (Guerra et al., 2011; Thornberg & Delby, 2019; Padgett & Notar, 2013). Therefore, the ability to understand the context in which bullying occurs is crucial. Researchers (Salmivalli, 2014; Schott & Søndergaard, 2014; Ma & Bellmore, 2016) recognize that bullying in schools is a reflection of the situation in society, while also not forgetting the impact and expressions of individual aggression (Ruggieri et al., 2013). The focus should be directed to the group dynamics, next to the victim and the bully, analyzing also the involvement of the other peers, which either reinforces or reduces the bullying (Lodge & Frydenberg, 2013; Rigby & Johnson, 2006; Macaulay et al., 2019). Research (Salmivalli & Voeten, 2004; Schott & Søndergaard, 2014; Thornberg & Delby, 2019) indicates that it is very important to evaluate bullying as a collective action that includes certain social roles and norms, power relations and hierarchies. This approach partly coincides with Olweus' bullying prevention programme (Olweus & Limber, 2010). According to the Olweus bullying prevention program (Olweus & Limber, 2010; Olweus, 2003), the victim is in the center of the bullying circle, around whom the other peers are positioned depending on their attitude towards the bullying situation. A bully is defined as the main aggressor in the circle, who both plans the bullying process himself and is also an active participant in it. Next to the bully, there are followers, who actively participate in the bullying, but aren't the planners and initiators of the process themselves. Then two groups of supporters are defined – supporters and passive supporters, who, depending on their attitude, actively or passively support the bullying. The other groups involved in the bullying process are divided into possible defenders, who condemn bullying, and are aware that they could get involved, but don't. The only ones who stand on the side of the victim are the defenders, who stand up against the bully and act to stop the bullying. Researchers (Jungert & Perrine, 2019; Ruggieri et al., 2013) indicate that victims who have friends can resolve bullying situations more easily and defend their positions better. The bullying circle created by Olweus has been used by several bullying researchers, some of them, for example, Salmivalli have created their own approach based on this circle (Salmivalli, 2014). When implementing the bullying prevention program KiVa, Salmivalli recommends (Salmivalli, 2014, Salmivalli & Voeten, 2004) dividing bully participants into four groups – combining passive supporters and possible defenders into one group, called disengaged onlookers. At the same time Salmivalli notes (Salmivalli, 2014), that this position has another meaning because neutrality in bullying

situations does not mean non-interference. This position is supported by several researchers (Schott & Søndergaard, 2014; Padgett & Notar, 2013), emphasizing that it is the active involvement of peers in bullying situations that is crucial in order to stop bullying in the long term. Therefore, researchers (Jungert & Perrin, 2018; Boulton & Macalay, 2022; Thornberg et al., 2012) actively analyze the roles and actions of bystanders. Bystanders are all students involved in the bullying process if they don't take the role of victim or bully (Salmivalli, 2014; Xie, 2019; Lodge & Frydenberg, 2013; Padgett & Notar, 2013).

Motivation of bystanders to intervene in the bullying situations

To decide whether to become upstanders and to defend the victim, students must consider their existing relationships, their position in the classroom, and their ability to influence the process (Jenkins et al., 2018; Jungert & Perrin, 2019; Wood et al., 2017; Woods & Wolke, 2003; Xie, 2019). The empirical studies realized in Sweden (Jungert & Perrin, 2019) and the United States (Knox et al., 2021) show that students find it difficult to take a stand against bullying. One of the main reasons for non-intervention is the fear for the defender to become the next victim. Likewise, bystanders do not understand that non-intervention is the silent acceptance of aggressive behavior, which is one of the most important aspects to consider when thinking about reducing bullying in schools (Salmivalli et al., 2004). The study realized in the United States (Knox et al., 2021) analyzed the behavior of 183 American students aged 14–18 revealing the two main reasons for non-involvement. One of them is the unwillingness to get involved in solving mutual relations that are not directly binding, as well as the belief that the verbally expressed position or action cannot influence the situation sufficiently. At the same time, the study reveals that those who would like to get involved are students who have been in the victim role before or who have more developed empathy. There are some additional factors that should be taken in account when planning the implementation of the anti-bullying program. Researchers (Knox et al., 2021) recommend taking into account contextual factors such as students' social status (those without high social status are afraid to take risks in defending the victim) as well as cultural diversity (value system) are important points to make a choice. The importance of cultural aspects is also confirmed by a comparative study that was used in Taiwanese and American schools (Ma & Bellmore, 2016) – it was found that Taiwanese students would like to help the victim feel better when discussing their reactions to bullying situations. On the contrary, American students would like to convince the bully to stop the aggression. Another study realized in America (Thornberg et al., 2012), involving 30 students reveals the factors that determine the motivation of bystanders to intervene, and concluded that they are: assessment of the situation, social context, and awareness of one's strengths. Several studies also reveal that teenagers engage in bullying situations because they want to experience the drama of relationships, especially in the virtual environment, in social networks (Macaulay et al., 2019). Analyzing the bystander's responses to cyberbullying and comparing that with the bystander's reactions in cases of emotional and physical bullying, it is found that

the action scenarios, from ignoring the situation to seeking help and addressing the bully, are similar. However, research (Macaulay et al., 2019) shows that bystander reactions are higher when the bully remains anonymous and the victims are upset. The study carried out in Sweden, in which 900 students of age 9–13 were involved (Thornberg et al., 2012), mentions empathy, a sense of personal responsibility, and friendship as reasons for students to get involved. On the other hand, the reasons for not getting involved are: underestimating the situation, not associating oneself with what is happening, including the belief that the situation does not apply to them, self-defense, fear of consequences, friendship with the abuser, dislike of the victim, low social status and uncertainty about one's own possibilities to help. Analyzing students' behavior as two completely different positions the following aspects were indicated: ignorance of what is happening (taking the role of disengaged onlooker) and support for the bully (taking the role of follower) (Rigby & Johnson, 2006; Thornberg et al., 2012; Thornberg & Delby, 2019). Summarizing the opinions of researchers (Jungert et al., 2016; Macaulay et al., 2019; Ma & Bellmore, 2016), certain limitations can be highlighted that delay intervention: 1) intervention has a negative impact on the victim's condition, 2) by intervening, the student risks with his own physical safety 2) intervention will not change the situation, 4) the situation is an arrangement of mutual relations in which no one else has to intervene. In addition to the mentioned factors, it is also indicated that students with lower social status (younger, less popular, etc.) as bullies are less willing to be involved (Jungert & Perrin, 2018; Knox et al., 2021; Ruggieri et al., 2013; Waasdorp et al., 2022). At the same time, factors that influence motivation and strengthen the desire to defend the victim are also revealed – emotional empathy, sense of responsibility, safe and inclusive classroom and school environment, as well as self-efficiency and high social status in the classroom. The interesting factor for intervention reveals, by studying research done in America by group of researchers. They have realized that distance and volume for perception of the bully and victim has an certain impact (Pavlich et al., 2017). Several researchers (Jungert et al., 2016; Waasdorpp et al., 2022) have mentioned the inclusive and safe class and school climate as essential for implementation the anti-bullying policies. The data from examining more as 64 000 students revealed that besides the individual factors of personalities involved in bullying situations, it is necessary to consider the school climate through 3 dimensions: engagement, environment, safety (Waasdorp et al., 2022).

Summarizing the factors that promote and reduce motivation, the following Table 3 can be introduced (Waasdorp et al., 2022; Thornberg et al., 2017; Jungert & Perrin, 2019; Jungert et al., 2016; Rigby & Johnson, 2006; Gendron et al., 2011).

By exploring several approaches for enabling bystanders (Jenkins et al., 2018; Dunn, 2010; Salmivalli et al., 2010), several consecutive steps can be distinguished: Rising of awareness (types of bullying, roles); actuality; risk analysis and taking up responsibility; acquiring necessary skills and knowledge; a decision to intervene. The proposed bystander empowerment framework is summarized in a Table 4.

Table 3 Motivating and demotivating factors for students to intervene in bullying situations

Motivating factors	Demotivating factors
Empathy (cognitive and emotional)	Fear of being victimized, audience excitement
Friendship; high social rank	Non-friend with victim, disliking victim; low social rank
Moral belief that bullying is wrong; believing that parents and friends (but no teachers) expected them to act to support victims	Bystander irresponsibility, blaming the victim; believing the bully
High self-efficacy	Low self- efficacy
Positive student – teacher relationship	Conflictual student – teacher relationship
Safe psychological and physical school and classroom environment	Unsafe and unreliable school environment

Table 4 Framework of bystanders' empowerment

Empowerment of bystanders	Description
Rising of awareness (types of bullying, roles)	To increase empathy, researchers suggest using videos or role-playing. The main focus is to understand that the bullying process grows out of group dynamics
Actuality	Research reveals that students often do not assess the potential consequences of psychological bullying as accurately as they do with physical bullying.
Risk analysis and taking up responsibility (from bystanders to upstanders)	The researchers recommend to explain that not getting involved in the search for a solution to reduce bullying does not mean neutrality, but passive support for bullying
Acquiring of necessary skills and knowledge (socio – emotional learning)	Researchers recommend using a variety of instructional videos. The complex of socio-emotional learning would be very useful, where possible actions of students in conflict situations have been analysed, as well as games showing ways to how to act in conflict situations so that they do not turn into violence.
Decision to intervene	Although there aren't common view, however this is suggested that Intervention should be focused on changing group dynamics

The place of bystanders in bullying prevention strategies

Empowering of students as one of the main criteria for evaluating bullying prevention has been highlighted in the recommendations developed by UNESCO for a whole-school approach to the prevention of bullying in education, developed by the Scientific Committee on Preventing and addressing school bullying and cyberbullying (Cornu et al., 2022). They determine 9 components of the whole education approach to prevent and address bullying and cyberbullying from political leadership to monitoring on anti-bullying programs and co-operation with stakeholders and most importantly with the students of respective schools (Cornu et al., 2022). According to the authors of the recommendations (Cornu et al., 2022), children and young people should be involved in program development, implementation, and evaluation. Schools are meant for children and young people,

they should be involved in the implementation of the program in an age-appropriate way. In order to realize the role of bystanders empowerment in the anti-bullying programs – the program developed by the Norwegian psychologist Dana Olweus – OLWEUS and the program developed by the University of Turku in cooperation with the Finnish Ministry of Education and Culture – KiVa were taken for further consideration. Examination of both programs reveals (Olweus & Limber, 2003; Schott & Søndergaard, 2014) that they are based on similar principles and ideas, but the content of the programs differs. For example, both include actions with students at the class and school level, holding discussions with students involved in bullying situations, and both programs focus on the development of classroom rules. However, the KiVa program includes at least three features that distinguish it from similar anti-bullying programs (Salmivalli & Voeten, 2004). First of all, KiVa provides professionally prepared materials to all three target groups – teachers, parents, and students. This makes the program easier to implement and understand. The next element is the use of the virtual environment as a powerful tool for acquiring knowledge and skills on how to deal with bullying situations. Finally, what seems most important in the context of intervention research, KiVa goes beyond weighing the role of bystanders. Anyone involved in bullying can learn techniques to increase empathy and find the best ways to help the victim (Salmivalli et al., 2010; Salmivalli & Voeten, 2004).

When analyzing the theoretical literature (Olweus & Limber, 2003; Salmivalli et al., 2010), it should be stressed that the main achievable result of the bullying prevention programs OLWEUS and KiVa is the change of the attitude of students and their capacity to transform from bystanders to upstanders in order to support the victim of bullying and to stop the bullying. It should be highlighted that even in the case of KiVa, when students' attitudes were carefully analyzed, the evaluation of the program confirms that the student's willingness to change the situation in order to stop or prevent bullying is still relatively limited.

The positioning of the students in the neutral zone (not getting involved and not actively intensifying the bullying) and the change of attitude towards the victim should be recognized as a common achievement of both programs. However, an in-depth analysis of empowering students to act in bullying situations or to prevent it, recognizing bullying as a social phenomenon that is formed in interpersonal relationships, have to be stressed (Thornberg et al., 2012; Macaulay et al., 2019; Boulton & Macaulay, 2022). In addition, it is important to realize that the roles in bullying situations can change, so it is necessary to think very carefully about the steps to be taken to get students to be aware of their role not only by positioning themselves closer to the victim or the abuser, but also to consider their capacity to offer solutions to stop or to prevent the bullying process (Thornberg et al., 2012; Gendron et al., 2011; Jenkins et al., 2018).

Conclusions

1. Further analysis is needed to empower students to take action in bullying situations or before it occurs, recognizing bullying as a social phenomenon, but formed in interpersonal relationships.
2. The roles in bullying situations can change, so it is necessary to think very precisely about strategy how to change students' attitudes towards bullying and at the same time empower them to take an active role in solving the bullying situations.
3. According to the empirical data provided by researchers the greatest focus is on empowering peers to promote awareness of bullying and its importance. Special attention should be also paid to the use of technology and increased levels of cyber-bullying.
4. Students should learn the skills to control their emotions and transform their aggressive behavior into a non-aggressive, positive way. Special attention should be paid to empowering students who take the role of victim in bullying situations
5. The evaluation of bullying prevention strategies and programs confirms that the willingness of students to act in order to solve the bullying situation or to prevent bullying in schools is still limited

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ENHANCING LATVIA'S EARLY CHILDHOOD PREVENTIVE SYSTEM THROUGH A COMPARATIVE ANALYSIS WITH ITALY

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ABSTRACT

This study presents an ongoing comparative analysis of Italy's inclusive education system, including its early childhood preventive system. Italy is considered among the key countries in Europe for developed inclusive education and intervention systems due to its strong commitment to inclusive services and its demonstrated success in providing high-quality support and intervention to young children with development difficulties. The results of this study will provide valuable insights into the structure, policies and practices of the Italian inclusive education system and – briefly – into the development of a more effective and efficient inclusive early childhood preventive and inclusive education system in Latvia. The study is based on a review of the relevant statutory acts, literature and policy documents. The study highlights the key factors that contribute to the success of the Italian system and identifies best practices that could be adapted and implemented in Latvia. For instance, in cases where a child is diagnosed with learning impairments, a personalized didactic plan is created instead of an individualized learning plan as it is considered a more social approach to addressing learning difficulties. Italy has had extensive experience with the creation of functionally dynamic plans within inclusive education for many years, a counterpart of which can be seen in Latvia. However, the full potential of this approach is not utilized, hence it is important to learn about the practices of other countries in creating such plans. These and other questions are discussed in the analysis in order to improve the quality and accessibility of inclusive education in Latvia and to promote positive outcomes for young children and their families.

Keywords: *child development, inclusive education, education plans, early intervention, Italy*

Introduction

Early child development (ECD) is a foundation for adult well-being and population health. Growing scientific evidence highlights the long-lasting consequences of events or experiences that occur in early childhood for both physical and neurobiological systems that guide physiological and behavioural responses to stress during an individual's

life (Gonçalves et al., 2019; Hertzman & Power, 2004; Walker et al., 2011). Promoting healthy ECD is a core priority to attain a more equitable, fair and wealthy society. Comprehensive and culturally relevant ECD interventions are designed to avoid or cut down on the physical, cognitive, and emotional limitations faced by children experiencing social disadvantages.

More than 70% of OECD countries with available data have integrated early childhood education and care (ECEC) services, where one or several authorities are responsible for administering the whole ECEC system and setting adequate intentional education for children from the age of 0 or 1 until entry into primary education (OECD, 2019a). During the ECEC stage, it is sometimes observed that the child lacks sufficient social, cognitive, and problem-solving abilities. Their interactions with adults and peers are delayed, their academic performance is affected, and there may also be instances of problematic behaviour.

Preventing issues or intervening early while problems are relatively minor is advantageous for both the child and their family. Intervention services for young children who have developmental delays or are at risk have been shown to positively impact outcomes across developmental domains, including health (National Scientific Council on the Developing Child, 2010), language and communication (American Speech-Language-Hearing Association, 2008), cognitive development (Hebbeler, 2009) and social-emotional development (Landa et al., 2011). Families benefit from early intervention by being able to better meet their children's special needs from an early age and throughout their lives (Dunst, 2021; Hebbeler et al., 2007). Benefits to society include reducing the nation's economic burden through a decreased need for special education (Hebbeler et al., 2007).

The Latvian Education Development Guidelines 2021–2027 (*Ministru kabineta rīkojums Nr. 436*) emphasize that it is important to establish and implement an early prevention system for children, providing comprehensive, systemically integrated pedagogical and psychological support to meet the child's developmental needs. Such a system should cover all stages related to the provision of children's developmental needs – research, assessment and diagnosis, early and appropriate support (intervention) and monitoring, reducing the risks of developmental, behavioural and other disorders in children, and addressing problems related to the capacity of municipal pedagogical-medical commissions and the coordination of inclusive education support centres.

Since 2019, Latvia has been working with the state and local government sector to advance projects on the development of a framework for the implementation of early childhood development assessments (ECDAs) and, at the same time, a reform plan for the pedagogical-medical commissions with the goal of aligning this commission's approach to the globally prevalent biopsychosocial model in the process of assessing children with special needs. The development and validation process of the ECDA tool is currently in its final stages (Raščevska & Nīmante, 2022), and it is planned that this tool, together with a manual and action algorithm as well as early interventions for children, will be introduced in practice at the end of 2023 (Pārresoru koordinācijas centrs, 2022).

Such a standardized and validated set of methodological tools for early childhood development assessment in the digital environment does not exist in Latvia at the time of writing; therefore, the functioning of this tool is not regulated in the national legislation. It is unequivocally clear that in order to carry out this early childhood assessment and any intervention, a complex, multi-institutional (education, health and welfare) solution that performs multiple functions is needed. Examples include coordinating communication between stakeholders involved in early childhood screening, coordinating system management, and ensuring that children identified as having special needs are supported in their daily education.

Currently, there are temporary regulation in force stipulating that the assessment of a child is carried out, if necessary, either by pre-school support team or by a pedagogical medical commission. With the introduction of the novel preventative child support system, the responsibility for this undertaking might fall under the purview of a recently established organization or by a pedagogical-medical commission.

Due to the fact that one of the objectives of the Latvian Education Development Guidelines (*Ministru kabineta rīkojums Nr. 436*) is to establish and implement an early prevention system for children and implement a reform plan for pedagogical-medical commissions, one of the tasks initiated by the Cross-Sectoral Coordination Centre of the Republic of Latvia is to conduct research on other countries' early childhood intervention and inclusive education systems (Pārresoru koordinācijas centrs, 2023). The comparison of different countries is done primarily with the aim of expanding international knowledge and horizons and secondarily, as a rule, as a prerequisite for comparative, cooperative and normative activities (Bürli, 2019).

The experiences of Lithuania and Estonia have principally been taken into account when researching European countries on foreign practices as they are Latvia's neighbours. Other countries whose inclusive education policies and organizations have been studied are Sweden and Canada. These countries were chosen in the context of positive OECD research on good practices in inclusive education (Raščevska et al., 2019). Italy and Portugal were selected as the next countries to be studied in the context of early childhood intervention systems, as they have fully implemented inclusive education at all levels of education (from pre-school to university) and have the relevant legislation in place (Begeny & Martens, 2007; Ianes, 2020; Marsili et al., 2021; UNESCO, 2020). This research has led to a number of valuable insights, system characteristics and architectures, which the Latvian working group hopefully will consider when designing Latvian early intervention and inclusive education systems while bearing in mind the historical and cultural differences between the countries (Bürli, 2019). However, examples and experiences from abroad can give Latvia broader insights into the possibilities that can be developed in the design of the new early development assessment system.

For reasons of space, this article reflects only on a study of the Italian system of inclusive education and early preventive support for children to integrate good practices into the future structure of the Latvian Child Development Support Centre (Pārresoru koordinācijas centrs, 2023). Therefore, this research aims to improve Latvia's inclusive education

system, especially concerning the implementation of an early intervention system, through (1) providing a brief review of the development of statutory acts regarding early childhood education and inclusion in Italy aimed at understanding the legal framework and its implications and (2) reviewing the inclusive education system in Italy in accordance with statutory acts with a view to the practices which could be implemented in Latvia.

Methodology

Information on the current situation of the early intervention systems for children in Italy was obtained from its laws and regulations, primarily from Law 104/1992 (*Legge 5 febbraio 1992, n. 104, 1992*), which is considered to be the most relevant law regulating issues related to disability, learning and developmental disabilities, as well early childhood education and inclusion.

The methodology encompasses the following undertakings. First, a selection of relevant statutory acts in their chronological appearance is analyzed based on their alignment with the subject of early childhood education and inclusion. This involves an examination of legal databases and official legislative sources to ensure the inclusion of key acts. Second, statutory acts related to early childhood education, disability, inclusion and related areas are classified together to facilitate a coherent analysis. Third, during this analysis, attention is paid to cross-references and dependencies between different statutory acts. This approach provides an understanding of how various acts interact and contribute to the overall legal landscape. Fourth, the review focuses on identifying key elements within the statutory acts, including definitions, principles, rights, obligations and procedures related to early childhood education and inclusion. Finally, the outcomes of the statutory review are integrated with the literature review on practices that could be discussed in Latvia.

Results

A Brief Overview of Statutory Acts Regarding Inclusive Education

According to Article 34 of the Constitution of the Republic of Italy, education is accessible to all. Furthermore, Article 3 stipulates that “the duty of the republic is to remove all obstacles that limit the freedom and equality of citizens in order to ensure the full development of a person.”

Before a major turning point in providing access to education occurred in 1971, Italy had special schools for children with mental and physical disabilities and special classes for “students with disabilities”. The most significant changes took place in 1971 with the promulgation of Law No. 118/1971 (*Legge 30 marzo 1971, n. 118*), which was an essential step in the development of inclusive education. Article 29 of this law states: “Compulsory education has to take place in regular classes of public schools, except when the subjects suffer from such severe intellectual deficiencies and physical impairments that they are able to block or make extremely difficult learning or insertion in ordinary classes”.

The next significant turning point occurred in 1977 when Law 517/1977 (*Legge 4 agosto 1977, n. 517, 1977*) was adopted, on the basis of which “procedures to integrate students with disabilities by providing special teachers” were introduced in public primary and secondary schools.

In 1992, Law 104/1992 (*Legge 5 febbraio 1992, n. 104, 1992*) was adopted. This law is the main framework for all issues related to disability. It guarantees special rights for people with disabilities and their families, provides assistance, determines full integration and the implementation of preventive and functional rehabilitation measures, and ensures the protection of social, economic and legal frameworks.

Article 1 of this law stipulates that the Italian Republic guarantees full respect for human dignity and the right to freedom and autonomy of the disabled and promotes their full integration in the family, school, work and society. In addition, Article 12 stipulates that disabled children (who, within the framework of the law, are persons who have stable or progressive physical, mental or sensory disorders that are the cause of difficulties in learning, relationships or professional integration and cause unfavourable marginalization) are guaranteed full inclusion in kindergartens at the age of 0–3 years. The right of disabled people to education and training is also guaranteed in standard classes of educational institutions of all levels and universities. The goal of educational integration is to develop the potential of a person with a disability in learning, communication, relationships and socialization. The exercise of the right to education and training cannot be hindered by learning difficulties or other difficulties resulting from or related to a disability.

The adoption of this law demonstrates a clear shift from a medical education model to a social education model in Italy, indicating the need to transform society to align with the needs of individuals with disabilities (Marsili et al., 2021). With the establishment of the International Classification of Functioning, Disability and Health (ICF) (WHO, n.d.) and the initiation of its implementation in Italy, a transition to a biopsychosocial approach is taking place. This shift is attributed to the universal relevance of the ICF, which extends beyond individuals with disabilities to encompass all of humanity. Concurrently, the ICF fosters a multidisciplinary perspective, facilitating dialogue and collaboration across various domains: health, social, educational, clinical, and statistical (Sannipoli, 2015). The statutory acts adopted in 2017 (*Decreto legislativo 13 aprile 2017, n. 66*) and 2019 (*Decreto legislativo 7 agosto 2019, n. 96*) have integrated the ICF’s theoretical and practical structure, strengthening those changes that, step by step, lead to a new inclusive model (Marsili et al., 2021).

Early Assessment of the Child: From Birth to Individual Education Plan or Individual Didactic Plan

Every child is assigned a family doctor after birth. Law 833 of 1978 (*Legge 23 dicembre 1978, n. 833*) stipulates the duties of the family doctor to assess the child’s condition (physical, cognitive and behavioural) at certain intervals (they are more frequent in the infant and small child period, then occur, on average, twice a year). This legal

obligation is respected by doctors and parents, and almost all children are taken to see a family doctor at least twice a year.

During these visits, the doctor's duty is to evaluate the child's health condition and development by filling in a model form. In the event that the doctor or parents suspect that the child's development is not progressing as it should or that the child has any difficulties, special needs related to possible health disorders, or developmental delay, the doctor reports this to the responsible service under the supervision of the Ministry of Health. The child's teacher has the same obligations if the child is in a pre-school educational institution.

In short, children up to the age of 18 are under the supervision of a family doctor, and the doctor examines the child twice a year.

When the family doctor has reported to the responsible organ of the Ministry of Health that a specific child has a developmental delay or health problem, a medical commission of the national health system equipped with adequate healthcare specialists must determine whether the child has a medical diagnosis of a mental or physical disability using a categorization for children with special needs. At this stage, a generic diagnosis will be given, although additional in-depth research may be requested for a more specific one. The medical commission issues a document certifying the disability and the resulting right to receive the support measures provided for in the current legal acts (for example, financial benefits). This document is a prerequisite for starting administrative procedures for inclusion in all areas of society, including educational institutions.

In the event that the commission gives an opinion that the child has special needs, then a doctor-specialist conduct an in-depth study of the child and determine the child's specific medical diagnosis. This can sometimes take a long time while all the necessary research and tests are carried out (for example, an autism test can take up to two months). The commission will decide whether the child has the disability (based on article 3 of Law 104/1992 (*Legge 5 febbraio 1992, n. 104*, 1992)). There is another possibility that the child has specific learning impairments, such as dyscalculia, dysgraphia, or dyslexia. These learning impairments can be certified by any doctor. Finally, the third type of special needs is called special educational needs. The school makes the particular decision regarding special educational needs based on linguistic, socio-economic and/or behavioural difficulties (Zanazzi & Politicelli, 2017).

The next sequential step is creating the child's dynamically functional profile (*profilo dinamico funzionale*, PDF), which is updated at the end of kindergarten, primary school and secondary school. This profile can be updated by a specialized doctor or expert on the health status of each child, a child neuropsychiatrist, a rehabilitation therapist, a social assistant or representative of the relevant municipality, representatives of the educational institution, or their parents. The PDF is an interdisciplinary collaboration tool containing various planned interventions to develop the abilities of an individual with a disability to achieve their potential goals. A comprehensive assessment is conducted at specific points on the child's cognitive abilities, socialization and communication skills, linguistic, sensory and motor skills, neuropsychological condition, autonomy,

and learning ability. The main goal of the PDF is the broadest possible knowledge and the deepest possible understanding of a student's functioning, strengths and weaknesses. Unfortunately, it is not uncommon for the drafting of the PDF to be based on a medical model approach, describing the child's abilities and possible development based on their medical diagnosis (Ianes et al., 2010).

Latvian statutory documents do not provide the preparation of such a broad and comprehensive document. As the aim of such a functional plan is closely linked to the processes for the pupil's successful integration into the school environment, more effective learning and socialization, the possibility of developing such a functional plan, at least in the pre-school age group, should be discussed in Latvia, along with the introduction of an early prevention system. There may be some similarities between the PDF and a study on child with special needs prepared by a specialist in accordance with the legislation of the Republic of Latvia, an opinion containing the recommended support measures and educational programme (*Ministru kabineta noteikumi Nr. 556*, 2019), but it is comparable to the PDF only in some aspects and is considered a much simpler document that may never be reviewed again, may not be presented to educational institutions if the parent does not want it to be, and is only of a recommendatory nature. Gaining an in-depth understanding of the student's situation, exploring their abilities, identifying their weaknesses and understanding the various causes leading to such a situation requires the involvement of a wide range of people and professionals (Ianes et al., 2010).

The second step is to develop an individual education plan for each student (*piano educativo individualizzato*, PEI) (*Decreto interministeriale n. 182 del 29 dicembre 2020*) based on this PDF, where the main task is to formulate goals that are in line with the person's life plan, asking whether the necessary skills that we are trying to equip the child with are relevant to him/her, improve his/her life skills, increase the real quality of his/her life and can be used in the ecosystems and relationships in which the pupil finds him/herself (Ianes et al., 2010). The PEI is a document that describes integrated and balanced interventions that are prepared for a student with a disability within a specified period of time.

From a didactical point of view, it is essential that the PEIs include real life goals related to a specific person, and it is therefore essential to choose goals that are as adult-oriented as possible and to use "adult" methods to achieve these goals (Montobio & Lepri, 2000), e.g. learning how to work and developing leisure planning skills, skills for autonomous/assisted living, skills for building and maintaining a social support network, and skills for managing their economic resources.

When considering Latvia's experience in preparing individual plans within the educational process (*Ministru kabineta noteikumi Nr. 556*, 2019), definite practical improvements can be observed in their formulation. Educational institutions strive to create them as meaningfully as possible, but they still tend to be quite uniform, mainly oriented towards achieving learning objectives corresponding to the chosen educational program. It might be necessary to initiate discussions on the approach to creating individual learning plans, placing similar emphasis on acquiring life skills and goals to Italy, as one of

the most crucial skills for anyone is to be autonomous and independent. There is also a tendency to isolate children with individual learning needs from the classroom, create special classes, and have children learn individually with support personnel outside regular class hours. Here, there is a need to move beyond the old “pupil with a disability-support teacher” model of cooperation, as the pupil needs to become accustomed to the different situations of discomfort and difficulty that can only occur in a school community made up of teachers, other pupils and other individuals (Ianes & Macchia, 2013; Ianes et al., 2010).

The PEI is created by a multidisciplinary group of specialists consisting of support and regular teachers, a school support teacher, parents and other support specialists (for example, speech therapists, psychologists, etc.). This multidisciplinary group of specialists jointly discusses the goals, ideas and proposal of training plans. Meetings take place approximately three times a year. The plan primarily outlines tools and strategies to create a learning environment based on relationships, socialization, communication, leadership and autonomy. It also points to individualized teaching and assessment methods.

The law provides for the development of adapted educational plans for almost all students in the Italian school system with special educational needs (including students with disabilities, specific learning disabilities, specific developmental disabilities or socio-economic, cultural or language deficiencies). They allow students to improve their abilities and knowledge based on their skills and expected area(s) of improvement.

Another tool used by schools in Italy is the personalized didactic plan (*piano didattico personalizzato*, PDP) (*Legge 8 ottobre 2010, n. 170*, 2010), which is relatively new, having only entered into force in the last ten years. Importantly, the law obliges all educational institutions to notify the family and intervene if they notice any signs of a learning disability. This tool is aimed at pupils with learning disabilities such as dyslexia, dyscalculia, dysgraphia, and dyspraxia and was introduced to highlight the educational needs of pupils with learning disabilities attending mainstream schools. The PDP is also referred to in the literature as a “contract” between the family and the school, regulating expected actions and behaviours to reach educational goals (Fogarolo & Ambrosini, 2013; Zanazzi & Politicelli, 2017), because the family also has certain responsibilities. This plan primarily reflects compensation and remedial measures. Compensation aims to minimize the negative effects of the impairment in order to achieve functionally adequate performance in any case, while remedial measures are an acknowledgement of the situation and aim at adequate protective actions to avoid the impairment leading to a general educational failure with personal consequences (Fogarolo & Ambrosini, 2013).

In the case of learning disabilities, learning is impaired but not impossible; while specific functions are impaired, others are intact and should function normally. Unfortunately, in Latvia, learning disabilities are still classified under a separate curriculum code, even though children are studying a general education programme, and schools can even refuse to enrol a child if they are unable to provide the curriculum code (special support). This approach is considered outdated, as learning disabilities clearly require specific knowledge on the part of the teacher. However, unfortunately, Latvian teachers’

lack of professional knowledge (OECD, 2019b) about learning disabilities creates a stigma whereby they refer these pupils to special classes, schools, etc., where they will receive a “better approach”.

With the benefit of these two plans and the *PDF*, children in Italy receive the most current necessary support in health care, education and at home. Furthermore, Article 5 of Law 104/1992 (*Legge 5 febbraio 1992, n. 104, 1992*) provides that disabled people have the guaranteed right to choose services that are considered the most suitable even outside their territorial district. For instance, here are following services that children with special needs have the right to receive:

- 1) Special education: This may include specialized schools or inclusion in mainstream schools (pre-schools) with the support of special education teachers, therapists and assistants.
- 2) Physical therapy: This may include rehabilitation and mobility and physical function therapy, including the use of assistive devices.
- 3) Occupational therapy: This includes therapy to improve fine motor skills, dexterity, and the ability to participate in daily activities.
- 4) Speech therapy: This may include therapy to improve communication and language skills.
- 5) Behavioural therapy: This may include therapy to address behavioural or emotional difficulties associated with the disability.
- 6) Assistive technology: This can include devices such as wheelchairs, hearing aids, and adaptive software to help people with disabilities participate in everyday life.
- 7) Home health care: This may include services such as nursing care, rehabilitation, and support with activities of daily living at home.
- 8) Respite care: This can include temporary support for families caring for a person with a disability, including overnight or weekend stays in specialist facilities.
- 9) Transportation: This may include special transportation services to help people with disabilities get to and from school, work, or appointments.

In Latvia, similar support measures are available for children with special needs, but they are fragmented and do not cover all regions. Currently, discussions between Latvian Cross-border Sectoral Center and the Ministry of Welfare are underway regarding the revision of this service package and the possibilities for receiving it. Exploring Italy’s practices in greater depth would be valuable in this context (Pārresoru koordinācijas centrs, 2022).

In Italy, laws set out comprehensive intersectoral collaboration aiming to provide a holistic range of services for children with special needs. This involves the cooperation of various entities, including the Ministry of Health (provides access to quality health care, including rehabilitation and therapy services), the Ministry of Education, the National Health Service (responsible for coordinating and delivering early intervention and support services for children with special needs and works closely with other organizations and service providers, including the Ministry of Health, the Ministry of Education and local authorities to ensure that children receive the support they need),

the Ministry of Labour and Social Policies (overseeing programs and services aimed at supporting people with disabilities, including employment support and services for families), the Ministry of Transport (providing special transport services for persons with disabilities), non-profit organizations, and advocacy groups. This collaboration ensures the complete well-being and development of pre-school and school children.

Italy's inclusive education system, like any other country, has gaps, such as micro-exclusion processes, difficulties with the support teacher role, difficulties with meeting the needs of children with disabilities and the diffusion of traditional teaching methods (Ianes & Demo, 2013), and difficulties with providing access to secondary schools for students with disabilities (Ianes, 2020; Marsili et al., 2021). Italy also needs to implement and assess the effectiveness of inclusive education practices and school policies, which would enable schools to steer their educational vision and find ways to include every student (Cottini & Morganti, 2016). Latvia's inclusive education system is at an early stage of development (Latvijas Republikas Saeima, 2020), and as Latvia faces similar problems to Italy, the experiences of other countries and their good practices can play an important role in Latvia's inclusive education transformation process.

Conclusions

A shift to a biopsychosocial approach is occurring with the creation of the ICF (WHO, n.d.) and the beginning of its application in Italy (and also slowly in Latvia). This change is credited to the ICF's universal applicability, which goes beyond people with disabilities to include all of humanity. In addition, the ICF promotes a multidisciplinary viewpoint by fostering communication and cooperation between experts in the fields of health, social, education, clinical, and statistics. In the modern world, there is a need to reduce reliance on the medical approach, where a medical diagnosis determines a child's learning needs and other factors.

To provide effective support for children within the context of the biopsychosocial model, Italy has established three key documents in its legislative framework: the functionally dynamic profile (*profilo dinamico funzionale*), which is the key document, the individualized learning plan (*piano educativo individualizzato*), and the personalized didactic plan (*piano didattico personalizzato*).

The main task of the *profilo dinamico funzionale* is to formulate goals that are in line with the child's life plan, asking whether the necessary skills that we are trying to equip the child with are relevant to him/her, improve his/her life skills, increase the real quality of his/her life and can be used in the ecosystems and relationships in which the pupil finds him/herself. This approach is crucial for any country when creating support documents for children with special needs. While something similar to the *piano educativo individualizzato*, specified in Italian legislative acts, can be seen in Latvia's education system, the *piano didattico personalizzato*, designed for children with learning disabilities, is a noteworthy practice that could be transferable to Latvia. This practice would

help prevent the stigmatization of children with learning disabilities and avoid unjustly depriving them of the opportunity to receive secondary education.

The Italian model mentioned above shows that cooperation between different ministries and health authorities can provide comprehensive support for children with special needs. It is important to note that support measures are provided throughout the country, not just in large cities, which enables all children to receive appropriate support regardless of where they live. These aspects deserve thorough investigation, especially considering that one of the functions of the new Latvian Child Development Support Centre is to enhance and establish a cohesive support system for child development. It would encompass the provision of support services, overseeing the quality of early preventive support services' implementation, result monitoring, and collaboration with medical institutions, local governments, and other service providers.

In light of the above, it would be advisable to review Latvia's practices, which do not involve such an extensive and meaningful engagement of subjects in the development of comprehensive educational plans as mandated by Italian statutory acts. Successful inclusion cannot happen in real contexts without the full participation of all people involved or a strong will expressed by the management (Zanazzi & Politicelli, 2017). For all these reasons, analyzing the two countries' experiences is clearly relevant to the creation of new models for child development support systems. However, it is important to remember that each country also has its own cultural characteristics and different societal beliefs, which may hinder a rigid transfer of models from one country to another.

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DEFINITION, STRUCTURE, AND FORMATION OF PARENTAL EXPECTATIONS: LITERATURE ANALYSIS

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ABSTRACT

Parents, teachers, and students are important partners in education collaboration. Parent expectations are a prerequisite for a student to achieve the set academic goals, emphasizing the supportive role of home environment in education. The learning process does not end in school, but continues at home- spending time with parents, traveling, or attending cultural events.

In the field of education sciences, the question of expectations of educational partners and the factors that influence and promote students' learning achievements; as well as the factors that hinder them, has been extensively studied. Expectations of educational goals indicate the level of knowledge, skills, and attitudes that the student should achieve; provided that the expectations are motivating and directed towards achieving educational goals.

The question of this study is – what is the definition, structure and formation of parental expectations for a child's basic education goals.

To explore the question of this study, the following methods are used: (1) Systematic analysis of literature and educational documents on parental expectations for a child's educational goals – 271 units; (2) Content analysis – analysis of content and the keywords.

The aim of this study is to determine whether the definition, structure and formation of expectations revealed in the literature analysis correspond to parents' views on the goals of education for their child.

Keywords: *cooperation in education, educational expectations, educational objectives, educational partners, parental expectations*

Methodology

Systematic literature analysis, SALSA method (Booth et al., 2016) – parental expectations, their formation and structure

- 1) research question formulation – what is the definition, structure and formation of parental expectations for a child's basic education goals;
 - a) locating studies using defined keywords – parental expectations
 - b) creating criteria (see Table 1)

Table 1 Criteria for systematic literature analysis

Database	Taylor and Francis Online	Sage Journals	Scopus
Selected filters	Open Access, Reviewed Articles, Social Sciences	Open Access, Education, Research Article, Review Article	Open Access, Social Sciences, English, All open access
Keywords	Parental expectations for a child's educational goals		
Articles	82	138	51

- 2) Document analysis – Latvian educational documents which reveals parental responsibility and involvement in the learning process, OECD, UNESCO and other documents detecting the future of education and parental role in education.
- 3) Qualitative content analysis to answer the question of the study using defined keywords to determine the definition, structure and formation of parental expectations for a child's basic education goals (Fink, 2014).
- 4) Literature analysis with mapping review strategy (Petticrew and Roberts, 2006) as data analysis methods.

Introduction

Teachers, students, and their parents are the main collaboration partners or actors in the education system. Each actor in the education system may have similar, different, or completely opposite educational goals. Common educational goals are one of the basic elements of a successful learning process, however, the differences in actor expectations or the absence/lack of cooperation can hinder or impede student learning achievements (Bentsen et al., 2019; Bryan and Henry, 2012; Day and Dotterer, 2018; Hattie and Zierer, 2018; Grant and Ray, 2019). Educational goals are the basis on which the educational system is built – goals shape it, indicate developmental direction and reveal the quality of education (Law et al., 2017). In recent decades, scientists and education policy makers in the US and Europe have been giving increased attention to parental involvement in children's educational processes (Menheere and Hooge, 2010). Parent engagement/involvement in the education process positively affects a child's achievement (Desforges and Abouchaar, 2003; Fantuzzo et al., 2000; McWayne et al., 2004; Hoover-Dempsey et al., 2005; Jeynes, 2003; Mattingly et al., 2002).

Expectations for educational goals from the student's perspective are also evaluated in interactions with teacher expectations (Ferguson, 2003; Phillipson and Phillipson, 2007). A student's efforts to acquire education and the desire to broaden their horizons shape their learning goals – they indicate a level of formal education the student wants to achieve with purposeful action (Covington, 2000). Conversely, academic expectations from a parent or teacher's perspective indicate the level of knowledge, competence, and formal education that a student should achieve based on specific expectations and striving to achieve set learning goals (Jussim and Harber, 2005; Ferguson, 2003).

Other studies describe student's educational expectations, their formation, and the correlation between student achievement (Liu et al., 2009), school experience, and achievements with support of other educational actors (Daly et al., 2009). The role of the parent as an educational actor is examined in studies on correlations between student academic achievement and successful cooperation among actors in promoting these achievements in school and at home (Xiaohua, 2022). Positive parent expectations being particularly valued. Positive and supportive parent expectations are based not only on parent-child interaction and support in the learning process, but also in collaboration with teachers and educational institutions, as well as parent involvement in school activities (Pleck, 2010).

Parents play an important role in raising children and promoting their well-being (Davis-Kean et al., 2019). It is the parent's task to search for, discover, identify, synthesize, and evaluate information that promotes the development of their expectations as a parent regarding the child's educational goals, thus promoting a positive interaction model with other educational actors (Davis-Kean et al., 2019). However, little research has been conducted in the field of educational sciences on the question of parental expectations for their child's educational goals, as well as the factors that influence parental expectations, how they are formed, what the nature of parental expectations are, and the principles that underlie the formation of parental expectations.

Definition of parental expectations

In psychology, the concept of *expectations* is defined as an emotional state based on strong belief. An emotion-based hunch, that a planned intention will be carried out and realized (APA, 2023; Wallace, 2015). In education, this concept characterizes the desires or demands of an educational actor (parent, student, teacher or educational policy maker) regarding a child's academic achievements, behavior, and attitudes (Lopez-Agudo et al., 2021). The origin of the concept of *expectations* is derived from the Latin word "expectare", meaning to see, search, predict, intend, and anticipate (Gavrillovs, 2012). High expectations characterize a parent's confidence and efforts to promote their child's educational goals, encourage academic achievements, behavior, and personal growth (Hattie and Zierer, 2018; Aleksejeva et al., 2019).

The definition of expectations is based on the expectation value theory (Vroom, 1964) which suggests that certain attitudes or actions are motivated by two factors: (1) predictability and possibility that the desired outcome (goal) will be achieved, and (2) the value of the desired outcome (goal) as a result. The latest research on the expectation value theory (Eccles, 1983; Eccles and Wigfield, 2002) indicates that choices (goals) related to academic achievements are formed by combining expectations for success and the value of a specific goal in a particular domain. According to the expectation value theory, the definition of expectations is formed by the following elements: (1) cultural environment (gender roles and cultural stereotypes); (2) parental (caregiver) expectations, attitudes, beliefs, and conviction; (3) the child's attitude towards education, beliefs about parental expectations, and previous academic achievement experiences; (4) the child's short-term and long-term goals; (5) the value of a specific educational goal; (6) actor expectations for success.

The nature of parental expectations regarding educational goals

Parental expectations refer to the parent's attitude towards their child's education, their hopes and their child's academic and social achievements (Bentsen et al., 2019). Expectations can promote a student's motivation and conscious action which can be hindered by various barriers and other factors (Raciti, 2019), as well as the student's personal characteristics and the influence of other actors (Verbree et al., 2021). Students whose parents have high academic expectations tend to achieve higher academic success and study for longer periods over students whose parents have low academic expectations (Davis-Kean, 2005; Pearce, 2006; Vartanian et al., 2007). Educated parents often promote their child's education through family trips and events, purchasing educational materials, and information technology devices (Yamamoto and Holloway, 2010).

The nature of expectations is shaped by student achievement, engagement, and well-being (Xiaohua, 2022) facilitated by planning and effective evaluation of the curriculum. Engagement from teachers and students when learning through scientifically-based teaching methods and parental involvement solidify these expectations. The basic principles for student achievement through expectations are a positive learning environment and attitude from parents and teachers, professional school leadership, parental involvement as an educational partner in the learning process, the involvement of the entire community in student education, as well as a common understanding of education, its goals, and values (Weiner, 2005).

Parental expectations are essential for a child's development and well-being. These expectations can be high or low, justified or unjustified, and can either promote or hinder a child's development. The essence of parental expectations are related to parenting styles that value parental involvement, as well as parental demands for the child's educational goals (Baumrind, 1966; Maccoby and Martin, 1983). High or low, motivating or demanding, unreasonable parent expectations define the parenting style which is supplemented by the parent's involvement in the child's learning process. Parents should be cognisant of their expectations of these factors and take into account the child's temperament and collaboration with the teacher and other educational actors. Studies have evaluated children's temperament and demands toward parents and later teachers and schools, which are promoted by high and reasonable parent expectations. However, not all children can adapt to these expectations (Phillipson, 2013). An important issue is parent expectations in families that are separated or living in other countries, as well as families where another relative or person takes care of the child. Often each caregiver has their own expectations (Bæck, 2010; Danişman, 2017).

Evaluating parent expectations, more responsive parents have more permissive parenting styles, while more demanding parents have authoritarian parenting styles. There are differences between parenting styles and parental expectations (Baumrind, 1989) – (1) authoritative parents learning goals set in collaboration with the child, expectations are clear, justified and defined, learning expectations are reasonable, but high; (2) authoritarian parents expectations of their child's educational goals are often specific, unwarranted, and unrelated to the child's learning objectives or the educational

institution's goals and expectations; (3) permissive parents expectations regarding their child's education are low or nonexistent, but the parent expects the child to feel appreciated, satisfied and special during the learning process; (4) negligent parents expectations about the child's educational goals either do not exist or are not related to the child.

The latest research on parenting styles (Kuppens and Ceulemans, 2021) reveals parental characteristics that define each parenting style and describe the level of parental involvement and support in the education process, compared to high or low parental expectations. Analyzing the four described parenting styles and parental characteristics in these styles, it can be concluded that high parental expectations and involvement in the learning process, balanced with the child's learning goals, promote the child's personal development and are relevant and significant to the expectations of other actors. In contrast, low parental expectations, involvement, and support in the learning process create a resonance that hinders the child's personal development and academic achievements (Grant and Ray, 2019).

Determining parental expectations can be adapted through analysis that characterizes learning (Malik, 2021) – the formulation of expectations by exploring learning goals, using knowledge and intellect in practice, and collaborating with various educational actors. It is important that students develop an understanding of their learning goals, and parent/teacher expectations facilitate the achievement of these goals. Through collaboration and problem-solving activities, students are provided with the feedback and reflection that explain not only academic achievement, but also how it was achieved and how parental expectations have contributed to the child's motivation. However, in school practice, dissonance may arise between children and parent/teacher expectations for educational goals, which may hinder the child's development and academic achievement. Consonance established through collaboration is the most successful way to achieve a child's academic success and personal development (Phillipson and Phillipson, 2007).

Research contrasts the formation of expectations that characterize parental empathy for a student's academic achievements compared to expectations that a parent sets without empathetic involvement (Webb, 1997). By forming empathetic expectations, a parent must have a clear understanding of the child's abilities and desires. The parent must also serve as an intermediary and supportive element that promotes the child's development and motivation towards achievement. Such parental expectations consist of three elements: helping, setting goals (*fixing*), and support (*servicing as a companion*). The result of forming empathetic expectations is the transformative self-realization of the child's personality. This occurs through the process of learning and development, the child's growth and transformation, and increase of self-awareness.

Parental expectations that promote a child's development and cooperation with others also contribute to the child's learning (Göhlich and Zirfas, 2007). The child's changes are not only based on hereditary or biological resources, but on experiences that build as the child develops. Learning motivated by parental expectations promotes changes in the child's actions, behavior, interpretation of events, sense of taste, value system, and physical and mental well-being. Learning motivation by parental expectations leads to

changes in the child's behavior that are measured against developmental goals, parenting, and educational goals (Gröschke, 2005). The criteria for such expectations can be observed as persistent changes in the child's behavior. With increased parental support in the learning process, parental expectations can have a positive impact on the learning environment (Thornton and Brunton, 2015). Positive parental expectations also affect the learning environment by increasing parental support during the learning process (Thornton and Brunton, 2015). A learning environment that allows children to express themselves, explore and discover, reflect, participate in projects, strengthen their identity, and interact with others and communicate promotes their learning achievements and personal development.

The quality of parental expectations and the expectations of other actors affects the child's cognitive, social competence, and relationships at various levels of education (Coleman, 2012).

When parents form their expectations for their child's education goals, there must be clear conditions regarding the nature of these expectations – what the education goals are, an understanding of the student's physical and emotional development stage, and respect for the student's emotions. In this way, parental expectations can be adjusted to the student (Brofenbrenner and Morris, 2006).

Parental expectations should be formed by evaluating socialization (Bandura, 1969, 1977, 2016), emphasizing the cognitive processes that occur in social context and the process of forming expectations using observation or direct instructions. Social context determines the foundation of the social and emotional development of a child. This includes positive relationships with peers, teachers and parents, which are influenced by parental expectations for educational goals. The characteristics that describe parental expectations in the social and emotional learning strategy include a child's relationships and social interaction with peers, teachers, family, understanding of social and emotional development, conflict and problem-solving skills, ability to regulate emotions, set educational goals, prioritize their actions, and take responsibility for their behavior. An integrated approach with significant parental support and involvement are important for all of these attributes, where parental expectations become an example for modeling positive behavior.

Formation of parental expectations

Parental ethno-theory defines parenting practices that encourage the child's socialization processes, inclusion in society and becoming a full fledged member of society (Greenfield, 2014), that forms a parent's assessment of a child's development, socialization and family interaction with other educational actors, precisely describes the formation of parental expectations. Considering that these evaluations and parent belief systems are indirect, it can be difficult for parents to formulate expectations (Super and Harkness, 2002). In contrast, the development of a child (*developmental niche*) and related parental expectations are characterized by the child's daily physical and social circumstances, parental care for the child, the parenting styles and the parent ethno-theory models

(Harkness et al., 2015). These models describe the the development of a child from three interconnected elements: the physical and social circumstances in which the child lives, the culture of child care and parenting, community- regulated practices, as well as parent's (caretaker's) psychology, including parent ethno-theory (Harkness et al., 2015).

In educational sciences, there are several theories about child development that describe student development and are related to academic achievements. In these theories parental involvement in the learning process and parental expectations are essential and child-friendly educational goals are set. These theories reveal a variety of views and interpretations of child development, the significance of behavior, and the role of parents in this development.

The Maturational theory reveals that heredity significantly influences a student's development. As the student's genetic abilities progress, their development is genetically predetermined. Education should follow these genetically predetermined traits (Gessel, 1949; Hall, 1904). The theory examines biological development as a progression, occurring in sequential stages (Hunt, 1961) and suggests that the student acquires knowledge and develops naturally and spontaneously. Also environmental factors are essential in a student's development and in achieving educational goals (Gesell, 1949).

Representatives of Constructivist theory suggest that individuals construct their own knowledge and experience. The student also constructs their own knowledge by using their experiences, which help interpret the student's perspective on knowledge in general (Elliott et al., 2000). The student uses physically and socially acquired knowledge as the main source of information and approaches, which must be considered when forming parental expectations (Piaget, 1953).

The Behaviorist theory describes the learning, behavior and development of a student. During learning, a student's behavior changes which arises as a result of obtaining reinforcement (Schunk and DiBenedetto, 2021). The main idea of the theory reveals that learning is related to the transformation of behavior by strengthening and promoting the association between situational stimuli and a child's response. This is essential in forming parental expectations. A child's reaction with a transformation of behavior is formed by positive and rewarding results that arise as a result of continuous action (Thorndike, 1931).

The Psychoanalytic theory provides an understanding of how unconscious thoughts can influence a child's thoughts, feelings and behavior. Childhood experiences and the expectations of others can impact a child's entire life and shape their personality development, based on the fundamental mechanisms of social-emotional development that arise from a child's instincts (Erikson, 1959).

The Ecological systems theory of child development focuses on the role of the environment in the child's life and development, examining how environmental components influence the child's achievements in an integrated ecosystem model (Bronfenbrenner, 1977). Each new experience can change the child's level of development and affect their personality, promoting the development of their independence (Bronfenbrenner, 2001). Parents, as one of the actors involved in the learning process and responsible for the child, with their expectations, either promote or hinder the child's development and

achievement of learning goals. Parental experience and attitude towards school, learning process, and the student's achievements and skills also influence the formation of expectations. Therefore, parental expectations in education reflect the parent's belief and judgment about the student's future academic achievements and reflect the student's intelligence, belonging, environment, and the belonging to an educational institution. Parental expectations reflect aspects of the parent's attitude toward the student's future and educational level, which vary at different stages of the student's development. Parent and family support, engagement, and expectations are essential elements of the child's personality development, which promote academic achievements and intellectual growth.

Structure of parental expectations

In educational sciences, there are several elements that contribute to a successful learning process and academic achievement for students. Four basic elements related to high yet grounded parental expectations are student motivation, academic self-sufficiency, parental involvement in the learning process, and teacher expectations and evaluation. Unified learning goals for educational actors, the student's belief in the necessity of learning, motivation, self-directed learning, intensive and effective parental involvement in the learning process, and the teacher's optimistic and well-founded understanding of the student's abilities and expectations relate to the expectations of other educational actors (Yamamoto and Holloway, 2010).

The theories of child development and parental expectations from a system that characterizes the structure of these expectations. A person develops throughout their life and is influenced by various factors that affect the formation of parental expectations (Christenson, 2004). The parent's understanding of the learning process, their responsibilities, and collaboration with educational institutions are also significant (Pomerantz et al., 2005). Taking into account the diversity of theories, such as how the environment affects children's learning, promotes changes in their behavior.

It is essential to evaluate the components of the structure of parental expectations: (1) children as active educational actors, their desires and motivation associated with parental expectations and feedback provided by parents or teachers, (2) significance of communication at various levels – parent-child, parent-teacher, child-teacher, parent-educational institution, educational institution-teacher, and (3) a description of the child's knowledge, development, and personality that corresponds to the child's level of development (Sarancho, 2020).

Research has revealed a link between parental attitudes, beliefs, expectations (*Parental ABE – attitudes, beliefs, expectations*) and students' academic achievement. This can be positive or negative, depending on whether the learning goals are met. This link works effectively when there is a positive connection and collaboration between the parent and child. This promotes the parent's and child's attitudes, beliefs, and expectations, such as encouragement and family values that support the learning process, discussions at home, parental support in doing homework and projects. With these prerequisites, the student's academic achievement will be positive and successful. However, if the parent's attitude,

beliefs, and expectations influence the learning process with factors such as prohibiting entertainment, various negative learning control mechanisms, providing private tutoring instead of the parent's involvement in the learning process, denying self-directed learning by the student, academic achievement is often negative (Weerasinghe, 2016). Therefore, the combination of parental attitudes, beliefs, and expectations combined with the parent's positive or negative behavior is crucial for the child's academic achievement.

The elements that characterize the formation structure of parental expectations indicate that these expectations often arise from the parent's own experience (Dumont et al., 2012). However, parents should strive to evaluate their own experience and form expectations that are appropriate for their child's educational goals.

The 5-element (5E) model characterizes the structure of expectations and their formation. The model consists of five elements: *evaluation, engagement, exploration, explanation, and extension* (Bybee and Landes, 1990).

Two broad categories characterize the structure of parental expectations, which can be divided by their meaning – the significance of parenting and parental involvement. Thoughtfully formulated parental expectations reflect a child's needs and skills, with parents providing love, attention, understanding, acceptance, support, and time to not only be with their child but also to understand their learning goals, expectations, and tasks (Siegel, 2012). There are several benefits to children when parental expectations are thoughtfully established: (1) children feel confident, loved and heard in their learning goals, ideas and thoughts; (2) children trust that their learning goals and needs are understood by their parents; (3) children learn to solve complex or unpleasant situations and challenges in their studies, feeling supported and motivated by their parents; and (4) children are able to provide quality feedback on their academic work, assessment of others and feel empathy. These benefits shaped by parental expectations promote healthy relationships between parents and children, and increase a child's self-esteem (Vincent and Ball, 2006).

It is essential to strike a balance of expectations between (1) demanding, controlling, and disproportionate expectations that encourage a child's passive activity and subordination of their goals to parental expectations and (2) unclear expectations with unstable rules in which children do not feel safe in the learning process and do not become responsible for their learning goals (Green et al., 2007). A parent expresses expectations to a child by imposing rules, using strict discipline, and setting limits. However, even in this model, the child's development and formation of responsible behavior can be observed. For example, children feel stability and security characterized by rules, and learn to accept frustration and disappointment if the child's expectations do not match the parental expectations. Children become less egocentric, learning from their mistakes, becoming self-sufficient, independent, and creating their own intermediate rules based on their own values (Faber and Vohs, 2004). A relevant question is – how reasonable parental expectations are. If they are unsuitable for the child's abilities and development, they contribute to discipline problems, children do not learn to think and respond to their learning goals, and become passive followers of parental expectations. However, if parental expectations do not exist or are variable and their rules are unclear, children may feel confused and unprotected (Knollmann and Wild, 2007).

Thus, the structure of parental expectation is formed by the parent’s full involvement in the child’s learning process. Combining both learning at home and the setting of common expectations in educational institutions. In addition to these structural values, expectations have characteristics that differ for each educational actor. For parents they include monitoring, mentoring, and motivation. For the child – self-motivation, involvement, and responsibility; and for the educational institution – communication, transparency, and individualization (Edwards, 2016).

Parental expectations – mapping review

Mapping reviews for parental expectations is a transparent, rigorous, and systematic approach to identify parental expectations definition, structure and formation. Mapping review (Petticrew and Roberts, 2006) for parental expectations describes main elements of parental expectations definition, formation and structure (see Figure 1), that is parent and student connection to realize learning achievements and educational goals. Parental and student cross-link is related to the structure and formation of expectations that is evaluation, engagement, exploration, explanation and extension. Parental expectations have a strong impact on parent’s attitude towards their child’s education, their hopes and their child’s academic and social achievements, their own education and experience and student learning motivation. Parental expectations are influenced by parenting styles and different theories on the development and learning of a child.

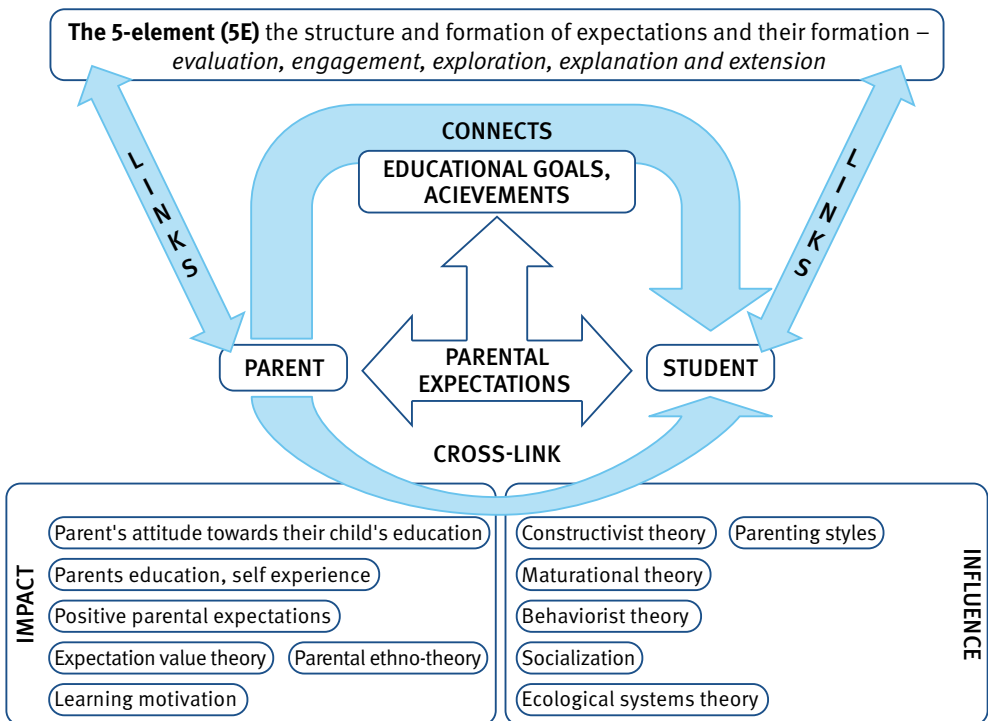


Figure 2 Parental expectations mapping review

Conclusions

Parental expectations are defined as an emotional state based on strong belief, in education, parental expectations characterizes the desires or demands of the parent regarding a child's academic achievements, behavior, and attitudes. Parental expectations do not correspond to the appropriate stage of the child's development. As parents are important educational actors, their expectations are described as reasonable beliefs or decisions that parents have about their children's successful future, the highest possible level of education and well-being.

Expectations are characterized by certain qualities – for parents, it is monitoring, mentoring, and motivating expectations; for the child, it is self-motivation, engagement, and responsibility; for educational institutions, it is communication, transparency, and individualization.

The structure of parental expectations is formed by the full involvement of the parent in the child's learning process, which combines both learning at home and setting unified expectations in educational institutions.

The formation of parental expectations does not significantly differ based on the child's age (elementary or primary school) and gender.

In the education process, parents understand their role as an educational actor with their own expectations, but their involvement as an educational actor in the learning process does not always happen, and collaboration is often complex or nonexistent.

When evaluating the definition, essence, formation, and structure of expectations, 5 elements (student, parent, learning environment, school, and collaboration) have been identified that characterize such parent expectations that promote student learning achievements, skills, development, emotional state, and overall well-being (see Figure 1 that is formed as a result of research by study author).

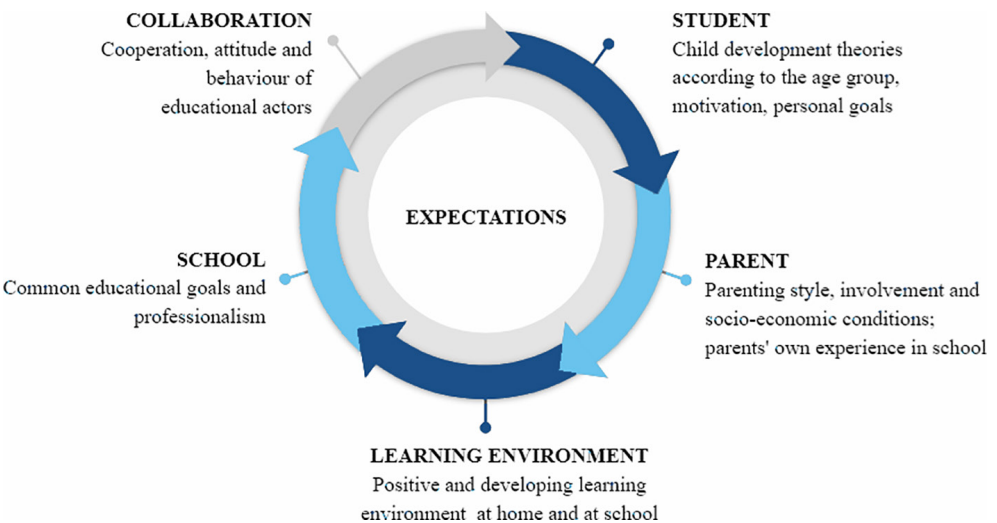


Figure 2 Elements characterizing the structure of expectations

These elements, interacting with each other, can correspond to the education goals set by the school and also promote student motivation, supporting their existing learning achievements and skills with expectations.

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USE OF LEARNING EXPERIENCE PLATFORMS IN LITHUANIAN GENERAL EDUCATION SCHOOLS: CASE STUDY ANALYSES

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ABSTRACT

In addition to traditional learning, digital learning is increasingly being applied in schools through various educational technologies. The development and implementation of digital educational tools represents a growing and promising field within educational technology. Digital tools provide prerequisites for students to take responsibility and control learning, as well as to choose individual learning strategies. For teachers, digital tools are a means to enhance learner engagement and learning motivation by enabling them to determine the necessary steps to achieve defined learning goals. However, the use of digital educational tools does not yet guarantee the quality of modern education. In order to ensure profound and personalized learning digital tools that foster learning based on students' personal abilities and interests, prove to be more effective. To achieve higher student engagement, it is essential to offer timely feedback, comprehensively assess students' individual progress, and identify strengths and weaknesses of their learning. For this purpose, teachers can leverage advanced technologies that employ artificial intelligence and learning analytics. Such technologies are able to help teachers to monitor students' learning more effectively- to identify learning gaps, to predict future learning progress, and to make necessary pedagogical decisions. In this study, such technologies are referred to as "learning experience platforms." These platforms are designed in a manner that assists both students and teachers in proficiently managing teaching and learning processes through the utilization of learning analytics and artificial intelligence. The study focuses on the selection of advanced technological solutions – learning experience platforms suitable for general education schools. The selected platforms were tested in Lithuanian schools, and the practices and experiences are presented through a case study analysis. The outcomes of our research disclose the advantages of implementing such technological solutions in teaching-learning process and benefits for its participants. The results of the study emphasize that learning experience platforms foster inclusive and engaging learning, promote models of self-directed, adaptive, and personalized learning in general education schools.

Keywords: *general education schools, learning experience platforms, case study.*

Introduction

In recent years the issue of digitization of education has gained significant relevance in European countries. On the one hand, the COVID-19 pandemic has considerably sped up the digitalisation of education. The pandemic prompted an unprecedented and rapid experiment with school systems which has resulted in hundreds of millions of learners transition to digital learning environments (Kalim et al., 2021). Consequently, digital technologies have become integral part of the teaching-learning process. Researchers assert that the use of educational technologies has been proven to be indispensable in providing quality education for learners during the pandemic (Kurvinen et al., 2020). On the other hand, key stakeholders in education – students, parents, teachers, and school leaders – are increasingly embracing technology for diverse educational purposes. For instance, technology is used to update students about their progress in an electronic diary environment or teachers and learners use virtual communication means (Vincent-Lancrin, 2021). These, in result, further fosters the rapid digitalisation of education.

The increasing use of technology in education goes hand in hand with the areas of learning analytics and artificial intelligence, with a particular focus on how data can be used to improve the teaching-learning process. Artificial intelligence and learning analytics are becoming the most popular ways to analyse collected data in digital learning environments to support teachers and learners in their learning (Krikun, Kurilovas, 2016). Artificial intelligence and learning analytics aim to improve teaching-learning process by systematically processing teaching-learning-related data and by providing guidance to teachers and learners. Therefore, the possibilities of integrating artificial intelligence and learning analytics are of particular interest when designing learning environments such as adaptive learning systems, intelligent learning systems, and open educational resources (Mandinach, Gummer, 2016).

Artificial intelligence and learning analytics have the capacity of informing teachers and students, as well as other stakeholders, and also contribute to the improvement of the quality of teaching-learning (Holstein et al., 2019). In recent years, an increasing number of digital education tools have already been integrated with artificial intelligence and learning analytics. Some of the tools are commercial e.g. MS Teams, Google Classroom, iSpring Learning, or open-source e.g. Moodle and are designed for various educational sectors. Research findings suggest that such educational tools could become effective means to simplify the learning process for students and to enhance the teaching experience for teachers (Rienties et al., 2018).

The scientific literature is increasingly addressing questions how digital technologies are reshaping education, what is their impact on education participants, which technological advantages could enhance educational quality, what are main technology-related challenges in education, etc. (Hollman et al., 2019). This article focuses on the micro level – the teaching-learning process and the educational technologies used in it. For the purpose of case study some advanced digital education tools – learning experience platforms- were selected. The article aims to discuss the cases of use of learning

experience platforms in Lithuanian general education schools in order to highlight their benefits and challenges in educational practice.

Methodology

During the implementation of the project “Artificial Intelligence in Schools: Scenarios for the Development of Learning Analytics in Modernizing General Education in Lithuania” (Project No. S-DNR-20-4), one of the tasks was to explore the practices of general education schools and disclose exemplary practises of the use of learning experience platforms. To achieve this task, the methodology of case study analysis was selected, considering that case studies can serve both to formulate theories and provide descriptive insights. Case studies are used to detail the best practices by illustrating or explaining a particular phenomenon or trend. The study employed a qualitative research strategy, focusing on the detailed and in-depth examination of one or more specific cases that illustrate the research problem. The researchers dedicated significant attention to a specific case with the aim to comprehensively describe and explain it while addressing the research questions (Johansson, 2007). The study was structured as follows:

1. *Identification of the selected cases and delimitation of the case.* First, one defines what will be considered a “case” in the study, then attempts to define the boundaries of the case. In order to find out what is the situation of the use of learning experience platforms in Lithuanian general education schools, it was important to identify, which platforms were used by schools. For this purpose, the list of digital teaching-learning tools provided by National Education Agency for 2020–2021 was examined (Baziukė, Norvilienė, 2021). Out of 244 tools in the list of digital learning tools provided by the National Education Agency of Lithuania (2021), only five integrate artificial intelligence and learning analytics and meet the criteria for learning experience platforms, namely: *Eduai*, *Eduten Playground*, *Egzaminatorius.lt*, *Fast ForWord*, *Matific*. These platforms provide learning content and are equipped with analytical tools, offering guidance to teachers and students in the teaching-learning process through the use of learning analytics and artificial intelligence (Vincent-Lancrin, 2021).
2. *Data collection.* The researcher aims to collect a detailed information and describe it, using all the possible diversity of information sources (document analysis, structured and unstructured interviews, observation with or without participation, etc.). As a result, to start with, the features of each learning experience platform are described, and the finding of research are discussed, further on, challenges related to the use of platforms in Lithuanian general education schools are described. Moreover, in total, 21 in-depth non-structured interviews were conducted with teachers who use these platforms, with school administrators, and creators or distributors of the technologies (see Table 1). Also, one focus group interview with 5 teachers was conducted. Interviews were conducted during the period from the beginning of 2021 till the autumn of 2021. The length of each interview varied from 45 min. up to 1.5 hr and were conducted via ZOOM program.

Table 1 Number of the interviews

Title of the program	Number of the interviews		
	School administrators	Teachers who use the platforms	Creators/Distributors/Representatives of the platforms
<i>Eduai</i>	1	2	1
<i>Eduten Playground</i>	1	4 individual interviews 1 focus group interview with 5 teachers	2
<i>Egzaminatorius.lt</i>	0	3	1
<i>Fast ForWord</i>	is used individually, as an informal education program	1	1
<i>Matific</i>	0	2	2

3. *Data analysis.* First and foremost, a comprehensive depiction of the case and its contextual background is provided. Subsequently, a thematic analysis of the interviews was conducted, wherein the researcher delves into the examination of various themes and subjects. Additionally, meticulous attention is dedicated to the analysis and depiction of the contextual details, circumstances, and conditions. However, only part of the interview data, which directly helps to answer the current article’s aim is presented below.
4. *Interpretation of results.* At this stage, the conclusions of the conducted research are presented, and new aspects of the analysed phenomenon are revealed, in order to demonstrate how the case study made it possible to deepen the understanding of the problem or phenomenon, what newly discovered facts could be further analysed and studied, possibly with the help of additional research methods. As a result, presentations of each platform consist of detailed descriptions of its advantages, challenges, and benefits of use from analysed material (official descriptions of platforms or programs, and other scientific and science popularization literature) and illustration (interview excerpts) of the perspective of users, school administration and creators/distributors/representatives of these platforms.

Results

Fast ForWord learning experience platform

Case study analysis of the platform is based on two interviews conducted with a representative of the platform in Lithuania (“Labirintas”) and one direct user of the platform. In addition, the information from the official website of the *Fast ForWord* program was used.

The *Fast ForWord* platform has been designed for children who have language (English) learning challenges and require special support. The *Fast ForWord* is copyrighted by Scientific Learning. The program was created in 1996 and is widely used in US schools, nowadays it also has spread to more than 40 countries around the world. The official representative of the *Fast ForWord* program in Lithuania is NVO “Labirintas”, who started distributing the platform from a personal initiative in order to help children and their

parents to cope with learning difficulties, such as dyslexia, dysgraphia, dyscalculia. As interview participant has emphasized *“these disorders require special attention because, if left on their own, they tend to cause problems for students such as academic, emotional, behavioural, self-esteem etc.”* (interview with “Labirintas” representative).

How the platform works. The Fast ForWord platform provides various tasks and exercises that are presented in an attractive game format. The platform adapts individually (using an algorithm) to a student’s abilities and selects the most suitable exercises and their level of difficulty. The selected exercises are designed to motivate a student to actively participate in the learning process. If a student fails in performing the exercises (for example, learning to distinguish phonemes), he/she is provided with an interactive help in order to understand mistakes and the content of an exercise. For example, using the platform’s Reading Assistant feature, students receive real-time guidance on how to pronounce sounds correctly from a virtual personal “assistant” within the system. As stated on the Scientific Learning page, the Fast ForWord is the only platform that uses this type of reading intervention, and this feature has been patented. The Fast ForWord allows students to monitor their achievements thus providing possibilities for personalized and individualized learning paths. The platform allows a specialist (a teacher) to follow reports of the student’s progress and areas where he/she needs more practice. *“Learning analytics is presented on the dashboard and is clear and understandable both for a student and for a teacher”* (interview with “Labirintas” representative). Moreover, the data collected by the platform’s learning analytics tools can easily be shared with students or their parents. Currently in Lithuania the platform is used only by some NVO that carry out educational activities for students with special educational needs. Schools do not use the platform due to financial and legislation issues (all the programs used in Lithuanian schools should be translated into the Lithuanian language).

Challenges of using the platform. One of the main challenges when it comes to the use of the platform in Lithuania is that schools are not able to purchase the platform with state funds. *“Since the platform language is English and there are no plans to translate it, schools cannot use it or purchase it with public funds, unless they want to use it as an only English language teaching/learning tool”* (interview with “Labirintas” representative). However, in this case, the main function of this platform – the development of student’s cognitive abilities and support in the presence of congenital disorders – cannot be used. Therefore, to use the platform for the needs of target group students, schools have to purchase the platform only from their own funds. Another important point is that schools have to appoint a person performing the program administration function – a specialist (e.g. social pedagogue, school psychologist or special pedagogue) who would be in charge of a student’s learning process and achievements, as well as carry out other interventions necessary for a student with special needs. Such administration is an additional burden on the employee and (possibly) a financial burden on the school that is paying for the additional administrative hours.

Factors determining success. It could be stated on the basis of the interviewees answers that one of the factors predetermining the successful use of the platform is the reliance of

target group users on the technology, desire to trust the developed games and exercises that they really can have an impact and help students to cope with language learning problems. According to the research participants, there is a lack of general confidence that “yes, these are games, but games are for the child to work and to be motivated to work, to have fun” (interview with program user). Success would also be predetermined by the motivation of the platform administrator – a specialist (a speech therapist, special pedagogue or others), who would be using the platform. “It is very important for a specialist to use the platform constantly and to apply the feedback received from the platform in further practice with a student to ensure that the methods really work” (interview with “Labirintas” representative). Such motivated specialists, as stated by the research participants, often turn to the representative office themselves for the opportunity to purchase the program.

Learning analytics and artificial intelligence. The artificial intelligence-based tool manifests itself as a personal interactive assistant that guides a student through tasks and exercises. Artificial intelligence helps to take learning personalization and individualisation decisions. “Different tasks are chosen every day taking into account what individual abilities of a student need to be developed at that particular time so a student does not get bored and the best learning path is being selected” (interview with “Labirintas” representative). The learning analytics tool integrated into the platform collects data about a student’s learning. According to the research participants, the platform’s learning analytics is clear an informative “provides clear and simple reports with explanations that are easy to understand for teachers, students and their parents, and there are plenty of tips on how to continue the work with a student” (interview with program user). From the teacher’s (or parents’) point of view, such advice would indicate the next steps in how to work with the child.

Matific learning experience platform

Case study analysis of the platform use is based on four interviews: two – with a teacher who uses this platform in her mathematics lessons, and two – with representatives of the *Matific* platform for the Eastern European region. In the description information from the official website of the *Matific* platform is also presented.

The *Matific* is a virtual learning environment that helps improve students’ math test scores. The platform focuses on developing students’ basic math skills in an interactive way (Matific Official, n.d.). The *Matific* platform was created in 2016 by the team of experts in mathematics and education of Hebrew University of Jerusalem. The rights belong to the *Matific* company, which is headquartered in Australia and has almost 20 official representatives around the world.

How the platform works. Before starting to work with the platform, each student has to perform an initial test, which aims at determining a level of math skills. When working with the platform, algorithm automatically assigns tasks to a student based on the student’s math skills’ level. “Learning exercises are automatically assigned to students based on data-driven information and state-of-the-art applied technology” (Matific Official, n.d.). Teachers have access to the entire catalogue of the *Matific* tasks and can assign

specific activities to their students, groups of students or a whole class. A simple search tool makes it easy to navigate and find the relevant tasks. The platform has the possibility of integrated work with such technologies as e.g. *Clever*, *Google Classroom*, *Office 365* programs. Parents are also encouraged to be active participants in the student's learning process. They can sign into their child's learning account (using a separate sign-in) and assign additional math tasks as needed or desired. Students are rewarded for completing a task assigned by their parents. Tasks assigned by parents and teachers do not overlap, so tasks completed at home do not interfere with class work.

Currently, the *Matific* platform is used by the only pro-gymnasium in Lithuania and only in one primary class. The platform was purchased from the class (parents') funds on the teacher's personal initiative, in coordination with the school administration. The teacher, on whose initiative the platform was purchased, found out about it by chance while browsing and looking for newer, more innovative digital teaching tools for students. The platform was started to be used at the school in 2020. One teacher first tried its free trial version herself, then contacted the representatives and asked them to send a free trial version of the platform to the whole class. At the end of the trial version, in consultation with parents, licenses for this platform were purchased for the entire academic year. The parents willingly agreed to cooperate, motivated by the children's great interest and positive feedback after testing the trial version of the platform. It is important to mention that at the initiative of the teacher, the students had tried other artificial intelligence and learning analytics platforms for mathematics, but the *Matific* was chosen, as the teacher said, "*because of its attractive graphics and interesting tasks*" (interview with the teacher). The school administration did not object to this.

Challenges of using the platform. According to the teacher, preparation to start using the platform takes time, and it requires a lot of effort from the teacher (and/or another person administering the program, if such a position is provided among the school staff). "*At first I had to understand the intricacies of using the platform myself, and then teach them to the students*" (interview with the teacher). The first preparatory work includes: registering students, explaining how to work with the platform, developing personal skills to master the platform.

Factors determining success. The range of benefits of using the *Matific* platform is wide, however, according to the study participants, several key factors can determine the successful use of the platform. The teacher's high level of computer literacy determines the possibility of quickly mastering the platform, overcoming the challenges that arise at the beginning of using the platform, and realizing the usefulness of such programs. Willingness to use digital learning tools in the teaching process is an important factor to empower teachers and students to get involved with the platform. Financial support from parents was mentioned as a factor of a special relevance in case if school does not receive funding from the state budget.

Learning analytics and artificial intelligence. In the learning analytics panel, the teacher can monitor the student's learning progress, the level of each student's answers to the tasks (in percentage), the overall level of all answers, and the activity

report of the entire class. Artificial intelligence-based tools can detect the level of skills and to choose the most appropriate task for a student. The platform also has a virtual guide, who provides advice and support for a student. As the interviewee pointed, *“the platform is used for elementary school age students so they probably are not aware of these tools, what attracts them most – game experience”* (interview with the teacher).

Eduten Playground learning experience platform

Case study analysis of the platform use is based on four individual interviews (teachers from different schools all over Lithuania), one focus group interview (with teachers of the same school) that were conducted with teachers who use the *Eduten Playground* in their lessons. The case study also is based on the one interview with school administration representative and the interview with two official program representatives. The description is also based on information from the official website of the *Eduten Playground*.

The *Eduten Playground* (for the Finnish market – ViLLE) is a math learning platform that supports learning through play. The program was created in 2005 at the University of Turku, Finland. Copyright belongs to *Eduten Ltd*. The university is responsible for the pedagogical, research and content part, while *Eduten Ltd* manages the platform. The *Eduten Playground* platform is used widely used by teachers around the world to teach math (*Eduten Playground Officia*, n.d.).

How the platform works. The *Eduten Playground* is based on Finnish pedagogy. Its essence is a carefully designed learning environment that uses games and differentiated tasks. The platform has many game elements that increase students’ motivation and desire to learn mathematics. Students and a teacher have their own personal accounts. Students solve math tasks presented in a game form in their account. Students can only see the lessons and topics that teachers give them access to. Considering the student’s pace of solving tasks and answers, the platform automatically assigns other tasks from the topic chosen by the teacher. Each lesson includes several exercises that the system selects according to the student’s skills, after which the students are automatically evaluated. The teacher can see the analytics of the whole class and the achievements of each child in his account. The platform is suitable for students’ work at school and at home, especially for independent remote work.

In Lithuanian schools *Eduten Playground* program has appeared thanks to several project initiatives¹ implemented in the Vilnius district. In the result Vilnius district general education schools have received an opportunity to test the platform in their educational practice.

Challenges of using the platform. The main challenge as stated by the interviewees is the provision of technical equipment (computer spaces) and infrastructure (access to internet, speed of the internet etc.). *“During the distance learning period, students used their own devices, and schools lent school devices to those who did not have them”* (interview with teacher Nr. 1). Another important challenge is the lack of teachers’ competencies. *“The lack of IT competencies can hinder the smooth use of the platform in schools”*

¹ Project “Modern development of mathematical abilities and monitoring of progress” carried out by the Vilnius Education Progress Center

(interview with teacher Nr. 3). The participants of the study noted that the most passive (and less interested) users of the platform are teachers who “*are against technologies and prefer traditional methods in teaching maths*” (focus group interview, teacher Nr. 4), “*are not interested in innovations*” (interview with teacher Nr. 3). However, as the experience of the schools participating in the study shows, engagement and interest in the platform started with the initiative of the most active teachers, who encouraged other, less interested teachers to get involved and start using the *Eduten Playground* in their mathematics classes. It can be assumed that this happens due to the healthy competition between teachers and the desire to keep up.

Factors determining success. Based on informants’ answers some common factors can be extracted. First, internal school culture and administration support: as unequivocally confirmed by the research participants, the basis of success is the administration support and the culture fostered by the school, focused on collective decision-making. In schools using the platform, decisions are made after the decision of the entire team. Accordingly, decisions regarding the acquisition and use of platforms are made by consensus of the entire team, according to the research participants, the decision is always supported by the administration. Second, support from teachers: when one of the teachers starts to implement some innovation, the administration encourages these actions and “*such a healthy competition is born, because if one has already tried it, the other wants to too*” (focus group interview, teacher Nr. 1). Third, openness to innovation and constant interest: the results of the interviews revealed that teachers who are more open to innovation always seek to learn something new, they constantly research something, are interested in something, and tend to use learning analytics and artificial intelligence platforms much more actively.

Learning analytics and artificial intelligence. As the results of the study revealed, teachers who use the *Eduten Playground* platform in their work notice its advantages by emphasizing the possibilities of artificial intelligence and learning analytics. It is important for them that the tasks for the student are selected by the algorithm based on student’s achievements and learning gaps. In addition, analytics allows to see student achievements and their changes over time, easily export them and present them to parents. And although some teachers notice that parents are not very interested in their children’s achievements or are not actively interested in them, “*analytical data facilitate the teacher’s work when talking individually with parents, visually presenting their child’s achievements*” (focus group interview with teacher Nr. 2).

Eduai learning experience platform.

Case study analysis of the platform is based on four individual interviews: two – with a teacher and education support specialist from a school that uses the platform, one with an administration representative, and one with an IT specialist who is involved in the development of the platform. The description uses information from the *Eduai* project documents.

The basis of the platform is the US analytics model *Tacoma*, the essence of which is to collect data about the student and his/her environment, add them to the database and, after applying analytics algorithms, offer the best practical scenarios for the school, parents, and the student in order to improve math achievement. The *Eduai* platform was created in 2019 by a team of Lithuanian school teachers. Copyright belongs to Šiauliai Dubysa Upper School (Lithuania).

How the platform works. The work with the platform starts with creating user accounts and filling out data collection questionnaires. Students, classroom tutors and support professionals have their own personal access to the platform. Basic student data is collected from questionnaires and other sources: grades, attendance, standardized tests, social, financial, health data, family and school environment, non-formal education. Parents, teachers, students fill out questionnaires, and answer reflection questions after math lessons, attendance and grade data are automatically transferred from the electronic diary system. After collecting all the data, the platform develops a portrait of the student, which is constantly updated. The essence of the platform is the automatic generation and development of individual learning scenarios.

The *Eduai* platform is particularly suitable for creating an effective plan for student support. The scenarios developed by it are suitable for ensuring preventive programs and establishing a relationship with the student and parents. According to the research participants, the platform could include the creation of a support plan for each student (regardless of whether he has special needs or not). One of the goals of the platform is to change the bureaucratic process of student assistance by abandoning documents in paper form, systematizing them, and providing support specialists with easy access to all necessary student data, thus saving time and focusing attention specifically on the student. *“The platform allows monitoring a student’s well-being, all achievements in one place. In order to see the student’s attendance, the class curator does not need to open other programs (e.g. manodienynas.lt)², he can find this information in the Eduai”* (interview with teacher). In addition, the platform automatically informs (via e-mail) when a student misses a certain number of lessons (according to the indicators set on the platform).

Challenges of using the platform. As mentioned by respondents, one of the most difficult stages is the start of using the platform. *“Data collection – is a challenge – the school staff actively participates in this process: they communicated a lot with parents, enlisted the help of curators and class teachers, motivating them to fill out questionnaires. And other questionnaires can appear quite complex, sometimes ambiguous and difficult for children”* (interview with teacher). In order to solve this challenge, the questionnaire should be filled out together with parents, curators, class teachers, with the help of the entire school team.

According to informants, currently, the biggest challenge is the need for an IT specialist who administers the platform and is responsible for its service. The presence of such a specialist would ensure the continued functioning of the program in the event of

² Such programs are used officially by schools to put down the grades and other evaluations of the students

a change in students and staff, and thus the need for new data: for each new student, new logins, passwords, etc. need to be created. *“In addition, when working with the platform, there is a natural need to include new data, remove unnecessary ones, all of this is inseparable from programming and technical matters”* (interview with an IT specialist). The presence of the above-mentioned specialist is determined by school’s financial possibilities.

Factors determining success. According to research participants, success is determined by the school’s philosophy – desire to provide help and support for each student and continuous cooperation. The school using the *Eduai* platform was one of the first to establish an Education Support Department. The priority of the school is to provide assistance and foster relations with students and their parents. According to the research participant, it *“brings benefits because parents are not afraid to talk and ask for help and cooperation occurs, not only because the school is here, the child is here, and just specialists, but building relationships, a preventive model, that’s what is useful, where the we face, questionnaires, data collection, it has a wider scope and perhaps more positives, although at the beginning it was necessary to put in significantly more work, but it has a certain return”* (interview with teacher). The philosophy of the platform is in line with the mission and vision of the school.

Another factor leading to success is a constant communication with parents and teachers. An important role is dedicated to a school administration, who should be in charge of the “communication campaign”. As research participants stated, *“persuasion takes a lot of time, but it is a contribution to our future”* (interview with teacher). This platform overall has been well-received by the students, teachers, and parents in the school.

Artificial intelligence and learning analytics. The basis of the platform’s philosophy is that systematically collected data about a student can help to get to know him/her and provide with the necessary assistance. Appropriate data on the student’s well-being, behaviour, social environment, etc. used in real time strengthens the relationship between a teacher and a student, allows to understand how a student feels and helps to take effective pedagogical decisions in the lesson. In addition, based on data, the gap between student’s learning results and the learning goals set in the lesson can be revealed. As pointed by informants *“the platform’s learning analytics is able to inform a teacher about the impact and suitability of pedagogical actions and decisions for a specific student”* (interview with teacher).

Egzaminatorius.lt learning experience platform

Case study analysis of the platform use in Lithuanian schools is based on one interview with the creator-representative of this platform, and three interviews with teachers (different schools) in gymnasiums who used this platform for students’ preparation for final exams.

The *Egzaminatorius.lt* is a modern, efficient, and reliable online platform that will help teachers and students prepare for matriculation exams, which fully corresponds to matriculation exam programs. The system belongs to the *TAMO* group which is a developer of educational technologies in Lithuania. The platform was developed in 2014.

How the platform works. Egzaminatorius.lt is an auxiliary tool for teachers in organizing students' preparation for final exams and for students' independent preparation. The system has an adaptive learning algorithm. During the test, based on the number of correct/incorrect answers of the users, the system selects the level of difficulty of the questions. This allows the student to choose an individual exam preparation mode. Students can see their individual learning level and progress. Motivating gamification engines are installed namely leader's board, points for achievements, etc. According to the interview participants, this *"platform has two important functions: to encourage learning and to provide an opportunity to test knowledge"* (interview with a platform creator-representative). The platform not only provides students with questions, but also analyses answers, so the person who made a mistake will receive a detailed analysis that will allow him/her to understand which area of knowledge still needs to be deepened. Teachers receive detailed reports that include student scores, correct and incorrect answers by topic area and specific tasks. The educational material is visualized, supplemented with virtual educational objects. The platform provides quick artificial intelligence-based feedback: learning results, comments, recommendations, what and how to learn further.

Challenges of using the platform. The interviewees noted that the benefits of the platform are noticed most by students with internal motivation to learn: *"if you learn for yourself, it is very useful"* (quoted from an interview with students). On the other hand, the study participants emphasized that the platform should not be used as a tool for assessing their progress, but just an additional tool for learning and the answers should not be evaluated with a grade. *"If you don't get any grades and understand that this is only for you, then everything is very good"* (interview with teacher Nr.1). The biggest challenge, according to the research participants, is the additional workload, working on platforms and combining traditional tasks: *"...when you have to complete mandatory tasks on different digital platforms and not necessarily via a computer – maybe write an essay in writing, the final class is very stressful, and you can no longer control his time"* (interview with teacher Nr. 2). In such cases, students can take "cardinal measures – sharing answers" to achieve a better assessment. According to the students the research participants, not all school purchase this platform for their students. So, the students themselves *"see a certain inequality, due to the fact that some students have the opportunity to use this platform, while others do not"* (interview with teacher Nr. 2).

Factors determining success. The Egzaminatorius.lt proves to be an effective support tool, but the success of using the program depends on the students' motivation: *"It depends on us whether we use it successfully, because the platform helps us identify what we are doing poorly, when you know your gaps, you can work on them longer, which is an opportunity to plan your time in order to obtain greater efficiency"* (interview with teacher Nr. 3).

Artificial intelligence and learning analytics. Research participants identified the most important advantages of the platform in their opinion – monitoring of results and automatic recommendations, which is where the function of learning analytics and artificial intelligence comes into play: *"...it monitors our answers and "throws out" the questions that are the most difficult to answer, where we are the most we make mistakes"* (interview

with teacher Nr.1). For users, it is a sign that warns of existing gaps and an encouragement to repeat incompletely learned material. Another important advantage of learning analytics and artificial intelligence highlighted by the research participants is the ability of the teacher to see the progress of the students: *“The teacher sees the summary of the results of the students’ answers”* (interview with teacher Nr.2). According to the research participant, *“after receiving the summary of the answers, the teacher reacts by slightly changing the lesson plan, including repetitions and/or additional teaching of the topics where the most mistakes were made”* (interview with teacher Nr.3). Students who have completed the tests receive an analysis of their results with comments and individual recommendations on what to study.

Conclusions and discussion

Research demonstrates the benefits of utilizing learning experience platforms in general education schools. Among the prominent advantages, the potential for adaptive learning stands out. Learning experience platforms that function as adaptive systems, can continually gather and interpret students’ data, adjust the direction of learning and learning environment, to accommodate students’ needs and abilities (Dumon, 2014). Additionally, these platforms offer enhanced opportunities for accurate assessment. Integrated learning analytics tools enable ongoing monitoring of students’ learning processes, facilitating the adoption of novel assessment methods for more precise evaluation of student achievements (Polonetsky, Jerome, 2014). Learning experience platforms also contribute to effective feedback mechanisms. Leveraging artificial intelligence tools such as virtual guides, assistants, and tutors, along with learning analytics, leads to a more coherent and efficient feedback cycle. Students receive real-time feedback tailored to their actual contributions (Weber, 2015). Furthermore, learning experience platforms possess predictive capabilities. Student behavior, skills, and learning outcomes can be forecasted through the analysis of their activities on the platform. This prediction is valuable for teachers, enabling them to focus on students with specific gaps (Charlton et al., 2013).

Case study analysis of learning experience platform use in Lithuanian general education schools has illuminated the benefits and factors of success. Firstly, learning experience platforms establish an information technology infrastructure characterized by continuous data collection, algorithmic evaluation, and extensive data storage. Secondly, these platforms influence pedagogical decision-making by promoting data-driven choices. They empower teachers’ academic autonomy, facilitate transparent student assessment, and involve parents and students in decision-making processes or decision challenges. Thirdly, the platforms play a role in defining educational components by interlinking concepts, producing content, establishing metrics, and anticipating desired learning outcomes.

Despite the potential benefits of learning experience platforms, significant apprehensions and scepticism persist regarding their application in education, accompanied by unanswered questions about how their use contributes to desired learning outcomes

(Zeide, 2017). Research reveals that schools encounter challenges during implementation, including the transition from traditional data analysis to learner-centered analytics, handling diverse data sets across various environments, overcoming technological barriers, and addressing ethical issues related to data collection and usage (Reyes, 2017).

In the context of Lithuanian general education, the case study analysis of learning experience platform utilization has unveiled major challenges and obstacles. Firstly, while substantial data is generated in Lithuanian general education, detailed information concerning students' learning achievements and demographics isn't readily accessible to those who require it most: teachers, educational institution leaders, and support professionals. Moreover, existing data often fail to provide the insights essential for teachers and schools to accurately identify teaching and learning issues and determine effective solutions. Secondly, although numerous learning experience platforms are emerging, they remain disjointed and lack integration, hindering the development of a unified learning and data network. A collaborative effort involving IT companies, educational researchers, practitioners, and policymakers is imperative to devise effective solutions. Thirdly, it is crucial for users of learning experience platforms, particularly students and their parents, to possess the necessary skills to optimize the teaching-learning process. Understanding the significance of these platforms to the learning process and experiencing their empowering effect is vital. Fourthly, the adoption of learning experience platforms in Lithuanian general education schools is often contingent upon financial resources and constrained by education legislation. Lastly, the utilization of such platforms brings forth concerns regarding data ethics and confidentiality.

In conclusion, the integration of learning experience platforms into general education schools holds numerous opportunities, fostering innovation, inclusivity, and effectiveness in learning. The incorporation of new artificial intelligence and learning analytics tools, capable of personalizing the teaching-learning process, presents ample potential. However, it is imperative to acknowledge that users require new skills and competencies to harness these technologies. Furthermore, ensuring the availability of these technologies across all societal groups is crucial, guaranteeing equal opportunities for their usage and leaving no one behind.

Despite the potential of learning experience platforms, there is considerable hesitation and skepticism about the challenges of their application in education, as well as unanswered questions about how their use could contribute to the desired learning outcomes (Zeide, 2017).

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SELF-CONFIDENCE IN 4th AND 9th GRADES: DIFFERENCES BETWEEN AGE, GENDER AND SCHOOL SUBJECTS

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ABSTRACT

This study focused on students' self-confidence and analyzed the relationship between self-confidence and gender, age, subject, achievement, and other variables. The students from Latvia, Lithuania, Finland, Poland, Germany, Sweden, and Denmark were compared. The authors of this research analyzed the data from three large scale studies and compared 4th and 15-year-old students' self-confidence in reading, Mathematics, and Science. IEA TIMSS2019 and PIRLS2016 for 4th grade students and OECD PISA2012, PISA2015, and PISA2018 for 15-year-old students (further in the study referred to as 9th grade students). The data analysis was performed on each above-mentioned study and each cycle separately.

The authors of this research quartered all students into four self-confidence groups and performed linear regression analysis where self-confidence was the dependent variable and other described variables – independent. The authors compared students from the lowest and the highest self-confidence groups.

Reading achievement was a strong predictor of reading self-confidence for both grade levels and both self-confidence groups. Mathematics achievement was an equally strong predictor of both self-confidence groups in the 4th grade while in the 9th grade, it was strongly related to the highest self-confidence group. Science achievement wasn't significantly nor strongly related to any of the self-confidence groups or grades.

The fact that students like/enjoy reading/Mathematics/Science was a strong predictor of reading/Mathematics/Science self-confidence in both grade and self-confidence groups, but for students in the lowest self-confidence group this factor was more strongly related to self-confidence. Mathematics anxiety was strongly and negatively related to self-confidence.

Keywords: *Large scale assessments, academic self-confidence, academic self-concept, 4th grade, 15-year-old, OECD PISA, IEA TIMSS, IEA PIRLS*

Introduction

Achievement as a measurement of acquired skills and educational quality as such despite many other factors that influence achievement itself has been one of the most

studied aspects in educational research. It has been found in the IEA's (International Association for the Evaluation of Educational Achievement) and other educational studies, that students' achievement is strongly related to their background information. Geske and colleagues (Geske et al., 2021a) found that reading achievement and students' self-confidence correlation coefficient is up to 0.50 and reading achievement explains up to 25% of students' reading self-confidence (Geske et al., 2021b) at the 4th grade, if the achievement is analyzed together with students liking the subject and engagement, this model explained even up to 57% of confidence variance (Kamppane & Ozola, 2022). Marsh and O'Mara (2008) proved that academic confidence predicted long-term academic attainment better than school grades, IQ, and socioeconomic status.

As achievement represents students' academic skills, confidence has been used as a measure of students' non-academic skills (Stankov & Lee, 2015). If academic skills usually are defined as a cognitive ability to acquire knowledge, non-academic skills often are defined as a set of one's beliefs that are related to or produce certain behavior (Zhou, 2017). Unlike academic skills that can be measured in very precise scales, confidence's measurement varies from study to study. Marsh et al. (2019) notes that self-concept and self-efficacy had been used as the most popular measurements of self-confidence in academic domain.

Studies that are based on social-cognitive theory measure confidence in self-efficacy scale. In large scale comparative educational studies like Organisation for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA) self-efficacy is defined as Bandura (1977) defined it – measurable extent to which students believe they can engage in, or perform an action, or achieve a certain (successful) result (OECD, 2013b; OECD, 2019b) or evaluation of the ability to solve tasks that are similar to ones in the PISA cognitive test (OECD, 2017a). Despite Sanders and Sanders (2009) state that self-efficacy is a key construct of academic confidence, Stankov and Lee (2015) emphasize that self-efficacy views one's beliefs about success in future, but confidence deals with one's success beliefs based in experience. In this way, confidence more reflects self-concept. Educational studies like PISA and PIRLS and TIMSS measure confidence in self-concept scale, defining it as students' perceived competence or perceived academic ability (OECD, 2013a; OECD, 2019a; Hooper et al., 2015; Yin & Fishbein, 2020).

Academic self-concept is referred to one's perceptions of one self's ability in the domain of school subjects (Huang, 2011). Studies suggested partitioning academic self-concept into as many other sub self-concepts, as school subjects (Marsh, 1990). Although academic self-concept is hierarchical, Marsh (1986) discovered a paradox –high self-concept in the Mathematics domain is related to lower self-concept in language. This paradox is described as dimensional comparison effect (Marsh et al., 2014). Bandura (1997, 2006) has claimed that self-efficacy under certain conditions may co-vary between similar sub-domains, and in schools requiring high academic ability, high self-efficacy may occur in divers subjects. Marsh et al. (2007) recognized that social or peer comparison has a powerful effect on academic self-concept in scholastic competence (Shavelson et al.,

1976; Marsh, 1990). Marsh and Parker (1984) defined this phenomenon as Big-Fish-Little-Pond-Effect (BFLPE). This effect was analyzed in meta-analytic study by Fang et al. (2018) where researchers summarized the developing and negative nature of this effect on students' academic self-concept.

Alongside students' confidence, one's attitudes (Berger et al., 2020), engagement (Supervia et al., 2020) and anxiety (Gogol et al., 2017) have been studied as factors influencing not only achievement but also confidence. And researchers have warned that low self-confidence levels can lead to avoidance behaviors (Bandura, 1997; Marsh & O'Mara, 2008). Thus, the question arises: do large scale international studies represent any significant factors that characterize students with high and low self-confidence levels?

Purpose of this study

The purpose of this study was to find out if there is a difference between students with low and high self-confidence in terms of age (grade), gender, enjoyment of studying the subject, and other variables in large scale comparative studies, and, if there is a difference which of these factors are more significant to each group.

Methodology

The Sample

To determine whether students' academic self-confidence differs between age (grade) groups and academic subjects the sample was constructed from five large scale studies conducted by OECD (PISA) and IEA (PIRLS and TIMSS) in Latvia, Lithuania, Finland, Sweden, Denmark, Poland, and Germany.

PIRLS is conducted every five years and measures 4th grade students' achievement in reading. TIMSS is conducted every four years and measures 4th and in some countries 8th grade students' achievement in Mathematics and Science domain. The authors of this research chose to use PIRLS2016 and TIMSS2019 database samples for comparison of 4th grade students as these were the newest available data on the date. PISA study is conducted every four years and measures 15-year-old students' achievement in reading, Mathematics and Science as main subject depending on the cycle, the authors chose to compare PISA2012 for Mathematics, PISA2015 for Science and PISA2018 for reading as these were the newest available data on the date.

The sample was analyzed using students' weight and thus represents the whole population.

Self-confidence groups

The four self-confidence groups were created by 25% of students in each self-confidence group. The 1st group consisted of students with the lowest 25% self-confidence values, but the 4th group included students with the highest 25% of self-confidence values.

Dependent variable

In the linear regression analysis students' self-confidence was used as a dependent variable. PIRLS2016, TIMSS2019 (scales "Confident in Mathematics/Science/reading"), PISA2012 (scale "Mathematics self-concept") and 2018 (scale "Perceived competence in reading") measure students' self-confidence according to Marsh & Craven (2006) in domain specific self-concept scale (Martin et al., 2017; Yin & Fishbein, 2020; OECD, 2013a; OECD, 2019a). PISA2015 measured students' self-competence (scale "Science self-efficacy") in science using self-efficacy scale (Bandura, 1997) (OECD, 2017a).

Independent variables

The authors choose two scales from PIRLS2016 study (Martin et al., 2017) – "Students engaged in reading lessons" and "Students like reading" as independent variables for the linear regression analysis. From TIMSS2019 data set the following scales were chosen (Yin & Fishbein, 2020): "Students like learning Mathematics/Science" and "Instructional clarity". From PISA2012 four scales were chosen (OECD, 2013a): "Mathematics anxiety", "Mathematics interest", "Mathematics teacher's support" and "Mathematics behavior". As independent variables from PISA2015 the authors chose five scales (OECD, 2017a): "Inquiry-based science teaching and learning practices", "Interest in broad science topic", "Enjoyment of science", "Index of science activities", "Teacher support in a science classes of students choice". In PISA2018 the authors chose following three scales (OECD, 2019a): "Enjoyment of reading", "Teacher's stimulation of reading engagement perceived by student", "Teacher support in test language lessons".

In all studies of the analysis, student achievement was measured as a set of plausible values as described in technical documentation (Foy & Yin, 2017; Fishbein et al., 2020; OECD, 2014; OECD, 2017b; OECD, 2020). Gender was coded as a dummy variable – all girls had values 0, whereas boys – 1. All scales that were used in this study had the Cronbach's Alpha coefficient above 0.7 points.

Results

The authors of this study chose to compare students from the first (the lowest) and the fourth (the highest) self-confidence groups from each country of comparison.

To test whether Big-Fish-Little-Pond-Effect could be seen in the model, the authors analyzed the first dataset where all students were grouped by class/school and then – the second dataset where all students were grouped by country. In TIMSS2019 Science study, if the first dataset was used, the explained variance was on average by 10% larger than if the second dataset was used, in opposite, if the TIMSS2019 Mathematics study was used, the explained variance was the same or smaller. As in PISA data students were selected randomly from a school and might not represent a class, the authors chose to perform all the analysis with the second dataset where all students were grouped by country.

Results from PIRLS2016 dataset

After performing a linear regression analysis, the following data were obtained (see Table 1).

As displayed in the Table 1, all four independent variables were significant in at least one country and one confidence level. The reading achievement was significant for both confidence groups of students in Denmark and Latvia, whereas in all other countries of comparison, this variable was significant and strongly related to students' self-confidence only for the lowest confidence group students. For the students in the lowest self-confidence group liking to read was a significant predictor of their self-confidence in all countries of comparison except Finland. The engagement in reading lessons predicted a very small and insignificant part of students' self-confidence except of the lowest group in Lithuania. Negative value in all groups could indicate that students in the lowest self-confidence group do not understand their teacher's guidance. Gender played a significant role only in Lithuania where in the lowest self-confidence group girls had lower self-confidence than boys, i.e., boys had stronger linear relationship. As displayed in the Table 1 the students in the highest self-confidence group in Poland all had the highest value of the self-confidence scale and for this reason Poland was excluded from linear regression model.

Overall, the model explained larger variance of self-confidence values for the lowest self-confidence group. In Lithuania, Denmark and Sweden explaining around 10% of self-confidence variance.

Table 1 Linear Regression Coefficients of Regression Equations Representing How Students' Self-Confidence in PIRLS2016 was Affected by the Selected Independent variables

Independent variable	Self-Confidence group	Denmark	Finland	Germany	Latvia	Lithuania	Poland	Sweden
Students engaged in reading lessons	The lowest	0.04	-0.05	-0.01	-0.02	-0.09	-0.05	0.02
	The highest	0.03	-0.03	0.00	0.06	0.04	n/a	-0.03
Students like reading	The lowest	0.20	0.09	0.14	0.25	0.16	0.16	0.15
	The highest	0.07	-0.01	0.01	0.07	0.10	n/a	0.04
Gender*	The lowest	0.06	0.04	0.00	0.04	0.08	0.00	0.04
	The highest	0.00	0.04	0.03	-0.04	0.03	n/a	-0.02
Reading achievement	The lowest	0.25	0.26	0.19	0.21	0.36	0.32	0.28
	The highest	0.10	-0.01	0.05	0.09	0.00	n/a	0.06
R ²	The lowest	0.12	0.07	0.06	0.09	0.13	0.04	0.10
	The highest	0.02	0.00	0.00	0.03	0.02	n/a	0.01

*Gender – if the value is negative, the girls have a stronger linear relationship, if – positive, the boys have a stronger linear relationship, if the value is equal to zero – boys and girls have an equal effect
All values in the bold are significant.

Results from PISA2018 dataset

The result of a linear regression model from PISA2018 reading dataset is displayed in Table 2.

As in PIRLS2016, in PISA2018 reading achievement was important predictor of students' self-confidence in both confidence groups for all countries of comparison except for students in the highest confidence group in Finland, Latvia and Poland; and in the lowest self-confidence group it was more strongly related to self-confidence than in the highest group as it was in PIRLS2016.

The second highest and the strongest predictor of students' self-confidence in the highest confidence group was gender – boys in the highest self-confidence group had stronger linear relationship with self-confidence than girls in all countries of comparison. In Latvia, Lithuania and Poland in the lowest self-confidence group boys had lower self-confidence than girls. These results are in accord to other studies in self-concept domain where results were explained by dimensional comparison effects and gender stereotypes (Wilgenbush & Merell, 1999).

Enjoyment of reading predicted confidence better for the lowest self-confidence group than for the highest although it was significant in both groups for students in Germany, Poland and Sweden. In Lithuania this variable was significant only among the highest self-confidence group students, but in Finland and Latvia – among the lowest self-confidence group students.

Table 2 Linear Regression Coefficients of Regression Equations Representing How Students' Self-Confidence in PISA2018 was affected by the Selected Independent variables

Independent variable	Self-Confidence group	Denmark	Finland	Germany	Latvia	Lithuania	Poland	Sweden
Enjoyment of reading	The lowest	0.06	0.12	0.16	0.09	0.00	0.14	0.15
	The highest	0.05	0.03	0.13	-0.07	0.09	0.10	0.08
Teacher's stimulation of reading engagement perceived by student	The lowest	0.07	0.07	-0.09	0.06	0.14	0.07	0.13
	The highest	0.08	0.06	0.08	-0.02	0.08	0.07	0.06
Teacher support in test language lessons	The lowest	-0.03	0.12	0.07	0.01	0.02	0.03	0.03
	The highest	0.02	-0.02	-0.01	0.07	0.02	0.00	-0.05
Gender*	The lowest	0.01	0.01	-0.04	-0.11	-0.07	-0.10	-0.04
	The highest	0.17	0.20	0.18	0.12	0.09	0.18	0.14
Reading achievement	The lowest	0.16	0.23	0.14	0.19	0.08	0.19	0.19
	The highest	0.13	0.07	0.08	0.03	0.08	0.04	0.10
R^2	The lowest	0.04	0.11	0.06	0.08	0.04	0.09	0.09
	The highest	0.06	0.04	0.05	0.03	0.03	0.04	0.03

*Gender – if the value is negative, the girls have a stronger linear relationship, if – positive, the boys have a stronger linear relationship, if the value is equal to zero – boys and girls have an equal effect
All values in the bold are significant.

PISA2018 measures students' perception of teachers' support and stimulation. Teachers' support in language lessons significantly predicted students' self-confidence only for Finland's lowest self-confidence group students whereas for Sweden's highest self-confidence group students it predicted confidence negatively. The data analysis displayed that teachers' stimulation was more significant for the highest self-confidence group students in all countries of comparison except Latvia and Poland, but for the lowest self-confidence group students in Germany, Sweden and Lithuania.

As with PIRLS2016 data, this model explained the variance of students' self-confidence better for the lowest confidence group except Denmark, where this model explained the variance of confidence better for the highest self-confidence group.

Results from TIMSS2019 Mathematics dataset

The result form TIMSS2019 Mathematics dataset linear regression model is displayed in Table 3.

As instructional clarity described students' perceived clarity of teacher, it was not surprising, that this variable was significant predictor of self-confidence for the highest confidence group, except in Denmark and Poland where this variable was significant for both groups.

Gender predicted Mathematics self-confidence better for the highest self-confidence group in Finland and for both confidence groups in Denmark and Germany, and better for boys than girls.

As with reading, the model better explained the variance of self-confidence in Mathematics for the lowest self-confidence group for all countries of comparison except Poland. On average, explained variance for the lowest self-confidence group was 20% whereas for the highest – 14%.

Table 3 Linear Regression Coefficients of Regression Equations Representing How Students' Self-Confidence in TIMSS2019 was affected by the Selected Independent variables

Independent variable	Self-Confidence group	Denmark	Finland	Germany	Latvia	Lithuania	Poland	Sweden
Instructional clarity	The lowest	0.09	0.01	-0.07	-0.01	-0.02	0.07	0.00
	The highest	0.18	0.13	0.07	0.14	0.13	0.33	0.11
Students like Mathematics	The lowest	0.40	0.42	0.46	0.35	0.55	0.36	0.38
	The highest	0.28	0.31	0.23	0.23	0.27	0.11	0.28
Gender*	The lowest	0.06	0.05	0.10	0.03	0.00	0.03	0.05
	The highest	0.07	0.08	0.10	0.05	-0.02	0.04	0.05
Mathematics achievement	The lowest	0.16	0.16	0.12	0.18	0.24	0.11	0.14
	The highest	0.17	0.11	0.14	0.21	0.23	0.15	0.16
R ²	The lowest	0.22	0.20	0.21	0.15	0.32	0.16	0.15
	The highest	0.17	0.14	0.09	0.13	0.14	0.17	0.12

*Gender – if the value is negative, the girls have a stronger linear relationship, if – positive, the boys have a stronger linear relationship, if the value is equal to zero – boys and girls have an equal effect
All values in the bold are significant.

Achievement in the Mathematics was a significant and strong predictor of 4th grade students' self-confidence in all countries of comparison and both confidence groups. The regression coefficient was larger for the highest self-confidence group students in Denmark, Germany, Latvia, Poland, and Sweden.

The strongest and most significant predictor of self-confidence level was the fact, that students like Mathematics. This variable was stronger for the lowest self-confidence group in all countries of comparison. Regression coefficient in Poland was more than three times larger for the lowest self-confidence group than for the highest.

Results from PISA2012 dataset

Analysis of the PISA2012 Mathematics dataset was summarized in Table 4.

As it was researched and found in other studies, anxiety predicts negatively not only achievement but self-confidence as well (Brumariu et al., 2022). Results of the linear regression analysis in both groups and in all countries of comparison showed negative traits.

Achievement in Mathematics predicted the students' self-confidence significantly in both confidence groups, but in the highest more than in the lowest, except in Finland and Germany where the regression coefficients were slightly higher for the lowest self-confidence group.

Table 4 Linear Regression Coefficients of Regression Equations Representing How Students' Self-Confidence in PISA2012 was affected by the Selected Independent variables

Independent variable	Self-Confidence group	Denmark	Finland	Germany	Latvia	Lithuania	Poland	Sweden
Mathematics Anxiety	The lowest	-0.13	-0.03	-0.13	-0.09	-0.04	0.05	-0.06
	The highest	-0.23	-0.18	-0.07	-0.19	-0.14	-0.12	-0.11
Mathematics Interest	The lowest	0.02	0.22	0.06	0.03	0.18	0.13	0.10
	The highest	0.15	0.12	-0.03	0.03	0.20	0.02	0.14
Mathematics Behavior	The lowest	0.16	0.10	0.06	0.06	0.00	0.06	0.09
	The highest	0.00	0.18	0.18	0.35	0.09	0.29	0.16
Mathematics Teacher's Support	The lowest	0.05	-0.02	0.04	0.19	0.12	0.09	0.16
	The highest	0.07	0.09	0.03	0.10	0.13	0.07	0.07
Gender*	The lowest	0.05	0.12	0.21	0.16	0.08	0.00	0.14
	The highest	0.09	0.18	0.13	0.05	0.23	0.13	0.13
Mathematics Achievement	The lowest	0.19	0.28	0.43	0.20	0.40	0.41	0.33
	The highest	0.34	0.25	0.42	0.29	0.42	0.43	0.38
R ²	The lowest	0.10	0.19	0.30	0.12	0.23	0.17	0.21
	The highest	0.27	0.24	0.22	0.27	0.32	0.33	0.25

*Gender – if the value is negative, the girls have a stronger linear relationship, if – positive, the boys have a stronger linear relationship, if the value is equal to zero – boys and girls have an equal effect
All values in the bold are significant.

Although not all items in the Mathematics behavior scale show students' positive behavior towards the subject, it is not surprising that this variable strongly predicted self-confidence for students in the highest confidence group except in Denmark. Whereas all items in the Mathematics interest scale showed students' positive attitude or enjoyment of the subject, and for this reason, if students in the lowest self-confidence group showed more positive attitudes, their self-confidence was higher. The interest in Mathematics was significant for both groups – the highest and the lowest in Finland and Lithuania, but for the highest group – in Denmark and Sweden, for the lowest – in Poland. In Germany and Latvia this variable was not significant for any of the self-confidence groups.

Mathematics teacher's support was a significant predictor for the lowest self-confidence group students in Latvia and Sweden, but in Lithuania this variable was significant for students in both groups.

Gender was a significant predictor mainly for the students in the highest self-confidence group for all countries of comparison except Latvia. In Finland, Germany and Sweden gender was a significant predictor for both confidence groups. In PISA2012 as in TIMSS2019 boys had stronger linear relationship with confidence than girls.

In contrast with TIMSS2019 linear regression model, this model better explained the variance for the highest self-confidence group students for all countries of comparison except Germany. On average, this model explained 27% of variance for the highest self-confidence group students and 19% – for the lowest.

Results from TIMSS2019 Science dataset

The results from liner regression models with TIMSS2019 Science dataset are displayed in the Table 5.

Table 5 Linear Regression Coefficients of Regression Equations Representing How Students' Self-Confidence in TIMSS2019 was affected by the Selected Independent variables

Independent variable	Self-Confidence group	Denmark	Finland	Germany	Latvia	Lithuania	Poland	Sweden
Instructional clarity	The lowest	0.06	-0.04	-0.13	-0.02	0.00	0.01	0.09
	The highest	0.21	0.08	0.11	0.20	0.19	0.24	0.18
Students like Science	The lowest	0.39	0.41	0.38	0.40	0.42	0.43	0.37
	The highest	0.21	0.32	0.10	0.19	0.23	0.19	0.27
Gender*	The lowest	0.02	-0.01	0.02	-0.03	0.03	-0.01	0.00
	The highest	0.09	0.02	-0.02	-0.03	0.07	0.04	-0.02
Science achievement	The lowest	0.12	0.10	0.06	0.07	0.07	0.06	0.06
	The highest	0.01	0.07	0.01	-0.01	0.07	-0.02	0.06
R ²	The lowest	0.19	0.16	0.13	0.15	0.17	0.19	0.17
	The highest	0.13	0.12	0.03	0.10	0.12	0.13	0.13

*Gender – if the value is negative, the girls have a stronger linear relationship, if – positive, the boys have a stronger linear relationship, if the value is equal to zero – boys and girls have an equal effect
All values in the bold are significant.

In contrast to other linear regression models, Science achievement was significant only for the lowest self-confidence group students in Denmark and Finland, but for all other groups and countries this variable wasn't significant. Gender was not significant for both groups and all countries of comparison except for the highest self-confidence group in Denmark where boys had higher self-confidence than girls.

In the given linear regression model, the most significant and strongest predictor of self-confidence variance was liking the Science. For both confidence groups, especially for the lowest group students, this variable predicted students' self-confidence the most.

As with self-confidence in Mathematics, instructional clarity variable was significant and more related for the highest self-confidence group students.

This model explained on average 17% of 4th grade students Science self-confidence variance for the lowest confidence group and on average 10% of confidence variance for the highest self-confidence group students.

Results from PISA2015 dataset

As it was mentioned in the methodology part, PISA2015 Science was the only dataset that measured self-confidence in self-efficacy scale. In order to get a better insight, the authors added more variables to the linear regression model than for other models. The result of the model is displayed in Table 6.

Although self-efficacy and self-concept are correlated with very high correlation coefficient (Marsh et al., 2004), the results do not display the same patterns as with self-concept scale. Despite 4th grade students' self-confidence was weakly related to Science achievement, PISA study shows the opposite, especially for the lowest confidence group.

Gender was a significant predictor of Science self-efficacy in all countries of comparison for the highest self-confidence group and positive values show that the relationship was stronger for boys. In Lithuania and Poland gender was a significant predictor for the lowest self-confidence group where negative values show that boys had lower self-confidence than girls.

The variable "Index science activities" that represents different activities were students are engaged with science topics including watching TV shows and simulate natural phenomena on computer, was strongly and significantly related to confidence for the highest confidence group in all countries of comparison. Only for the lowest self-confidence group students in Denmark and Poland this variable was not significant.

Enjoyment of science was a significant factor for the lowest self-confidence group students in Finland, Germany, Latvia, Lithuania, and Poland. It might indicate that having fun, liking, enjoying and being happy are very important emotional states for students who have low self-confidence in Science.

The variable "Interest in broad science topics" that represents a concern about broad scientific topics, was strongly and significantly related to self-confidence for the lowest confidence group students. Only in Finland the variable was significant for the highest self-confidence group students. As the value was negative for the highest self-confidence groups it could indicate that students with high self-confidence in Science are not interested in broad science topics, but concentrate more attention to few in particular.

Table 6 Linear Regression Coefficients of Regression Equations Representing How Students' Self-Confidence in PISA2015 was affected by the Selected Independent variables

Independent variable	Self-Confidence group	Denmark	Finland	Germany	Latvia	Lithuania	Poland	Sweden
Inquiry-based science teaching and learning practices	The lowest	0.07	0.05	0.05	0.06	0.09	-0.02	0.08
	The highest	0.07	0.06	0.01	0.04	0.21	-0.06	0.10
Interest in broad science topics	The lowest	0.29	0.20	0.29	0.12	0.15	0.24	0.17
	The highest	0.04	-0.19	-0.06	-0.05	-0.01	-0.06	-0.07
Enjoyment of science	The lowest	0.03	0.12	0.11	0.12	0.09	0.14	0.07
	The highest	-0.03	0.04	0.09	0.05	0.01	0.04	-0.02
Index science activities	The lowest	0.07	0.07	0.13	0.17	0.12	0.04	0.11
	The highest	0.23	0.25	0.22	0.17	0.09	0.17	0.15
Teacher support in science classes of students choice	The lowest	0.06	0.01	0.01	-0.02	0.05	0.03	0.06
	The highest	-0.01	-0.01	0.03	0.12	-0.03	0.08	0.01
Gender*	The lowest	-0.04	-0.05	-0.05	-0.05	-0.07	-0.08	0.00
	The highest	0.10	0.17	0.16	0.09	0.17	0.15	0.19
Science achievement	The lowest	0.22	0.13	0.12	0.11	0.19	0.19	0.07
	The highest	-0.11	-0.04	-0.02	0.01	-0.08	-0.10	-0.16
R ²	The lowest	0.22	0.14	0.20	0.12	0.13	0.15	0.11
	The highest	0.09	0.12	0.10	0.08	0.11	0.07	0.11

*Gender – if the value is negative, the girls have a stronger linear relationship, if – positive, the boys have a stronger linear relationship, if the value is equal to zero – boys and girls have an equal effect
All values in the bold are significant.

Teacher support in science classes of students choice was a significant predictor only for the highest self-confidence group students in Latvia and Poland whereas inquiry-based science teaching and learning practices was a significant predictor only for the lowest self-confidence group students in Latvia and the highest self-confidence group students in Lithuania and Sweden. That could indicate both – either there are no such practices in the classroom for other countries of comparison or this variable is not related with self-confidence and impacts other variables more than confidence.

Conclusions

This study has answered the research question – whether there is a differences between students with low and high self-confidence in terms of: age (grade), gender, enjoyment of studying the subject and other variables, and, if there is a difference which of these factors are more significant to each group. All models better explained the variance of self-confidence for students from the lowest self-confidence group except PISA2012 study where the model explained variance better for the highest self-confidence group.

For both age groups achievement and enjoyment were significant predictors of students' self-confidence. One can say that on average for 4th grade students' interest/enjoyment was more significant than that of 9th grade students, whereas 9th grade students' gender played more significant role than 4th grade students' gender representing dimensional comparison effects. Despite research literature describe that gender stereotypes exist, this study shows that in the highest self-confidence group boys had stronger linear relationship than girls in all studied academic domains.

By comparing the different academic domains, data analysis showed that Mathematics and Science self-confidence for both age groups was more significantly related to interest and enjoyment than reading for both confidence groups.

When comparing different age groups of the same academic domain in both self-confidence groups, the data displayed that reading self-confidence for 4th grade students lowest self-confidence group was more strongly and significantly related with liking/enjoyment to read and achievement in reading than for 9th grade students. In opposite students self-confidence in 9th grades' highest self-confidence group was more strongly related to engagement (feeling of teachers stimulation) in the reading lesson and achievement than 4th grade. The Mathematics self-confidence for 4th grade lowest confidence group students was more significantly and strongly related to the fact that students like Mathematics than 9th grade students having interest in Mathematics or having Mathematics behavior. Achievement in Mathematics was more significant for both 9th grade self-confidence group students than for 4th grade students and more significant and strongly related to self-confidence for the highest confidence group.

To measure self-confidence in Science for 9th grade students self-efficacy scale was used. As this scale consists of different type statements and different Likert type scale, it is not directly comparable with self-confidence measured in self-concept scale, but as other studies have proven – self-concept is strongly related to self-efficacy if measured in the same domain, it was not surprising, that the data analysis showed similar patterns. When comparing different age groups one can see that liking Science is more strongly and significantly related to Science self-confidence for the 4th grade students in the lowest self-confidence group than in the highest and more than in the 9th grade. The achievement in science was more strongly and significantly related to confidence in the 9th grade and for students in the highest confidence group. Instructional clarity and inquiry-based science teaching and learning practices were more strongly correlated with the self-confidence for students from the highest self-confidence group in both age groups.

Grouping 4th grade students first by school and then by country revealed social comparison or Big-Fish-in-Little-Pond effect in TIMSS2019 Science dataset, but not in TIMSS2019 Mathematics dataset.

In conclusion the authors would like to emphasize that this study highlighted the factors that were more significant for students in the lowest self-confidence group. These conclusions can be used in preparation of intervence programs with the aim to support students with low self-confidence.

This study adds theoretical and practical findings to the body of research that is dedicated to better understanding students' self-confidence and the factors that impact it.

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COMPETENCE OF MATHEMATICS OF 4th GRADE STUDENTS OF LATVIA IN INTERNATIONAL COMPARISON

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ABSTRACT

Education in Latvia currently is facing major changes. Learning content is based on a competences-based approach. The competences approach is wide spreading in the curricula of other countries, but each country has a different approach to implementing the competences. Not only in the context of the competences-based approach, but also in the education processes in general, the quality of education is emphasised. The quality of education receives increased attention, including of analyse various aspects – the students' level of knowledge and skills, the professional competence of teachers and principals, the school infrastructure, the evaluation of the education system, etc. In Latvia, the Education Law defines the quality of education, which is similar to the other definitions and explanations of the quality of education that also focuses on the learner acquiring the knowledge and skills, which are required to succeed in life.

In countries where the content of the competences-based approach is implemented learning areas are identified. The breakdown of the learning areas varies from country to country, but the core areas are the same: languages, science, maths and arts. This article will analyse students' mathematics competence to find out which of the skills are better developed, and which of them need further improvement. For that Trends in International Mathematics and Science Study (TIMSS) 2019 data are used, which shows that 4th grade students in Latvia are the 10th best mathematicians in the world, however that does not mean that there are no areas for more development. To become one of the best education systems in the world, it is needed to look for weaknesses and try to reduce them. This article highlights these areas. The aim of this article is to identify the weaknesses of students in Latvia in mathematics competences in TIMSS 2019 and give recommendations what could improve the mathematics competences of students in Latvia and their chances to become better mathematicians.

Keywords: *Competence, Mathematics, Mathematical skills, TIMSS, 4th graders*

Introduction

Today, as automated jobs are on the rise and technology becomes more important in all areas of work and life and also in business sector, social and civic competences

become increasingly important to ensure resilience and adaptability to change, competence requirements have changed (European Union, 2018). In the past it was assumed that a person's life skills were fully acquired at school, but today's rapid developments have led to a change in previous education policies, as students are leaving secondary education with a lack of skills needed for a life of achievement in the world of work and society. As one of the pillars of Sustainable Development, the modern education based on a competence approach was promoted. In the UNESCO Education 2030 Incheon Declaration and Framework for Action the main objective is to set the establishment of a sustainable and inclusive education process in schools which is based on competences approach (UNESCO, 2016). In Latvia a competences-based approach to the curriculum also has been gradually introduced from 2019 until 2023 (Cabinet of Ministers Regulation No. 747, 2018).

The skills needed to succeed in life in the world are changing, and there is a gap between the skills learned in school and the skills needed to function in the workplace and society. Learning, communicating, collaborating and problem-solving in a digital environment requires a wide range of skills. The Skills of 21st Century have been identified by UNESCO, OECD and others as competences required for a sustainable future of the knowledge society (European Commission, 2019; UNESCO, 2012; Ananiadou & Claro, 2009; OECD, 2019; González-Salamanca et al., 2020).

The competences-based approach to learning in the European Union has developed over the last 20 years as a result of policy orientations when it was realised that the skills needed today in the world of work and in society at large were insufficient to achieve the desired goals, because the knowledge we learn at school is insufficient in terms of certain skills that are needed in order to be successful in life. Competences are needed to equip students and adults with the skills they need in a world where change is happening every day, including changes in the society, economics, the world of work and employment, climate change, interculturality and interdependence (UNESCO, 2015). The most important basic competences person needs to learn at the age when person is attending school to succeed in life.

Key competences are a set of knowledge, skills and attitudes that are needed for personal fulfilment and development, employability, social inclusion and active citizenship (European Union, 2018). The 2018 Council recommendation on key competences for lifelong learning defines eight key competences that all learners should acquire: literacy; multilingual; mathematics, science, technology, and engineering; digital; personal, social and learning to learn; citizenship; entrepreneurship; cultural awareness and expression (European Union, 2018).

This article will focus on one of these competences, mathematics competence, which is important not only to be successful in different subjects but also to be able to integrate successfully in today's society by being able to deal with different problem-solving situations. Mathematics competence is the ability to develop and apply mathematical thinking and insight in order to solve a range of problems in everyday situations. Necessary knowledge in mathematics includes a sound knowledge of numbers, measures

and structures, basic operations and basic mathematical presentations, an understanding of mathematical terms and concepts and an awareness of the questions to which mathematics can offer answers (The Council of the European Union, 2018). Possessing the mathematics competence means having the knowledge of, understanding, doing, and using mathematics and having a well-founded opinion about it, in a variety of situations and contexts where mathematics plays or can play a role (Niss & Højgaard, 2019, p. 49).

In accordance with the UNESCO goals – better educational development, skills development, and acquisition, requires the integration of the related disciplines of Science, Technology Engineering, and Mathematics into a single competency-based education, defined as STEM (Educación, U.O. & Ng, 2019). STEM brings together and integrates all these sectors offering opportunities and contributions to the development of each competence but given that the above fields are based on mathematics, not only for doing calculations but also for making estimations, it is necessary to mention that the basis for the development of STEM competences in students is mathematics knowledge at school. A student learns numbers in pre-primary education, numerals and counting in the early stages of primary education but as the numbers increase and the precision required to handle them increases, it is assumed that a solid foundation is laid to develop more complex mathematical problem-solving skills (Gersten, Jordan, & Flojo, 2005).

The main goal of mathematics education today is to develop the knowledge and skills necessary for adult life. Two essential subdomains are the arithmetic fluency (i.e., the ability to add, subtract, multiply, and divide with basic number combinations accurately and quickly) and the mathematical problem-solving (i.e., the ability to apply mathematical knowledge and skills to solve actual or imagined “real life” problems using mathematical notation, text, and/or pictures) (Kaskens et al., 2020). For example, The Programme for International Student Assessment (PISA) is a worldwide study by the Organisation for Economic Co-operation and Development (OECD PISA) defines mathematics competence as an individual’s ability to formulate, apply and interpret mathematical problems in a variety of mathematics in various situations in life; an individual’s ability to mathematically discover causal relationships, apply mathematical concepts, operations, facts to describe, explain and predict phenomena and their the process; the individual’s ability to see the role of mathematics in the world and to make well-founded decisions necessary to be a constructive, engaged and responsible citizen (Geske et al., 2015). The OECD PISA study more focuses on the ability of 15-year-olds to apply their mathematics competences in their lives, in different life situations, while the IEA TIMSS study for 4th grade students focuses more on the curriculum – what students should be able to do (Mullis & Martin, 2017). It is important to stress that the mathematics competence at the primary stage is a key predictor of mathematical and academic achievement (Duncan et al., 2007). Mathematics competence therefore is one of the key factors for a students’ success in later school life. Therefore, **the aim** of this article is to identify the weaknesses of students in Latvia in mathematics competences in TIMSS 2019, as well as to find out what could improve the mathematics competences of students in Latvia and their chances to become better mathematicians.

Methodology

TIMSS 2019 data on mathematics are used in the research. TIMSS 2019 is a good border point to analyse the old curriculum and it might be possible to contrast these outcomes with the ones obtained by students, who are schooling of new curriculum some years later. As a mathematics and science assessment, TIMSS is a valuable resource for monitoring educational effectiveness because science, technology, engineering, and mathematics, often known as STEM, are key curriculum areas (Mullis & Martin, 2017). So here is the comparison between TIMSS framework and Curriculum in Latvia – the old standards and education program (Cabinet of Ministers Regulation No. 468, 2014), which was valid until 2020, and the new standards and education program (Cabinet of Ministers Regulation No. 747, 2018), which entered into force in 2020 (see in table 1.2). TIMSS framework and Curriculum comparison lets us see what our students should know and what not yet and what could change in the future.

For mathematics TIMSS 2019 is organized around two dimensions:

- Content dimension, specifying the subject matter to be assessed;
- Cognitive dimension, specifying the thinking processes to be assessed.

In this research we concentrated on the content dimension. There are 3 content domains (see in Table 1).

Number. Numeracy includes calculating integers, calculating unknowns in simple equations and understanding ratios of quantities. To solve problems students, need to compare, add and subtract common fractions and decimals. **Measurement and geometry.** Measurement – using a ruler to measure length, calculate areas and perimeters for simple polygons, using cubes to measure volume and measuring the properties of lines, angles, and various two-dimensional shapes. Geometry – signing and drawing different geometric shapes and using geometric relationships to solve problems. **Data.** The study uses two types of data tasks – one that involves reading, interpreting and displaying data, and one that involves solving problems using the data. Students are required to read and recognize different forms of data representations – to collect, organize and represent data in graphs and charts to answer simple questions, and to use data from one or more resources to solve problems (Mullis & Martin, 2017; Mihno & Geske, 2020).

The data in the research represented the data of 20013 4th grade students in Latvia who are from different schools. Table 2 shows the percentage of students by type of school, learning language and location of the school.

Table 1 TIMSS 2019 Content Domains in Mathematics for 4th Grade

Content Domains	Percentages of tasks
Number	50%
Measurement and Geometry	30%
Data	20%

Table 2 Distribution of students in Latvia by location of the school, learning language and type of school in the TIMSS 2019 study

Learning language	Percentages of students	School location	Percentages of students	School type	Percentages of students
Latvian	70.13	Rural	24.24	Basic	24.47
Russian	25.72	Cities	43.22	Elementary	9.05
Mixed	4.15	Riga	32.54	Secondary	66.48

The aim of this research was to understand what kind of content tasks are a problem for students in Latvia. In this research tasks are detected, which are less completely answered. For that, were used human-coded items, split them by content. Student answers to these items were recoded – correct, partially correct, and incorrect answers. In the end results were calculated on how many students in Latvia did these tasks correctly and incorrectly.

Results

Table 3 shows a comparison of the old curriculum in Latvia valid from 2014–2020, the new curriculum in Latvia valid from 2020, and the TIMSS framework by topic area in the mathematics content domains.

Table 3 Comparison of the old curriculum in Latvia valid from 2014–2020, the new curriculum in Latvia valid from 2020 and the TIMSS 2019 framework

Topic areas	Timss 2019	Curriculum in Latvia valid from 2014–2020	Differences from previous curriculum in new curriculum in latvia valid from 2020
Mathematics content domains: Number 50%			
<i>Whole numbers (25%)</i>	Calculates with whole numbers of reasonable size, uses calculations to solve problems. Representing whole numbers with words, diagrams, number lines, symbols. Adds, subtracts, multiplies and divides (certain digit numbers). Determines even and odd numbers, knows how to round and combine numbers.	Until the beginning of the 2nd semester of the 4th grade calculates with whole numbers of reasonable size (up to four-digit numbers), uses calculations to solve problems. Represents whole numbers with words, diagrams, number lines, symbols. Adds, subtracts, multiplies and divides (certain digit numbers). Determines even and odd numbers. Only in the 5th grade learns how to round whole numbers.	In the 3rd grade rounds measurements to the nearest tens of centimetres, but do not yet learn the formal rules of rounding. Only in the 5th grade learns how to round whole numbers.
<i>Expressions, simple equations, and relationships (15%)</i>	Understands the concept of variables (unknowns) in simple equations.	Understands the concept of variables (unknowns) in simple equations as $15 + t = 70$.	

Topic areas	Timss 2019	Curriculum in Latvia valid from 2014–2020	Differences from previous curriculum in new curriculum in Latvia valid from 2020
<i>Fractions and decimals (10%)</i>	Compares, adds, and subtracts fractions and decimals (with denominators – 2, 3, 4, 5, 6, 8, 10, 12, 100)	Compares unit fractions (with numerator – 1). Calculates unit fraction of whole numbers. Using decimals can read a price written in decimal form. Only in 5th grade learns how to add, subtract fractions with other numerators than 1 and decimals.	In the 2nd grade: Reads and compares amount of money using decimals. In the 3rd grade: Determines (shows, marks, separates) a certain fraction of a geometric figure. Determines (shows in the model, draws) the whole, if a fraction of it is given. Determines what fraction of the whole is given. Can read and write the fraction (the denominator has a single digit number or 10). Uses number line to show the fraction. Reads tenths and hundredths written in decimal form. In the second semester of the 4th grade: Compares fractions (denominators up to 10), adds, and subtracts fractions with the same denominators). In the 5th grade compares, adds, and subtracts decimals.
Mathematics content domains: Measurement and Geometry 30%			
<i>Measurement (15%)</i>	Measure with a ruler, estimate the lengths. Calculations with mass, volume and time, determine types and sizes of units, read weights. Calculates the perimeter of polygons, the area of rectangles, determines the shape of areas.	Measure with a ruler, estimate the lengths. Calculations with mass, volume and time, determine types and sizes of units, read weights. Calculates the perimeter of polygons. In the second semester of the 4th grade calculates the area of rectangles.	In the 2nd grade starts to use concept “area”, in the 3rd grade calculates the area of rectangles using squares and boxes. Only at the end of 4th grade uses area units such as square centimetres, meters and others.
<i>Geometry (15%)</i>	Determines and draws parallel and perpendicular lines, draws right angles and compares them. Describes and compares circles, triangles, quadrilaterals and other polygons. Describes and compares cubes, cones, rectangular solids, cylinders, and spheres.	Draws right angles and compares them. Recognizes, draws and makes measurements to calculate perimeter of triangles, quadrilaterals and other polygons. Recognizes and draws circles. Recognizes cubes, cylinders, and spheres. Only in the 6th grade determines and draws parallel and perpendicular lines, in 5th grade recognizes rectangular parallelepiped, in 9th grade – cone.	In the first semester of the 4th grade determines and draws parallel and perpendicular lines on checkered sheet, recognizes rectangular parallelepiped. In the 3rd grade recognizes and makes cones.

Topic areas	Timss 2019	Curriculum in Latvia valid from 2014–2020	Differences from previous curriculum in new curriculum in latvia valid from 2020
Mathematics content domains: Data 20%			
<i>Reading, interpreting, and representing data (15%)</i>	Reads, organizes and displays data from tables and certain charts.	Reads, organises and displays data from tables and certain charts. Only in the 5th grade draws charts.	In the 2nd grade draws simple charts. Draws bar charts in the 4th grade, pie charts in the 5th grade.
<i>Using data to solve problems (5%)</i>	Solves problems and performs calculations using data, combines data, draws conclusions based on existing data.	Solves problems and performs calculations using data, combines data, draws conclusions based on existing data.	

The table above shows that the TIMSS measure is broadly in line with the content of the curriculum in Latvia, but there are some topics and skills that students in Latvia learn later than TIMSS research takes place, such as operations with fractions and decimals, calculation of the area of a rectangle using area units, rounding whole numbers, etc. And that does not change in the new curriculum. However new curriculum provides that students will sooner learn how to draw bar charts, parallel and perpendicular lines and determine fractions, which is being tested in TIMSS.

Following the methodology described above, calculations were carried out and frequency tables were created which further allowed the creation of the corresponding diagrams to be discussed in this chapter.

In total, 3 charts were created – Numbers, Measurements and Geometry and Data.

In the diagrams each bar represents a sub-domain group of tasks. In all diagrams the proportion of students who were able to complete the sub-domain tasks correctly, that were allocated to that specific student, is coloured green. The grey shading represents the proportion of students who were only partially able to complete the tasks, and the red shading represents the proportion of students who were not able to complete the tasks according to the task conditions.

As can be seen (see Figure 1), problems involving integers and their computation are those that more than 50% of students in Latvia were able to solve correctly. The most difficult problems are tasks with fractions which only 18% of students in Latvia could solve correctly.

In Measurement and Geometry the most challenging problems were related to measurement and length problems (36% of students solved correctly). In Geometrics the most challenging problems were those related to parallelism, perpendicularity and angles (solved correctly by 33% of students) (see Figure 2).

In the Data tasks, the tasks that involved using data to solve problems (36% of students correctly solved) and reading data to answer questions (35% of students correctly solved) were the least likely to be solved correctly (see Figure 3).

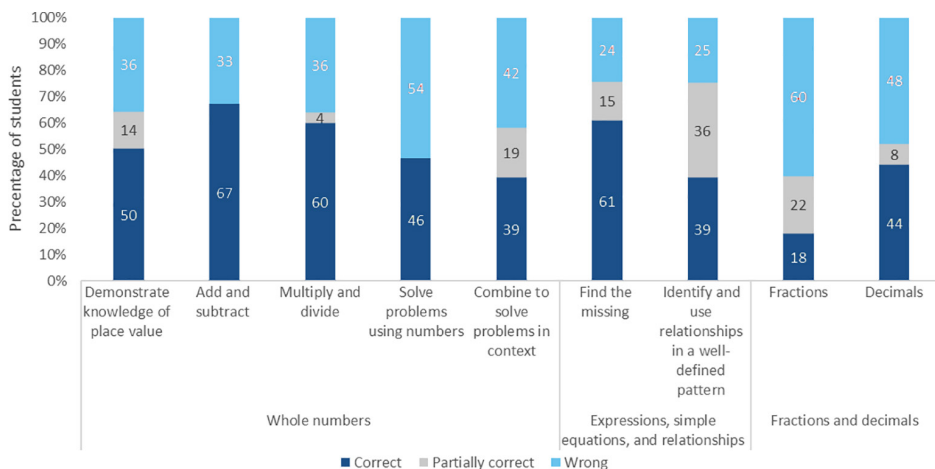


Figure 1 Numbers

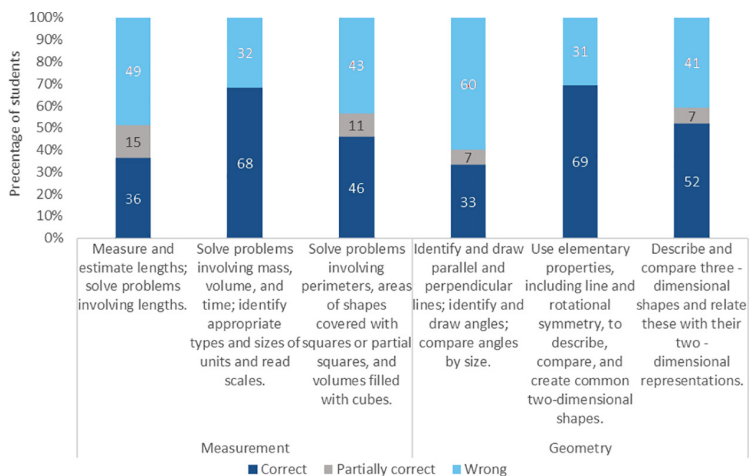


Figure 2 Measurements and Geometry

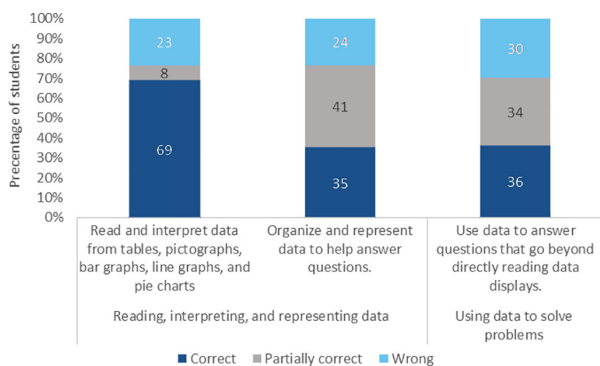


Figure 3 Data

Discussion

Before the data analysis it was important to find other possible factors, that could influence results. Data show that students from schools with Russian learning language have higher results in all domains than students from schools with Latvian learning language and these results are statistically significant at the 95% confidence level. Students from schools in Riga showed higher results than other students, and students from Basic schools had lower results than students from Elementary schools and Secondary schools and these results are statistically significant at the 95% confidence level. The percentage of students with Russian as their language of instruction is much higher in urban schools – 65% – and lowest in rural schools – 15%. The highest percentage of students with Latvian as their language of instruction (48%) is in urban schools, while the lowest percentage is in Riga – 23%, which could explain the differences.

Number

As shown in Figure 1, Fractions and Decimals are the one of the hardest tasks for students in Latvia. One reason could be the fact that selected students learn fractions and decimals later – in the next grades. As it can be seen, the new curriculum in Latvia introduces decimals and fractions earlier than they were taught in the previous curriculum, although the most operations with fractions and decimals will still be taught later than TIMSS research takes place. That provides us with a small evidence-based optimism for the future that kids in future could be better in tasks related to fractions and decimals, but still there is a gap between TIMSS framework and curriculum in Latvia.

Other tasks where students in Latvia have problems are problem-solving tasks. One of the reasons could be the fact that the old curriculum was more based on standard problem solving. Teachers showed examples of how to solve a task, and students mostly demonstrated skills to use this exact algorithm to solve similar tasks. The new curriculum is based on the problem solving, where students need to use and develop these skills in all subjects. For problem solving we need students to develop their reading skills. Students need to be able to read to solve problem-solving tasks, and they also need to have a deep understanding of text and language to solve more complex tasks, so mathematics competence is also closely linked to reading and literacy (Pagani et al., 2010; Blair & Raver, 2014; Duncan et al., 2007). Reading is an essential skill that is needed to solve problem solving tasks, if the student does not understand what is written there, he could not solve this task. The other thing that students need is to do more unfamiliar tasks, like tasks, where they need to use their skills, but what is different from what the teacher has shown before. But before starting to use this, there is a need to show students different strategies and algorithms, that could help them to solve a wide range of complex problems.

Measurements and Geometry

There are problems related to tasks, where students should use measurements for problem solving, or tasks where they need to use knowledge in geometry, such as angles, perpendicular and parallel lines. The reason for this could be the fact, that most of

the students till the fourth grade did not use geometry so much, mostly it was related to some figures and their perimeter. According to the old curriculum students got to know perpendicular and parallel lines only in 6th grade, but the new curriculum provides, that students determine and draw parallel and perpendicular lines on checkered sheet in the first semester of the 4th grade – before TIMSS takes place. Therefore, it is possible to also have better results in this area in future.

Data

As it can be seen, reading and interpreting data is not such a huge problem for students in Latvia, however the biggest problem is using these data for problem solving. As mentioned above, reading literacy is essential for success in problem-solving tasks. Reading literacy is an important basic life skill that influences much of students' achievement in other areas, such as financial literacy (Mihno, 2022; Jappelli & Padula, 2013; Kalmi & Ruuskanen, 2018; OECD, 2014; Riitsalu & Poder, 2016). It is therefore essential to develop it to promote achievement in other areas.

So, to improve mathematics competence of students in Latvia, teachers and parents need to cooperate to improve students' reading skills. That means that reading should take an important part in the everyday learning process in every school, every class, and every lesson (Yang et al., 2021), reading skills are also closely linked to literacy and learning in general (Gutierrez de Blume et al., 2021). It is not just language teachers' responsibility, but also schools, families and all of society are responsible for enhancing students reading habits. We can start just with reading activities, just a few minutes per day, and eventually give them more and more. It is important to show students that they can read different kinds of books, not just what teachers give (Yang et al., 2021). We need to make our libraries more interesting for teenagers and youngsters (Balan et al., 2019), not just for kids and adults. It is so important that after reading students can talk about books, stories, or articles, to see what students are reading and how they are understanding it. That could help to improve problem solving skills – to listen to others, to let to hear out other opinions and to discuss that (Yang et al., 2021). In addition, skilled readers are able to create a text that expresses a deeper understanding of what they have read, not just a retelling of the text (Gutierrez de Blume et al., 2021). And the third thing is basic skills in each subject, which is so important not only for that subject, but for other subject problem solving as well. So, we need our kids to be the best in math basics and to do easy tasks very fast that will help them use their knowledges to solve huge problems faster.

Conclusions

The biggest problem areas for students in Latvia are tasks, which include fractions, decimals, angles, parallel and perpendicular lines, which can be explained by the fact that these subjects were taught later (mostly at the end of 4th grade or even in 5th or 6th grade), because of the old curriculum these students studied. Based on the new curriculum there is hope, that after some years our students will do these kinds of tasks better than students

in 2019, because they will at least have some basic knowledge and skills in those subjects. The next problem area for students in Latvia is problem solving, that probably is the most important thing to improve. It is more than necessary to use knowledge in different situations rather than just knowing something. Often students do not even try to understand the problem what needs solving. They see more than two sentences and they do not have the necessary skills to understand the given problem. Sometimes there is no desire to solve it or, as the research shows, they feel anxiety while doing complicated tasks, because of the length of the task. It is particularly important to improve reading skills and to encourage students to read, so they can not only start, but successfully finish given tasks.

Hence to improve mathematics competencies of students in Latvia the first need is to make reading as a trend, what everyone wants to do, and show how interesting that is. Second, we need to make reading as a live activity, meaning that we do not just read, but discuss and reflect reading. The third need is to teach basics in every subject, so students know them very well to quickly use them in different situations.

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SCHOOL SOCIOECONOMIC SEGREGATION IN BALTIC SEA COUNTRIES

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ABSTRACT

School socioeconomic segregation has an impact on students' academic performance and affects equity in education. This study aims to evaluate socioeconomic segregation in schools and its changes in the previous decades, using data obtained from international large-scale assessments (ILSA). In this study, data from eight European Union (EU) countries bordering the Baltic Sea (i.e. Latvia, Estonia, Lithuania, Denmark, Sweden, Finland, Poland and Germany) were analysed. Data from two International Association for the Evaluation of Educational Achievement (IEA) studies, i.e. Trends in International Mathematics and Science Study (TIMSS) 2015 & 2019 (Grade 4), and International Civic and Citizenship Education Study (ICCS) 2009 & 2016 (Grade 8), and data obtained from 7 cycles (2000 to 2018) of Organization for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA) were used for the analysis.

School segregation was assessed by calculating Dissimilarity Index. In each country, students in the highest 10% of socioeconomic status (SES) of their families and in the lowest 10% of SES of their families were examined. These two groups accordingly had the highest and the lowest achievements in students' tests in each country.

The obtained results show that the highest school segregation can be observed in Germany, Lithuania, Poland, but the lowest – in Finland and Sweden. The authors conclude that there is no significant decrease in segregation in the previous two decades, which would promote equal education opportunities. OECD PISA 2018 results show that in Estonia, Latvia, Lithuania and Poland highest segregation for low SES group is in large cities, but for the high SES group – in rural areas. The causes of school segregation might be explained as – (1) high SES students reluctance to (or parents preference not to) attend small schools, (2) exclusion (e.g. through entrance exams) of low SES students from schools in large cities.

Keywords: PISA, ICCS, TIMSS, socioeconomic segregation, the Dissimilarity Index

Introduction

Latvia is one of the Baltic Sea region countries outlined in this study as Latvia is opening a new chapter in education by reorganising the school network and introducing

the new education curriculum. Latvia is aiming for better and more successful education system, that provides equal educational opportunities to all members of society, regardless their financial situation or geographical location, therefore it is important to analyse tendencies in Latvia and Baltic Sea region countries in order to make an evidence based decisions and learn from different education systems.

The successful education system, which provides equal educational opportunities to all members of society is the basis of a society with high human capital. Technological progress demands highly qualified, talented professionals, and that promotes the need to rise human capital, which is undeniably related to one's education, as the school system can be a crucial determinant of a country's economic performance (Henrecson & Wennström, 2022).

Social and economic welfare, especially for countries with low industrial potential and few natural resources highly depends on educated human resources, which could provide an economic return by lowering unemployment and increasing the earning rates. Previous studies show that long-term human capital productivity gains from the quality rather than the quantity component of human capital (Égert et al., 2022) – which is especially crucial for countries with small population rates. A highly educated society also has non-economic benefits such as health improvement, higher civic participation, increased overall happiness, and what's more important – it promotes the education of the next generation (OECD, 2001).

Unfortunately, educationally disadvantaged parents tend to pass down their low education level to their children, and students with low socioeconomic status (SES) are likely to cluster in schools with similarly disadvantaged peers (Publications Office of the European Union, 2022). Students from low socioeconomic families struggle to get out of the vicious circle of poverty and poor education, as they tend to gain lower education levels and drop out of education institutions in earlier stages of education than their peers (UNESCO, 2017; Sciancalepore, 2017; Winding & Andersen, 2015; Kearney & Levine 2016).

The majority of urban communities have higher incomes than rural communities therefore students in rural areas can easily become trapped in a life in poverty (Awang et al., 2021) and often face economic despair. Schools with high SES can become the first place where students from low SES backgrounds can interact with students from high SES backgrounds to develop their social elasticity, fulfill their own potential and to make the first steps in breaking the vicious circle of poverty. Schools with high SES might serve as a first place of socioeconomic integration for students from low SES backgrounds. Yet it is not uncommon that schools' SES level is set by its location (OECD, 2018). In the context of equity in education, this should be changed as all students regardless of their background have rights to access high quality education.

This study focuses on evaluating equity in education by taking into account students' socioeconomic status. Previous studies confirm that poverty has a negative impact on students' academic performance (Betancur et al., 2018; Galindo & Sonnenschein, 2015; Karklina, 2013). Students in rural areas are more likely to come from low-income families

and show lower academic performance rates in international large-scale assessments (ILSA). Students living in urban areas are having the urban advantage to access better resources in terms of infrastructure, proximity to services, higher family income and better overall education opportunities yet all this applies to students from wealthier families, leaving students from poorer urban families in disadvantaged position causing so-called “urban paradox” (Unicef, 2019; OECD, 2013).

Although the urban advantage varies across countries, in the context of education it has proven to be true: urban students have greater access to high-quality education and overall they tend to outperform their rural peers (Geske et al., 2022; OECD, 2016, 2017, 2020; Karklina, 2013). Economic inequity without a doubt is the main cause of residential segregation by income and it does have a negative effect on the funding of schools. Low-income families can provide less funding than high-income families (Kearney & Levine 2016) which partially explains the school segregation.

In all three studies i. e. Organization for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA), International Association for the Evaluation of Educational Achievement (IEA) Trends in International Mathematics and Science Study (TIMSS) and IEA International Civic and Citizenship Education Study (ICCS) which forms the methodological basis of this study, students’ socioeconomic status (SES) tend to show an influence on students’ academic performance (Mullis et al., 2020; Schulz, et al., 2018; Geske et al., 2015). Students’ families’ socioeconomic status is an aspect that cannot be easily changed in the context of the improvement of education quality, yet there is another aspect that has an impact on students’ academic performance – the school’s socioeconomic status.

In contrast with students’ SES, school’s SES can be changed by changing the composition of students in school. According to OECD PISA results, in the case of Latvia, student academic performance is more affected by school’s SES than by students’ family’s SES (Geske et al., 2015; Geske et al., 2020). Similar results were obtained in ILSA studies outside the methodological scope of this study, i.e., in IEA International Computer and Information Literacy Study (ICILS) 2018 and in The Progress in International Reading Literacy Study (PIRLS) 2016 where school SES served as a positive predictor of student achievement for the majority of participating countries (Schulz et al., 2018; Mullis et al., 2017).

Although there has been an ambiguity about the school’s socioeconomic status measures as, firstly, there is no clear definition of SES, secondly, SES measures are based on a limited age group or grade and therefore might not represent the full school’s socioeconomic profile (Avvisati, 2020) it still remains a great predictor for students’ academic performance. There is no doubt that high-performing students are important for a country’s economic development, yet OECD PISA and especially IEA International Civic and Citizenship Education Study (ICCS) results show that Latvia struggles to break out of average student performance and to reach the highest levels in international large – scale assessments (Geske et al., 2015; Cekse 2021, 2022; OECD, 2019d). An exception in the case of Latvia is the IEA Trends in International Mathematics and Science Study (TIMSS), where students tend to show results that are above the average performance

(Mullis, et al., 2020, Mihno & Geske, 2020), but the number of students that reaches top level performance still remains low.

Methodology

In order to obtain the results quantitative research design was used. The authors used descriptive research design in order to reach the main aim of this study: to evaluate school socioeconomic segregation and its changes in the previous decades, using data obtained from international large-scale assessments in education in order to determine changes in school segregation of Baltic Sea countries during the last decade.

Several methods and criteria can be applied for distinguishing socioeconomic status groups. E.g., considering parents' education where one group consists of students whose parents have only primary education, and the other – students, whose parents have higher education (Bartholo, 2013). If SES scales are available, as it is in the case of ILSA studies, then a certain size group can be distinguished at the top and at the bottom of the scale.

In this study two different student groups were analysed. One group combines 10% of students from families with high SES (i.e. high SES group), and the other – 10% with low SES (i.e. low SES group). Groups of 25% students are allocated relatively more often than the groups of 10% (OECD, 2019c; OECD, 2022; Martínez-Garrido et al., 2020), but in this study a 10% groups with the highest and lowest students family's SES levels were used. Students from these two groups accordingly have the highest and the lowest achievement levels in student tests (Geske et al., 2015).

Data from two ILSA studies – TIMSS 2015 & 2019 (Grade 4), two cycles of ICCS 2009 & 2016 (Grade 8) as well as the seven cycles of OECD PISA (2000 to 2018) of EU countries bordering the Baltic Sea, who participated in these studies were used. The choice of countries was justified by their geographical proximity and mutual historical interaction that have influenced the development of education systems, including the education system of Latvia.

In order to determine students' SES, the specific indices for determining the socioeconomic status in each study were used, e. i., in IEA TIMSS – Home Resources for Learning Scale (Martin et al., 2020), IEA ICCS – National Index of Students' Socioeconomic Background (Schulz et al., 2017), OECD PISA – Index of Economic, Social and Cultural Status (OECD, 2019d).

Figure 1 show that the average students' SES has a significant effect on the school's average test scores. Data on the horizontal axis represents the particular SES group. In OECD PISA each school is divided into 10 similar groups according to students' SES. In OECD PISA students' SES is assessed by the Index of Economic, Social and Cultural status (ESCS). Group 1 aggregates schools with lowest SES, and Group 10 aggregates schools with the highest SES. Data on the vertical axis represents the average Science Literacy achievements of the particular school group. Only three of the considered countries (Estonia, Finland, and Latvia), have less than 100 points achievement gap between the first and the tenth school group. The largest gap differences are in Germany (189 points) and Lithuania (148 points).

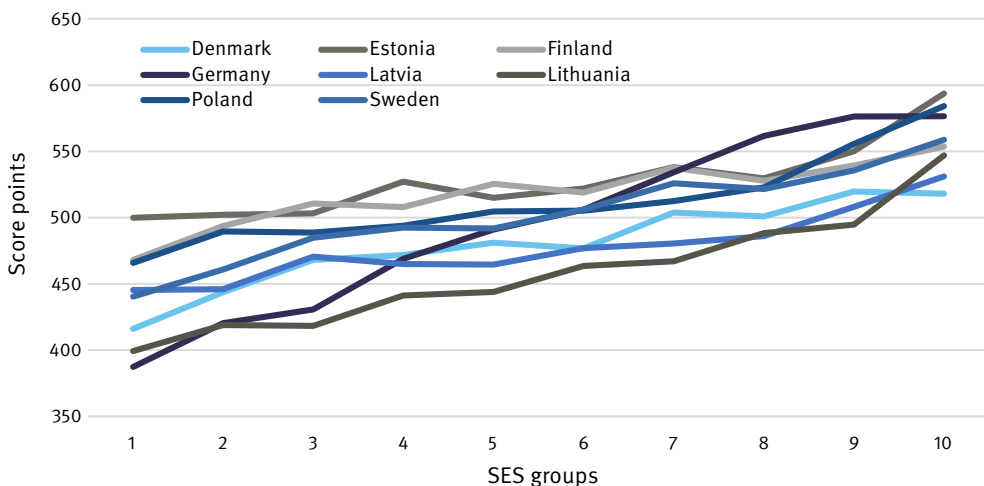


Figure 1 Schools' average SES impact on schools' average achievements in Science Literacy

For school segregation assessment a various indices can be used – e.g., Dissimilarity Index (DI), Isolation Index, Diversity Index, and Segregation Index. Each of them has a slightly different interpretation, but the inter-correlation between them is relatively high (Martínez-Garrido et al., 2020; OECD, 2019c), therefore the most common measure of segregation, Dissimilarity Index (DI), was used in this study.

Segregation indices measure the extent to which the actual distribution of a group of students across schools differs from the random distribution of the same group of students across different schools. It examines two student groups and compares their proportions. The current study examines two different cases – (1) one group allocates students from low SES families and the other group allocates all other students; (2) one group allocates students from high SES families and the other group – all other students. In both cases, the calculation procedures remain the same with a difference in data.

For the group of low SES students, the DI is calculated as seen in (1) : n_i^a is the number of students in a school i from families with low SES, and N^a is the number of students in the entire sample with m schools. n_i^b is the number of other students in school i and N^b is the number of other students in all sampled schools combined (OECD, 2019c).

$$D = \frac{1}{2} \sum_{i=1}^m \left| \frac{n_i^a}{N^a} - \frac{n_i^b}{N^b} \right| \quad (1)$$

If the number of low SES group in each school is proportional to the number of low SES students in the country, then the dissimilarity index will be $D = 0$. The index will be at its peak if low SES group only attend schools with no other than low SES students.

The index can be interpreted as the proportion of students who would have to be transferred to other schools so that their distribution in schools is proportional to the distribution in the country. For example, $D = 0.40$ indicates that to achieve equal distribution 40% of students from one or the other group should be transferred to other schools.

Results

The DI obtained in ICCS for high SES group (see Table 1) is higher than for the low SES group. For all countries, DI values for the high SES group are close – from 0.54 to 0.56, with the exception of Latvia. In Latvia, the DI of this group is lower than in other countries and is even lower in comparison with the low SES group.

From 2009 to 2016, the DI for the high SES group in all countries included in this study hasn't changed significantly, with the exception of Latvia, where DI has increased, what means that only 62% of schools are attended by students from the group with the 10% highest SES. The DI of the low SES group in all countries included in this study also didn't show a significant change, with an exception of Denmark where it has slightly increased.

IEA ICCS 2016 Latvia's data was analysed in relation to school location (rural school or urban school) and school size (up to 300 students, from 300 to 600 students and above 600 students). In Latvian schools higher DI for high SES students are in rural school group (0.43), as well as in small schools (0.51). For low SES students, the situation is the opposite: higher DI is in urban schools (0.52) and in large schools (0.47).

OECD PISA offers greater options for data analyses as this study covers almost two decades (see Table 2). This study takes place every 3 years. Latvia as the majority in Baltic Sea region countries has taken part in each OECD PISA cycle starting from 2000 to 2018 – which covers seven study cycles, with the exception of only two countries: Estonia and Lithuania which joined this study in 2006.

Table 1 SES Dissimilarity Index of countries bordering the Baltic Sea in IEA ICCS and IEA TIMSS

Country/Year	ICCS		Country/Year	TIMSS	
	Low SES	High SES		Low SES	High SES
BCP 2009	0.38	0.55	DNK 2015	0.48	0.41
DNK 2016	0.43	0.55	DNK 2019	0.44	0.41
EST 2009	0.42	0.55	FIN 2015	0.36	0.31
EST 2016	0.44	0.55	FIN 2019	0.35	0.36
FIN 2009	0.40	0.55	DEU 2015	0.53	0.52
FIN 2016	0.40	0.55	DEU 2019	0.50	0.53
LTU 2009	0.50	0.56	LTU 2015	0.52	0.44
LTU 2016	0.49	0.55	LTU 2019	0.57	0.54
LVA 2009	0.47	0.39	LVA 2015	...	...
LVA 2016	0.48	0.45	LVA 2019	0.48	0.40
SWE 2009	0.42	0.55	POL 2015	0.38	0.41
SWE 2016	0.42	0.54	POL 2019	0.43	0.38
			SWE 2015	0.51	0.36
			SWE 2019	0.46	0.42

Table 2 SES Dissimilarity Index of countries bordering the Baltic Sea in OECD PISA

Year	Low SES	High SES	Low SES	High SES	Low SES	High SES	Low SES	High SES
	DNK	DNK	EST	EST	FIN	FIN	DEU	DEU
2000	0.40	0.42	...	...	0.34	0.38	0.47	0.49
2003	0.40	0.46	...	...	0.32	0.37	0.50	0.55
2006	0.37	0.41	0.41	0.37	0.34	0.37	0.52	0.49
2009	0.44	0.55	0.39	0.36	0.32	0.39	0.50	0.51
2012	0.46	0.42	0.40	0.40	0.35	0.35	0.48	0.48
2015	0.44	0.44	0.42	0.43	0.32	0.32	0.46	0.51
2018	0.45	0.39	0.41	0.42	0.33	0.39	0.51	0.50
	LTU	LTU	LVA	LVA	POL	POL	SWE	SWE
2000	...	...	0.39	0.40	0.42	0.55	0.32	0.38
2003	...	...	0.43	0.42	0.44	0.46	0.37	0.38
2006	0.45	0.45	0.43	0.38	0.44	0.49	0.35	0.42
2009	0.45	0.45	0.43	0.43	0.42	0.55	0.38	0.41
2012	0.47	0.45	0.49	0.46	0.44	0.48	0.38	0.40
2015	0.48	0.40	0.45	0.43	0.39	0.41	0.36	0.38
2018	0.47	0.45	0.47	0.43	0.38	0.47	0.38	0.38

On average, over the whole seven study cycles Germany, Lithuania and Poland show the highest DI in OECD PISA.

As expected, the lowest DI are in Finland and Sweden, where the DI for high SES groups are slightly higher than for the low SES groups.

Analysing the changes in DI over the years, data show that for the high SES group DI has increased in Estonia, for the low SES group DI has increased in Denmark, Lithuania and Sweden, but in case of Latvia the DI has increased for both – low and high SES groups. Out of all Baltic Sea region countries only Poland show the decrease of DI and no significant changes in DI are present in Finland and Germany.

The causes of segregation can be identified by analysing separate school layers. Table 3 shows the DI of schools located in settlements with different population size in OECD PISA 2018 study. Analysing the low SES group, in all countries except Germany, in large cities the DI is higher than in rural areas and small towns. The exact opposite can be observed in high SES group. In most countries, DI in large cities is smaller than in rural areas and small towns with the exception of Denmark, Finland and Germany. Very large differences can be observed in Estonia, Latvia and Lithuania. These differences can be explained by the student composition differences in rural areas and in the large cities. In rural areas there are smaller percentage of students from the high SES group and significantly larger from the low SES group. The exception is Denmark, where the distribution is roughly equal. Especially high DI in the high SES group in rural areas can be observed in Estonia, Latvia, Lithuania and Poland.

Table 3 SES Dissimilarity Index of schools in different settlements and countries in OECD PISA 2018

	Low SES	High SES	Low SES	High SES	Low SES	High SES	Low SES	High SES
	DNK	DNK	EST	EST	FIN	FIN	DEU	DEU
A village	0.36	0.40	0.42	0.53	0.19	0.35	...	...
A small town	0.49	0.29	0.33	0.39	0.29	0.43	0.56	0.45
A town	0.50	0.42	0.33	0.39	0.49	0.60	0.50	0.46
A city	0.41	0.39	0.47	0.34	0.42	0.35	0.56	0.50
	LTU	LTU	LVA	LVA	POL	POL	SWE	SWE
A village	0.34	0.65	0.38	0.69	0.33	0.56	...	...
A small town	0.33	0.35	0.34	0.41	0.28	0.41	...	...
A town	0.47	0.37	0.44	0.38	0.36	0.39	...	...
A city	0.48	0.41	0.52	0.37	0.43	0.45	...	...

A village – population size is than 3000; a small town – population size 3000 to 15000; a town – population size 15000 to ~ 100000; a city – population size above 100 000.

Table 4 SES Dissimilarity index of countries' schools with different number of students in OECD PISA 2018

School size	Low SES	High SES	Low SES	High SES	Low SES	High SES	Low SES	High SES
	DNK	DNK	EST	EST	FIN	FIN	DEU	DEU
Small	0.48	0.52	0.41	0.60	0.12	0.13	0.37	0.75
Medium	0.44	0.39	0.37	0.40	0.26	0.34	0.46	0.67
Large	0.47	0.32	0.41	0.38	0.34	0.40	0.54	0.43
	LTU	LTU	LVA	LVA	POL	POL	SWE	SWE
Small	0.39	0.71	0.42	0.57	0.44	0.55	...	...
Medium	0.35	0.40	0.37	0.37	0.35	0.56	...	...
Large	0.44	0.39	0.53	0.40	0.36	0.40	...	...

Note: A small school – number of 9th Grade students is less than 30, average school – number of 9th Grade students varies from 30 to 60, large school – number of 9th Grade students is above 60.

Similar results can be obtained when analysing data by the school size. For the purpose of data analysis 9th Grade students were split into three groups according to the number of 9th Grade students in school – up to 30 students; from 30 to 60 and above 60. 9th Grade is the modal grade in OECD PISA study, i. e., in PISA mainly 9th Grade students are represented.

The results of division by school size overlap with the results of urbanization, because small schools are mainly located in rural areas, nevertheless data analysis also show some dissimilarities. The first dissimilarity can be found in the data obtained from Finland where low, and the lowest DI (0.13) are common in small schools, but in large schools DI is three times higher (0.34 and 0.40). In other Baltic Sea region countries, the highest DI in high SES group is common in small schools (from 0.52 to 0.75), but in low SES group – in large schools (from 0.37 to 0.48) (see Table 4).

Discussion

IEA ICCS data show that in Latvian schools higher DI for high SES students are in rural school group and in small schools, but for low SES students: higher DI is in urban schools and in large schools. Differences in DI in Latvian urban/non-urban and large/small schools can be explained by different amount of students in each low and high SES group. E.g. urban schools have only 5% low SES group, but in non-urban schools – 6% high SES group. The time span between the TIMSS studies is shorter than between the ICCS studies (see Table 1). Therefore, it could be expected, that the changes in DI are smaller, however, for the high SES group this assumption was confirmed only in Denmark, Germany, and Poland, and for low SES group – in Finland and Germany. There is no general trend of increasing or decreasing DI in all countries included in this study. DI has significantly increased only in Lithuania. In other countries, smaller changes have been observed. In order to make detailed conclusions an in-depth study for each country and its education system is needed.

Similar DI calculations as for this study (for 10% groups) based on OECD PISA were made for the United Kingdom schools (Martínez-Garrido et al., 2020). For the low SES group, from 2000 to 2015, DI ranged from 0.36 to 0.43 without a definite trend. Obtained results for Baltic Sea region countries doesn't show a significant difference between the results that were obtained in the study carried out by Martínez-Garrido, Siddiqui and Gorard.

The major concern in the context of segregation is segregation of rural schools, which can be a significant factor for students' low academic achievements. High socioeconomic discrimination of rural schools puts rural schools in a very unfavourable position. This is mainly due to the fact that students' achievements are largely linked to both the family's SES and school's average SES (see Figure 1). Previous studies show that if there are no or few students from high SES families, the average achievements of the whole class significantly reduces (Johansone, 2009). In Latvia and Lithuania only 25% of rural schools have students with high SES, in Estonia percentage is a little bit higher – 35%. The described situation is quite different in Finland and Denmark – in both Scandinavian countries 70% of rural schools have students with high SES. Segregation of rural schools may occur due to a high SES students' or their parents' decision not to attend small rural schools. It should also be noted that in Latvia there is relatively small number of high SES families that are located in rural areas.

Segregation in urban schools could be caused by school division according to students' academic performance. Better chances to enter high-performance schools, e.g., gymnasiums are more likely for students from high SES families. For students from low SES families entering high performing schools can be quite challenging. In the context of equity in education, this should be changed as all students regardless of their background have rights to access high quality education.

Previous studies also show, that schools with low school's SES and with high concentration of disadvantaged students also are having difficulties providing highly qualified,

experienced and effective teachers (OECD, 2019a). Highly qualified teachers tend to prefer schools with academically more advanced students (Pop-Eleches & Urquiola, 2013), but less experienced teachers at the beginning of their teaching career choose to work in schools with denser concentrations of disadvantaged students (OECD, 2019b). The lack of equally qualified teachers throughout the whole school network might be another reason that explains school segregation, leading to low or average student academic performance. In latest years some countries, such as Estonia, have proven that it is possible to gain equally good academic achievements in urban and rural areas (OECD, 2018) and that should be the target to aim for.

The lowest school segregation can be observed in Finland and Sweden, but in the latest years data show a slight increase in segregation. This could be explained by the 1990's schools reform and introduction of educational vouchers. The highest segregation indices are in Germany, which in turn, can be explained by the early educational division of students by their academic performance and type of school.

Conclusions

Data analysis show that the socioeconomic segregation of schools by DI in the countries of the same region differs only slightly and in the previous decade, no significant decrease in segregation can be observed. Data show that segregation in Latvian schools can be rated as average with a slight tendency to increase. Equal distribution and declusterization of ineffective schools with low academic performance should be an important aim for education improvement or, in case of Latvia also for the school network reorganisation, in order to provide equal education opportunities to all students.

Analysed countries provides data from very diverse education systems, yet it proves that school SES is linked to the school's academic performance. There is a need for in-depth analysis for each separate country and its education system as well as for a long term monitoring in terms of school segregation in order to spot any major changes.

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FROM DISTANT TARGET GROUPS TO INVOLVED STAKEHOLDERS: DEVELOPING DIALOGIC SCHOOL COMMUNICATION

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ABSTRACT

Knowingly planned communication activities are an essential asset in the performance of organisations, including public schools. In this paper, the core premise is that communication management in general education schools is an important field which currently lacks scholarly attention as well as practical guidance for school management.

Numerous communication management definitions and models have been proposed following different paradigms and perspectives. Still, they all have one aspect in common: the audience to whom the messages are directed. Some theorists suggest that communication does not exist without the recipient, and effectively planned communication should be based on their interests or, moreover, involving them for the institution's success. Thus, it is crucial to map schools' target groups and stakeholders to explain the nature of school communication in general.

In this qualitative study, in-depth interviews were conducted with 19 Estonian school principals to understand their views about the role various target groups and stakeholders have on public elementary and high school communication. By applying a targeted sampling strategy, the most diverse representation of participants was ensured based on the profiles of both schools and school leaders. During the interviews, a projective technique was used enabling the principals to schematically position school's stakeholders in accordance to social circles, importance, and communication intensity.

The results showed that although the stakeholders of the schools are similar, the positioning of the stakeholders may differ even in between similar school types. School principals' assessments of the intensity, importance, or quality of relationships depend on the school's organisational culture, goals, current issues (e.g., school renovation), or sometimes the principal's personal contacts. In addition, communication practices are influenced by the initiative and attitudes of external stakeholders towards the school.

Keywords: *communication management, general education, school communication, school leadership, stakeholders, target groups*

Introduction

Though the term *target group* refers to whom an institution targets their messages, and *stakeholders* should have a “stake” (Bourne, 2016; p. 432), i.e., particular interest or benefit related to the institution or activity, the above terms are often used synonymously or in the same context without any semantic discussion. In this paper, I am not strictly committed to the deeper meaning of the terms due to the lack of a systematic and shared approach to communication management in general schools. Instead, I will use the terms in parallel, following the term usage in referred literature, with the conviction that, generally, while talking about the target groups or stakeholders, the authors mean the group related to or interested in the organisation’s main activities.

Some theorists suggest that communication does not exist without the audience to whom communication is directed, as such groups have become an integral part of different communication models (Köuts-Klemm & Seppel, 2018). This approach is based on the perspective that communication is, by nature, a two-way or dialogic process (Dozier et al., 2013; Köuts-Klemm & Seppel, 2018). At the same time, references to one-way communication can also be found in the literature (Köuts-Klemm & Seppel, 2018), which can be interpreted as information sharing without a need for a direct reaction. Hence, one could argue that stakeholders are more involved in the two-way communication process, while target groups are more passive recipients of one-way communication.

Regardless of how the parties involved in the communication process are named, their interests and expectations should be valued in communication management (Smith, 2009). Moss and DeSanto (2011) have found that every organisation in all different social sectors must define their target groups, work with them towards establishing relations, and organise interaction on a high level. Moreover, they stated that communication strategy development should begin with detecting the interests of target groups (Moss & DeSanto, 2011) and organisation-related stakeholders (Smith, 2009) because involving them is essential for institution’s success (Smith, 2009).

There is no question that the target groups and stakeholders are essential in organisations’ everyday activities, but how to define and involve them? Bourne (2016; p 433) has developed a widely used Stakeholder Circle methodology, which relies on five steps: identification, prioritisation, visualisation, and engagement of stakeholders, and last, the monitoring of the effect of the involvement. The author reminds us that though we are mapping people in groups, “each person constructs a different reality; each brain sees the world according to its own wiring” (Bourne, 2016; p 434). Thus, it is important to acknowledge the possible heterogeneity of each target group or stakeholders and to take such heterogeneity into account while planning professional communication activities.

Target groups and stakeholders of public schools

There is a growing public interest and attention towards schools, and thus the expectations for school leaders are higher than ever (OECD, 2014). The changing paradigm of school leadership states that nowadays, schools’ main task is not only teaching but

ideally also building trustful relations with parents and the community they serve (Porterfield & Carnes, 2012). Bush and Bell (2002) thus argue that cooperation competencies should be seen as a core competence of educational leaders, while many other scholars (Fullan, 2014; Ishaq & Kritsonis, 2009; Skogen & Holmberg, 2004; Wilcox & Cameron, 2012) emphasise that taking care of school's good external relations – including with the general public, regulatory publics, community, taxpayers, and the media (Kowalski, 2011) – is one of the principals' primary tasks. Henry and Woody (2013) claim, similarly to Smith (2009), that effective communication is also essential for overall school success, as only through effective and strategic communication can school principals withhold negative or false perceptions, and institutional stigmas about their institutions. Moreover, Fullan (2014) proposes that a school leader should not be just an institutional leader but should also become an educational leader on the system level capable of explaining education-related processes to their community. Maintaining good relations and managing expectations of various stakeholders e.g., parents, students, teachers, and the general public (Aab, 2015) – has thus become one of the critical activities of school principals (Brundrett, 2012) which requires skilled strategic management. Furthermore, effective school leadership is claimed to be based on shared management and involvement of these target groups (Kukemelk and Ginter, 2016).

Defining the research problem

There are noticeable similarities between the principles of communication management on the generic level and within school context (e.g., Smith and Brundrett, Moss & DeSanto, and Kukemelk & Ginter). Thus, professional approaches and knowledge from general communication management theories and practices seem, at first sight, to be applicable also in schools. However, in my earlier research (Tikerperi, 2016; Tikerperi, 2020), school leaders have claimed that communication management in schools is much more complex because of the sensitivity of information (related to minors), lack of expertise, heavy workload, and the fact that schools' primary purpose is teaching. After all, school staff, including principals and teachers are education specialists for whom communication management is an additional task they have to fulfil without specific knowledge, a standard approach or formalised training. The above is also the reason why school leaders have expressed the need for school-specific support materials that would provide them with critical knowledge about communication management (Tikerperi, 2016).

Different communication models vividly illustrate the crucial role of the audience to whom communication is targeted. The current paper maps Estonian school leaders' views and perceptions about their schools' stakeholder groups and provides an answer to the following research question: how do Estonian school leaders describe the schools' stakeholders' role, position, and importance within school communication? The findings of the study provide important background for developing a model for school-specific communication management.

Methodology

The empirical part of this article relies on the data from qualitative in-depth interviews ($n = 19$) collected at the end of the year 2019 with principals of Estonian municipality-led schools. Although municipality-led schools are the most common school type within the Estonian educational system, the schools that the interviewed principals represent not only come from a variety of geographical locations (both city and rural areas); but also represent both secondary and upper secondary schools with varied student numbers (from under 100 to over 1000).

I decided to apply a purposive sample which enabled me to research out to specific people to illustrate the cases the study is interested in (Silverman, 2013). Such an approach has been deemed useful when the research topic corresponds to a limited number of data sources needed to make sense of the phenomenon (Robinson, 2014).

The data was gathered via semi-structured interviews, as the method has proven to be flexible enough for asking additional questions enabling to discover aspects that are not visible or known while planning the study (Gill et al., 2008). Interviews were combined with a projective technic which provided a good opportunity for the participants for visualising their opinions and enabled them to illustrate the importance each of their envisioned target groups has on school communication. The preliminary list of potential target groups (see Figure 1, sector C) was mainly based on the findings of a previous study among Estonian school principals (Tikerperi, 2016). Relying upon my previous empirical findings and the synthesis of different authors (e.g., Bourne, 2016; Kowalski, 2011), I created two schemas for positioning the stakeholders: in sector A, according to social circles; and in sector B, evaluating the importance of stakeholders and the intensity of communication.

The transcribed interviews were analysed using QCMap software (Mayring, 2014), following the qualitative content analysis steps and combining inductive and deductive coding. In analysing the projective technic task, the social circles (sector A) and the sectors of the two-dimensional chart (sector B) were used as deductive categories, which allowed a creation of two approaches for mapping the stakeholders.

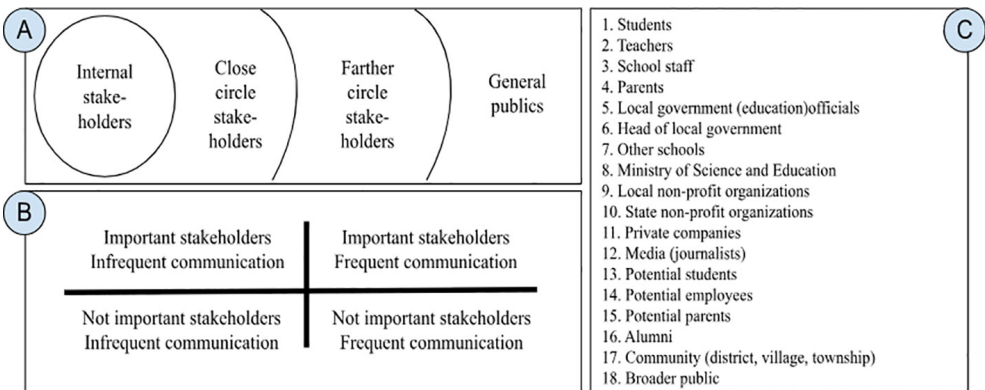


Figure 1. The projective technic task used during the interviews

It is important to acknowledge that these approaches are based upon qualitative data, and thus a quantitative follow-up study is required to provide generalizable results. At the same time, the distribution of the target groups is based on in-depth interviews, which means that the variability and situational nature of practices have been considered together with standardisation.

The structure of the results' chapter is based on the social circles' model (sector A), including the most significant aspects from the second approach (sector B).

Results

Interviews with school principals indicate that although the schools had mapped their stakeholders, this was not done in a systematic and targeted manner. Instead, the approach was often situational and quite unconscious, involving only some groups at the time. In fact, some school leaders later confessed that the interview had actually helped them to think for the first time about the parties involved in school's activities and the role they each play.

The preliminary list (Figure 1, sector C) included 18 target groups and stakeholders. Relying upon the practices of each of their respective schools, the interviewed principals added pre-schools, state gymnasiums, non-staff teachers and coaches, universities, former teachers, and other municipalities to the originally proposed list. In fewer occasions, specific organisations or institutions (e.g., theatre, museum) was included in the stakeholder list and one school leader also believed it to be important to consider teachers' family members as a target group.

During the interviews some principals also noted that all the above groups are also quite heterogeneous, and hence activities of a specific inner group or specific individuals may often influence the nature of the relationship. For example, parent's demands, expectations, and interest in involvement can vary widely; the group "other schools" may include interactions with some active partner-schools, while the majority of schools could still be seen as similar institutions from further social circles. Interviews also reveal that principals' views about their alumni is rather varied – while some positioned alumni in the inner circle of schools' stakeholders, others thought of their alumni as part of the general public sector. Sometimes such positioning is dependent upon the individual interests, but principals' views on the matter as well as formation of relationships is also shaped by the overall school culture (e.g., having a council or organisations for alumni) and the existence of informal active groups who are motivated to hold contact with their school.

Internal stakeholders

All the interviewed school leaders agreed that the internal stakeholders of the school were students, teachers, and other school employees.

Larger differences occurred in participants reflections about the school's largest stakeholder group, i.e., parents. All interviewed school leaders considered parents as

an important stakeholder who were primarily positioned as insiders, but sometimes also placed in the close circle. One interviewed principal even believed parents to be even more important stakeholder group than students, claiming that school's identity relies more on parents and their expectations. At the same time, interviews with upper secondary school principals also revealed that in upper secondary schools the role of parents decreases to such an extent that principals positioned parents into the broader public sector.

Interactions with internal stakeholders were undoubtedly considered very important and principals claimed to be in frequent contact with all those groups.

Stakeholders belonging to the close circle

Almost all school leaders see schools as part of the community meaning that the stakeholders belonging to the close circle include regional groups of people, institutions, organisations, and often local media. Pre-schools were also usually positioned to belong to the close circle, especially in smaller regions where pre-schools were directly tied to other stakeholder groups like potential students and parents.

All the principals participating in the study were heads of municipal schools, i.e., they were leaders of schools which were managed by the local government. The latter also helps to explain why the local education officer, or the leader of the municipality were often viewed as stakeholders belonging to the close circle. Still, interactions with those groups were rather infrequent which is why some school leaders viewed them as more distant.

Interviews indicate that although close-circle stakeholders are considered important by the principals the frequency of communication with that circle often depends on current topics and activities. Furthermore, interviews revealed that the nature of relationships with one's close-circle stakeholders was also dependent upon the personality of school leaders. For example, the principals in rural areas described their connection with the officials in local government to be more personal in comparison to the leaders of schools within a larger city.

Stakeholders positioned further away

Stakeholders in this group can be seen to some extent as those the school would often like to get closer to – for example, potential students and parents. Stakeholders with whom school leaders believed to be more in common despite infrequent contacts e.g., other schools, state-level educational organisations and private companies, were also placed here.

Stakeholders with more indirect involvement are thus not that crucially important for the school and the frequency of communication with them largely depends on the specific need or activities. One exception to the above views was still revealed – one participating school leader included the Ministry of Education and Science in this stakeholder group, despite its stated importance and frequent established communication.

General publics

All participating school leaders considered schools to be important institutions in society and believed that daily activities and school-life within educational institutions is of interest to the general public. In this way, some school principals divided the originally proposed interest group “media” into two. While local media organisations were mainly placed within the closer circle, public broadcasting with its intermediary role, remained in the broader public sector. Some principals also included various local- and state-level non-governmental organisations or private companies into the broader public stakeholder group. Such positioning was claimed to be the result of the fact that the schools did not have any ongoing co-operation projects with these stakeholders at the time of the interviews.

Notably, potential employees were seen as part of the general public, and some interviewed school leaders also placed the Ministry of Education and Science into this circle. Most school leaders evaluated the stakeholders in this section as unimportant for the school and they had only some occasional contact with them.

Discussion

Even though it was sometimes hard to distinguish between the terms “target group” and “stakeholder” during the interviews, it was evident that all interviewed school principals understood that such terms are used to refer to the audience towards who schools’ communication related activities are directed to. Thus, the interviews relied upon the presumption that school communication is mainly two-way or dialogic in its nature (Dozier et al., 2013; Kõuts-Klemm & Seppel, 2018).

Although several authors point out that communication planning begins with defining stakeholder groups (Bourne, 2016; Moss & DeSanto, 2011; Smith, 2009), the results of the current study indicate that school leaders’ thoughts about their stakeholders are rather superficial and situation-based. It was apparent that the participating school leaders were not accustomed to systematically define and prioritise their target groups or visualise their nature, as Bourne (2016) recommended.

Similar to my previous research (Tikerperi, 2016) which indicated that Estonian school leaders do not have any common approaches or understandings related to school communication, the current study revealed similar trends. Surely, it is debatable to what extent each school should develop and maintain its own characteristics and individual practices. At the same time, as schools are also representatives of the education system too different approaches can also confuse the wider society (also one identified target group). For instance, one could envision a situation when a student attends a new school whose communication culture is entirely different to their previous experiences, which might lead to not only confusion but overall dissatisfaction. The latter might also occur when the new school positions parents noticeably further away from its inner circle of stakeholders, so that parents’ interests might not be met.

However, as Bourne (2016) explained, it is common for stakeholder groups to consist of people with different worldviews and expectations. Several school leaders in my sample recognised the same idea, and some initial stakeholders (alumni, organisations, the media) were, as sub-groups, divided into different social circles. Even though it makes communication planning more complicated, it is a characterising fact that cannot be ignored. In fact, within the school context, this is one of the essential aspects in which educational specialists may need support and know-how in communication management.

Schools are no different from other organisations regarding defining target groups, though their stakeholders' amount and inner heterogeneity are significant. Specifically, according to different authors, schools' stakeholders include parents (Aab, 2015; Porterfield & Carnes, 2012), the community (Fullan, 2014; Kowalski, 2011; Porterfield & Carnes, 2012), the general public (Kowalski, 2011) and the media.

In the current study, school leaders were provided with a list with 18 potential stakeholder groups and interviewees were asked to reflect upon the list with the stakeholders of their own school in mind. Interviews indicate that school leaders' analysis was mainly based on their own professional experience, and thus several new stakeholder groups were added to the original list of some groups were divided in between different sectors. Available research literature does not surely provide an exhaustive list of possible stakeholders for the schools. Hence, it is difficult for school leaders to consider all the potential variability from the surface of their knowledge when planning communication work.

In summary, schools, school leaders and stakeholders can all be grouped based on similar characteristics and developed into a model that is as universal as possible. At the same time, as was evident from the study here, in addition to the heterogeneity of stakeholders (Bourne, 2016), there are also significant differences in the beliefs and perceptions of school leaders related to school communication.

Conclusions

School communication management is undoubtedly an increasingly essential and developing field, which is currently heavily relying upon the theories and practices of general communication management.

Still, school communication is a complex field due to the variety and heterogeneous nature of target groups and stakeholders. Managing them and planning communication according to their conflicting demands would be challenging even for a communication professional, not to mention members of the school staff who are educational specialists. Thus, school communication needs a separate, consciously school-specific and practical approach. Findings of the current study indicate that school's stakeholder mapping can provide some general guidance for the school leaders but finding a universal approach to explain all stakeholders' involvement practices is more complicated. Some unique approaches or personal relationships will always shape the school's communication. Thus, future research should involve the officials of the educational system so as to distinguish the standard expectations of the system and the unique features of each school.

In case of dialogic communication, it is not only essential to know the target groups and be guided by their interests but also to choose channels and methods of communication that enable dialogic communication. At the same time, it is impossible to cultivate personal dialogic communication with hundreds of parents, which further emphasises the specific nature of school communication. Thus, future research is needed to deepen our current understanding of school communication. Furthermore, additional knowledge is needed also to develop functional practical guidance for the school leaders. At the same time, on the practical level, it is essential that communication experts also understand the unique features of schools when developing these training and instructional materials.

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DEVELOPMENT OF THE NARRATIVE COMPETENCE DOMAIN OF HISTORY EDUCATION BETWEEN 2000 AND 2020

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ABSTRACT

In the realm of history education, there has been a growing focus on the development of narrative skills as a key area for academic inquiry. Research has illuminated how the ability to create, interpret, and critically assess historical narratives is integral to fostering historical thinking and consciousness among students. Notably, narrative skills extend beyond mere storytelling; they enable students to construct meaningful and accurate historical narratives that encapsulate complex interactions, cause-and-effect relationships, and varying perspectives. This article provides an in-depth look into how the domain of narrative competence in history education has evolved over a two-decade span from 2000 to 2020. The data for this investigation were extracted from articles that are part of the Web of Science Core Collection, and a variety of methods, such as the cataloguing approach, were employed to analyze the available information. The study unveils that narrative competence has increasingly become a focal point, pinpointing five key clusters of topics that support this specific educational objective. These clusters range from the theoretical frameworks used in narrative construction to pedagogical strategies aimed at improving these skills. Significantly, this review underscores that research topics relating to narrative skills and competence have progressively moved from the periphery to a more central position within the broader field of history education research. This shift indicates an acknowledgment of the critical role that narrative skills play not only in understanding history but also in shaping critical thinkers capable of analyzing the past in a nuanced manner. The analysis also implies that history educators are increasingly expected to include narrative skills in their curriculum, ultimately contributing to more effective history education. Overall, the focus on narrative competence is reshaping how history is taught and understood, underscoring its importance in the development of well-rounded students.

Keywords: *history education, history learning, history teaching, literature analysis, narrative competence, narrative skills.*

Introduction

Several decades ago, the approach to teaching history underwent a cognitive shift, which occurred at different times and speeds across various countries. According to Wilschut (2011), this trend started in the 1970s when Bruner's theories and Bloom and Krathwohl's taxonomies of educational objectives became influential in history education proposals. In the United Kingdom, the Schools History Project (SHP), originally named the History Project 13–16, was established in 1972, setting a milestone in this shift. The SHP proposed that students create history instead of just memorizing facts, which paved the way for the Concepts of History and Teaching Approaches Project. This initiative started a line of research linked to Historical thinking (Martínez-Hita & Gómez, 2018), which aims to equip students with the necessary intellectual tools to analyze the past and connect it with the present issues (Chapman, 2011; Counsell, 2011; Lee, 2005; Lee & Ashby, 2000).

Narrative competence has been essential in history education research in several countries. In the United States, the research influenced by cognitive psychology and expert/novice analytical techniques has emphasized the importance of using historical sources and the work of historians (Levstik & Barton, 2008; Monte-Sano et al., 2014; Reisman, 2012; Wineburg et al., 2017). Meanwhile, in Canada, the Centre for the Study of Historical Consciousness, led by Peter Seixas, has worked to define historical consciousness and Historical thinking and to apply these ideas practically in the classroom through initiatives such as the Historical thinking Project and Historical thinking Assessment (Lévesque, 2008; Seixas & Morton, 2013). Other countries, such as Australia (Parkes & Sharp, 2014) and Belgium (Grever et al., 2011; Van Boxtel et al., 2015; Van Boxtel & Van Drie, 2012; Wansink et al., 2018), have also contributed significantly to the literature by exploring the intersection of Historical thinking, the performance of knowledge and historical consciousness in history education.

The works of Barca (2005), Domínguez (2015), Gómez and Miralles (2015), López-Facal (2014), López et al. (2014), Miralles, Gómez, and Monteagudo (2019), Miralles et al. (2019) and Mora and Ortiz (2012) demonstrate how proposals from the UK, US, and Canada have been adapted for research on history education in Latin America, Spain, and Portugal. These papers highlight the incorporation of the emphasis on the ethical dimension of history education. Within this framework, the concept of narrative competence is becoming increasingly relevant to provide students with the intellectual tools to analyze the past and relate it to current issues.

Recently, there has been a rising focus on developing narrative competence in history education, which has resulted in several publications, including monographs by Counsell et al. (2016), Carretero et al. (2017), and Epstein and Salinas (2018), which have explored vital concepts, research trends, and teaching practices in the field. These reviews demonstrate that research in history education has expanded significantly since the 1990s, with a particular emphasis on Historical thinking and consciousness (Seixas, 2017). While much of this research has focused on curriculum and textbooks, there has been

a growing interest in other data collection methods, such as questionnaires, observation records, and case studies, for evaluating interventions and assessing learner perceptions and content production (De Groot-Reuvekamp et al., 2017; De Groot-Reuvekamp et al., 2018a, 2018b; Van Straaten et al., 2018).

Despite the growing number of studies in recent decades, there remains a need for global, empirically-based research on narrative skill development in the competence in history education (Pollock, 2014). While classic studies by Wilson and Wineburg (2001), Seixas (1998), and Fragnoli (2005) have made significant contributions to the field, many studies have been limited to specific experiments that cannot be easily generalized (Adler, 2008). More recent studies by Lévesque (2008), Monte-Sano (2011), and Westhoff and Polman (2008) have explored the relationship between teachers' epistemological conceptions, Historical thinking, and the objectives of history teaching (Pollock, 2014). Notably, Van Boxtel's group in Holland has made significant progress in the empirical analysis of narrative competence in history education using statistical and conceptual approaches (Stoel et al., 2017).

The current research on narrative competence in history education needs more specific empirical data that can be contributed through bibliometric studies, unlike other fields of study and applied education research (Glass, 2016). This paper aims to bridge this gap by quantifying the development of this field of study, examining the origin of research works, and exploring connections across several important topics.

Academic publications from 2000 to 2020 in journals indexed in the Web of Science Core Collection were analyzed to achieve the following objectives:

1. Quantifying and describing the evolution of academic output in history education over time;
2. Identifying the countries, journals, and authors with the highest productivity and impact in the area of narrative competence in history education;
3. Analyzing the main topics addressed in these publications, as well as their interconnections and changes over time;
4. Examining the most cited authors and papers on narrative competence in history education.

Methods

A systematic literature search was carried out in several databases of the Web of Science, including the Science Citation Index Expanded (SCI), Social Sciences Citation Index (SSCI), Arts and Humanities Citation Index (AHCI), and Emerging Sources Citation Index (ESCI). These databases are commonly used in bibliometric analyses of specific knowledge domains, as they are widely accessed internationally (Jiménez et al., 2013).

The chosen set of keywords includes six general topics related to Narrative Competence: History Education performance, Teaching History, Learning History, the performance of Historical thinking, and Historical Consciousness, along with three more specific ones: Storytelling, Narrative Skills, and Narrative Competence. The selection of

these topics was made based on their widespread use in research on history education. Recent studies have emphasized the significance of Historical thinking and Consciousness in disseminating the past to society. Epstein and Salinas (2018) identified Historical thinking and consciousness as the primary research topics using qualitative and quantitative approaches. Moreover, Narrative Skills, Narrative Literacy, and Narrative Competence were included to analyze the focus of the production on teaching and learning history. A total of 1163 documents containing these keywords in their titles, keywords, or abstracts were exported, of which 738 were deemed appropriate for History Education.

The data analysis consisted of two main phases, focusing on the structure and evolution of the narrative competence domain in history education. The first phase aimed to quantify the publications between 2000 and 2020 by extracting descriptive data such as subjects, journals, countries, and authors and analyzing bibliographic records using a cataloguing approach (Grunig, Grunig, Dozier, 2002). This approach summarised the main results, including the yearly published documents, top sources, keywords, countries, and authors. Additionally, the representation of the relationships between the keywords, countries, and authors, which helped to identify the authors and countries researching specific topics, was made. In the second phase, the focus was on the structure and evolution of the narrative competence domain by focusing on the academic publications, citation links and keywords, which provided insight into the connections between the subjects addressed by the articles.

Results

Descriptive analysis

The growth of academic publications in history education has been significant in recent years, particularly between 2000 and 2020, as evidenced by the Web of Science database. The analysis reveals three distinct phases in the growth of the produced articles on narrative competence and its components in research. The first phase, from 2000 to 2006, saw a prolonged rate of literary production, with only 12 to 17 history education articles published yearly. The second phase, between 2007 and 2014, was characterized by slow and inconsistent growth, with the number of articles ranging from 25 to 61 per year and a period of stagnation between 2008 and 2012. Compared to other areas of History education, this is a period of weak dissemination of articles. However, with the emergence of narrative competence in history education, there has been a marked increase in academic output on this topic in recent years.

Between 2015 and 2020, there was a significant increase in the number of articles published in the Web of Science, with literary production rising from less than 55 articles in 2014 to approximately 270 annual papers in 2018, 2019, and 2020. Despite the increase in narrative production, the study found that articles on history education lacked specialization, with general keywords frequently used. The most common topics were the analysis of textbooks, historical consciousness, Historical thinking, and the analysis of curricula from the perspective of narrative competence. Nevertheless, the development of narrative

skills and the more popular term “storytelling” was not highlighted. However, the keywords had to be related to evaluation techniques and tools used to analyze the methodological approaches of the studies, such as questionnaires, interviews, discussion groups, focus groups, and statistical analysis.

The article production on the WoS is dominated by the US, which accounts for 24% of the total articles. Brazil and Spain follow closely with 9% and 5%, respectively, while Russia, Canada and the United Kingdom hold successive positions with 6%. There are few publications with multi-country participation (MCP). However, Spain, the United Kingdom, and the US are the top three countries with the most articles written in collaboration with other countries. Regarding citations, the US is the clear leader with over 1372 citations, five times more than the second-ranked country, Canada. The top 10 most cited countries include Belgium, Israel, and Sweden. Canada, the United Kingdom, the Netherlands, and Germany are prominent regarding the number of citations received. In contrast, despite ranking third in terms of the number of articles produced, Spain is only sixth in terms of the number of citations received.

The production of narrative competence in history education-focused articles varies significantly among countries and authors, with a clear relation between national output and narrative competence. The top 10 authors in this field include four from Spain and three from Belgium, while the US only has one representative. Despite having the highest literary production in history education, the US has a highly fragmented output. In contrast, Spain’s output is concentrated among a few highly productive authors and research groups. The analysis also reveals a strong connection between narrative competence and highly productive Spanish and Dutch authors, as evidenced by frequently used keywords in the articles analyzed.

Thematic Clusters and their evolution

The keywords network provides insight into the different research clusters related to narrative competence and history education. Three distinct clusters are identified, each focusing on specific keywords. The first cluster, titled “Historical Consciousness”, includes 17 items (Identity, Memory, Collective memory, Commemoration, Heritage, Remembrance, Communal history, Civic education, Moral education, Social function of history, Cultural heritage, Public memory, Historical empathy, Interpretation, Perspective, Contextualization, and Historical significance). This cluster explores the role of history in cultural heritage education and methodology of research of didactics.

The second cluster, titled “Secondary sources”, includes 15 items (history education, literature review, academic articles, secondary sources, Historical thinking, narrative competence, teaching history, learning history, history curriculum, history pedagogy, history research, history textbooks, history assessment, history methodology, history analysis). This cluster examines identity issues related to nationalism and collective memory, focusing on analyzing historical discourses. However, knowledge production should be mentioned or elaborated on in the abstracts. Although pedagogical adequacy and educational policies are not yet central to this cluster, “secondary sources” are noted

for their ability to reinforce nationalism and particular national identities, underscoring the importance of expanding the range of identity resources available to students.

The last cluster focused on the Narrative competence attribute “storytelling”, including 12 sub-attributes (narrative, plot, character, conflict, climax, resolution, storytelling techniques, oral tradition, digital storytelling, fiction, non-fiction, and narrative abilities). These keywords suggest that the trends in research on narrative skills are multidisciplinary and span various fields, including literature, psychology, education, and digital media. Researchers are interested in studying the elements of a narrative, such as plot, character, conflict, climax, and resolution, and how they contribute to the effectiveness of the produced narrative. They are also exploring different techniques for narrative production, including oral tradition and digital media, and analyzing the differences between fiction and non-fiction narratives. In addition, the emergence of narrative psychology has highlighted the importance of understanding how narratives shape human experiences, identities, and relationships.

Most of the highly cited papers in this bibliographic collection are related to developing knowledge in history education. One cluster of citations focuses on master narratives, memory, and identity, which are closely related to the social function of history and historical consciousness. However, another cluster is centred around argumentative strategies, including using historical sources, argumentation, and causal explanation, which are related to the cognitive perspective of Historical thinking. In addition, another set of papers provides a global analysis of history education in the 21st century and examines the challenges and new perspectives in history teaching. The countries with the most citations in this collection are the US, the UK, Canada, Spain, and the Netherlands.

Discussion and conclusions

The findings above allow for a deeper understanding of the structure and development of the narrative competence domain of history education as reflected in English language articles indexed in the Web of Science. A notable shift in research occurred in the 1970s with the History Project 13–16, which emphasized the importance of students engaging with history rather than just memorizing facts, leading to the emergence of the concept of Historical thinking, which aims to equip students with intellectual tools to analyze and relate the past to present-day issues. Here are the roots of the narrative competence employment in history education.

The analysis reveals that history education research has had less visibility in the Web of Science than in other areas of applied didactics, such as science and mathematics education. There need to be specific journals from 2000–2020 for history education.

The analysis also shows that several emerging research groups support specific lines of research in history education, including the research team led by Carla Van Boxtel at the University of Amsterdam and research groups at the University of Murcia and the Autonomous University of Madrid in Spain.

Then, the English language articles on research in history education support a paradigm based on three concepts: Historical thinking, Historical Consciousness and the production of new narratives seen as Narrative competence. Historical thinking emphasizes the analysis of evidence, reasoning, interpretation, and argumentation. In contrast, Historical Consciousness focuses on the public use of history and constructing group identities among students, while both employ narrative competence. The concept of narrative competence has evolved from being heavily associated with the work of historians to a focus on the analysis of evidence, reasoning, interpretation, and argumentation, therefore, on producing new narratives.

It is important to note that historical literacy has become increasingly relevant in understanding historical concepts, encompassing a range of skills, including the ability to critically evaluate historical sources, analyze multiple perspectives and interpretations of events, and understand how historical events have shaped contemporary society. It involves an understanding of historical context, including the social, political, economic, and cultural forces that have influenced past events. Research has shown that students need to be prepared and better skilled at judging the credibility of online information. Recent findings from the Stanford History Education Group suggest a need to improve student's reading and writing abilities related to historical concepts. On the other hand, the research in the UK builds on earlier History 13–16 Projects and expert-novice studies carried out in the 1990s.

The research conducted in the Netherlands, particularly by Van Boxtel, Van Drie and De Groot's has contributed significantly to advancing historical argumentation research with rigorous quantitative and qualitative methods focusing on producing the knowledge. In addition to the public use of history, Historical Consciousness is also linked to history in popular culture, media representations, and how the past is used in history education. Many studies utilize narrative competence to address issues of identity or culture or use historical consciousness to discuss reasoning, with different nomenclatures associated with the academic tradition of each country.

US scholars use narrative skills and competence more frequently and may have more of a learning psychology orientation. In contrast, Historical thinking and consciousness may have more of a cultural study and memory orientation. The research community in history education still needs help due to the scarcity of connections between researchers and research groups, both within and between countries. Collaboration networks must be formalized through transnational research projects and international conferences, which should be leveraged as opportunities to establish collaborative networks. Joint investigations and international samples will allow for better advancement in this field. The data examined in this paper shows that the period from 2000 to 2020 is significant for the increase in research output listed in WoS, greater visibility attained by countries, journals, and research groups involved in this sector of the academic community, and the construction of paradigms that have been widely accepted and fundamental in understanding the conceptual structure of history education. A systematic study of the scientific literature is necessary for emerging research areas to identify the conceptual, intellectual, and social structure of the field of knowledge.

The study's methodology focused on reviewing English language articles on history education, and thus, there may be limitations in its applicability to different countries and comparisons between them. However, it is noteworthy that some regions, such as Northern Europe and the post-soviet space, have distinct categorizations for history in schools and curricula compared to other categories, such as social studies. On the other hand, in countries such as the US, history is often categorized under the multidisciplinary field of social studies/sciences, which may affect the terminology used in academic publications. The selection of keywords used in the study may have limited the sample for specific research topics, such as the use of mass media and technology in history education. Although the assumption was that studies related to these topics would contain specific keywords, it is possible that some relevant studies needed to be captured in the future search.

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PERCEPTION OF THE SCHOOL INTERIOR FROM THE STUDENTS' AND TEACHERS' PERSPECTIVE

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ABSTRACT

A curriculum as a set of planned and implicit determinants that direct the educational process according to the tasks and content derived from the goal contains an essential characteristic, which is its hiddenness, i.e., implicitness. The hidden curriculum is based on deep-rooted and often unconscious notions that the individual carries with them, transmitting social norms and values. The term “school interior” refers to the term “hidden curriculum” because it can also influence the process of upbringing and education with its organization and appearance. It shapes the environment where students and teachers spend their time every day and, because of this, many educational processes take place in it. Numerous studies point to the connection of the motivation and activities of students and teachers with the benefits of the school interior. They highlight the advantages of a more open, flexible, and networked space compared to the traditional classroom organization.

In the process of creating/designing the school interior, it is crucial to include all participants in the educational process, because in this way, an appropriate school interior is created for all activities, both of students and teachers, as well as of the local community. The aim of the paper is to investigate the relationship between the school interior and the experiences of students and teachers about the school. The results of our research indicate that there are certain differences in the perception of the school interior by teachers and students.

Keywords: *curriculum, hidden curriculum, school interior, educational process, research*

Introduction

Today's educational system focuses almost exclusively on the content of learning as well as teaching and learning methods. A balanced curriculum should be concerned about contemporary living skills such as critical thinking, project-based learning, and social skills (Rothstein, Wilder, and Jacobsen, 2007, according to Marsch, 2009). Keeping the above in mind, thinking about the modern curriculum must incorporate a number of formal, explicit, and implicit factors of school and classroom life. There is worryingly little discussion in education circles about the various factors of the hidden curriculum

and their impact on the overall school life, learning outcomes, the socialization process, and the satisfaction of students and teachers. The space where teaching takes place can also be understood as part of the hidden curriculum in the learning and teaching process in school. Although the influence of the hidden curriculum on the learning and teaching process does not seem to be crucial, it plays a major role in the lives of students and school employees. School interior is a term that combines design, information and communication technology, the environment, pedagogical concepts, strategies, organization, partnership relations, and much more. It is evident that a quality school interior is not just a classroom equipped with modern furniture or technology, but a harmonious interaction of everything found in that classroom (Volkman, Stang, 2015).

In education, there is an increasing discussion about the influence of the school interior, i.e., its pedagogical-psychological dimension. The school interior is an integral part of the learning and socialization process of each student and the teacher. It is in it that the process of acquiring new knowledge and skills happens. Unfortunately, there is a constant adaptation of teachers and students to the architecture of the school. It is not uncommon for teachers to adapt their teaching methods and lessons considering the (im)possibilities of the school interior along with the students' learning is mainly done by passively sitting at the school desks (a model of school space that has dominated since the 18th century and is based on the industrial model of input and output (Cullingford, 2006). A more open and flexible space promotes more active and dynamic learning, but the situation in Croatia is far from this. Teaching in Croatian schools still takes place mainly in traditional classrooms, which are more suited for teacher-centered rather than student-centered learning. Croatian schools and their interiors are not prepared and equipped for the new challenges of society and new knowledge, but they are not prepared for the current implementation of curriculum reform. The Croatian education system can achieve positive results and progress only if all crucial factors of upbringing and education are included in the changes. It encompasses the school interior because that is where the whole process of upbringing and education takes place. Therefore, all research that tries to answer how the school interior affects students and their teachers represent an extensive contribution to pedagogical science and practice (Tanner, Langford, 2003).

Hidden Curriculum

In the scientific and professional literature, and in layman's terms, besides the concept of the hidden curriculum, we also find the following expressions: informal, incidental, collateral curriculum (Glatthorn, 2000; Tylor, 2000), in German *heimliche Lehrplan* (Zinnecker, 1975). The concept of the hidden curriculum is a new and active area of research (Kentli, 2009; Hibbert, Wright, 2022).

In general, the curriculum is a set of planned and implicit guidelines that direct the educational process according to the tasks and content derived from the objective. It is an internal restructuring of the education and school system, formal and informal learning. Some of the curriculum theories increasingly emphasize the need to analyze implicit

(hidden) and explicit (open) curricula and curriculum frameworks (social requirements, scientific and technical achievements, social behavior formation, democratic and civil culture, criteria of importance, competence, etc.). If we start from the problematic and inconsistent definition of the curriculum itself (written, explicit, official, formal...), we become aware of the complexity of the definition of the hidden curriculum, its unpredictability, social conditioning, dynamics, and changeability. The term “hidden curriculum” was coined and defined by P.W. Jackson in the late 1968 as social, cultural, and institutional expectations that are rarely explicitly named but significantly shape students’ experiences, values, attitudes, and academic success. Although it includes everything non-academic, it has a strong influence on the academic outcomes of the school. Jackson sees school as a place of socialization where students receive messages through the entire experience of attending school, not just the content of learning, and he recognizes three hidden elements of the curriculum:

- classroom hustle (students must endure tardiness, murmurs, disregard for their wishes, and constant distractions)
- conflicting commitment (required of both teachers and students)
- an unequal balance of power between students and the teacher (favoring the teacher).

Critical pedagogy often emphasizes the importance of the hidden curriculum because it sees the hidden curriculum as fertile ground for the transmission of social norms and values as well as the reproduction of inequality and hegemony. The education system almost always assumes numerous political goals and social functions. In other words, certain ideologies are implemented through the hidden curriculum, *explicitly* or *implicitly*. The *explicitness* of the curriculum is manifested in public curricula based on written outcomes, while the *implicitness* of the curriculum stems from the unwritten.

The hidden curriculum requires the adoption of attitudes, norms, beliefs, values, and assumptions, often expressed in the form of rules, rituals, and regulations (Seddon, 1983). Kentli (2009) contrasts the hidden curriculum with the so-called didactic curriculum, describing it as a set of student experiences characterized by informality and a lack of deliberate planning. The *Dictionary of Sociology* (2005) interprets the hidden curriculum as the way in which cultural values and attitudes (such as obedience to authority, punctuality, and delayed gratification) are transmitted through the structure of teaching and the organization of schools.

A key feature of the hidden curriculum is its undeclared nature. It is often hidden not only from children but also from all other employees of the education system. Teachers, the community, and society, including the authorities, non-teaching staff, religious communities, the media, etc., play a major role in its transmission. Also, through the hidden curriculum, students adopt numerous values that influence the development of the culture of the individual as well as the culture of the school. Jukić (2013) states that through the hidden curriculum students learn values through social interactions while attending full-day classes. The hidden curriculum is everything an individual learns through unstructured socialization in the learning context and always has a normative

or moral component (Greene, 1983; according to Hibbert, Wright, 2022; Jukić, Kakuk, 2019). The hidden curriculum is closely related to the culture of the school. Organizational culture is one of the most powerful and stable forces operating in organizations. The culture of an institution is a set of official, written, overt, but also covert and secret rules, the appearance and arrangement of the institution, values, and principles that are permanent and guide behavior in the organization (Schein, 2010, according to Jukić, 2019).

Although we often perceive the hidden curriculum as destructive, negative, and subversive, it can be constructive and desirable. Many pedagogues see the realm of its positive impact (Chhaya, 2003; Jerald, 2006). They see school as a harmonious and stimulating environment for learning and the acquisition of values and attitudes.

School Interior as a Factor of the Hidden Curriculum

A review of the relevant literature on the hidden curriculum reveals that very little attention is paid to the influence of the environment where students and teachers spend time learning and working. The hidden curriculum is largely described as an implicit message that emanates from the person but not their surroundings. Therefore, this section will demonstrate the importance of the environment where students and school staff spend a significant portion of their day.

Numerous authors relate the hidden curriculum with the hidden messages that teachers and other school staff convey to students through their behavior. However, many ignore the hidden messages that the interior transmits to both students and school staff. The school space reflects the attitudes, values, and culture of those who design and spend time in it (Sanoff et al., 2001). The space can also communicate, i.e., transmit certain messages to the people who spend time in it. Good organization of the space, equipment, and order are only some of the significant factors that can influence a person and their behavior. The school interior plays a crucial role in learning (Elkington, Blight, 2019). It connects people and encourages work, research, collaboration, and communication. The space shapes and defines the teacher's instruction and the students' learning. It should ensure three major categories related to students' needs: *the need for education*, *physical*, and *emotional needs* (Mozaffar, Mirmoradi, 2012).

According to Marsh (2009), the classroom environment is an integral part of the learning and teaching process, and it affects every teacher and student. In any school, teachers and students should adapt to the architecture of the school building, which consists of the total number of rooms, the location, the number of doors, windows, ceiling height, wall insulation, etc. When designing the working space in the school, certain physical conditions and the size of the space should be considered, because these are key factors that can influence students' attitudes, behavior, and even success. Teachers and students can express their personalities through the design and decoration of the space. For students, the classroom environment is a source of safety and individual identity (Judson, 2006, according to Marsh, 2009). The space in which students and teachers

spend time is a major determinant of student and teacher outcomes. Therefore, those seeking to increase school success should not neglect the environment. Space, as an element of the hidden curriculum (Margolis, 2001, according to Jandic, Loretto, 2020), shapes students' educational experiences. For this, one may ask why school architecture does not adapt to students and teachers, but students and teachers must adapt to school architecture. People change their environment, but it still influences them, shapes their behavior and experiences (Gifford, 1997 according to Mrnjaus et al., 2023). The space around us affects our nervous and sensory systems, mental processes, health and emotional state, behavior, and social relationships. In the educational context, a connection is made between the pedagogical surroundings and the perception of the specific educational space, the senses with which it is experienced, and the emotional states it evokes (Mrnjaus, Vrcelj, and Baretić, 2019, according to Mrnjaus et al., 2023).

Kokko (2020) defines the environment for learning and teaching as a social-psychological or conceptual environment that is a major factor in acquiring new knowledge and skills. When he speaks of the environment for learning and teaching in a broader sense, he notes that it can take place anywhere and at any time. Spatiality has a fundamental impact on students; through conceptual entanglement with the institutional and individual aspects of the hidden curriculum (Portelli, 1993 according to Jandic, Loretto, 2020), spatiality provides a physical, social, and symbolic context of student experiences (Gordon, 1983, according to Jandic, Loretto, 2020). Konza et al. (2001) emphasize the impossibility of separating the emotional school climate from the physical school environment. The design of the school space evokes certain emotions in students and teachers, which can affect the learning process and outcomes in the school environment by either hindering or enhancing the learning process. Therefore, it is important that the physical environment, both the school and the classroom, evoke positive emotions in students (Sanoff et al., 2001; Mrnjaus et al., 2019, all according to Mrnjaus et al., 2023).

In addition to students' needs, there are also numerous physical environment factors that can have a strong impact on students and teachers: *colors*, *noise*, and *temperature*.

Colors can have a strong motivational effect, lift mood and activity, influence students' sense of belonging to the class, and be a powerful communication tool (Konza et al., 2001). They can have physiological and psychological effects. In environments with well-chosen colors based on psychological principles, a considerably greater impact is achieved with less effort. It is important to pay attention to the use of colors in the school interior because they can directly influence our subconscious (they can repel or attract us to the space). However, psychologically, colors can affect each person differently and evoke different emotional states, behaviors, and moods (Vuk, 2016). One of the most important factors is temperature because the temperature range in which students can work best is quite limited. The temperature should be considered in the architectural design of the school (importance of the floor plan, location of the building, use of insulating material, etc.) (Marsh, 2009). Background noise is also an important factor that can have physical and psychological effects. One of the major causes of frustration in the classroom is the unpredictability or inability to control the source of noise (Marsh, 2009).

By making the educational system student-centered, there is a transition to a more open and flexible concept of space (Dowey, Fisher, 2014). Modern school interiors should meet the demands for flexibility in learning and teaching but also allow for collaboration and critical thinking. Therefore, the pedagogical vision of new spaces for learning and teaching identifies three main factors that school interiors should meet: open space, more flexible (adaptable) space, and space that encourages activity. According to Bojer (2019, 2), such spaces are now referred to in the literature as *open spaces*, *new generation spaces*, or *innovative spaces*, and they increasingly promote personalized learning.

A study of sixth- through eleventh-grade students conducted by Barrett et al. (2015) as part of the “Clever Classrooms” research concluded that a well-designed school interior improves children’s reading and writing as well as arithmetic skills. Airiness, colors, and light can increase elementary students’ learning by up to 16% yearly (European Schoolnet, 2017). Walker et al. (2011) conducted a study comparing the effects of space in traditional classrooms and in Active Learning Classrooms (ALC) on learning outcomes and the school experience. ALCs place the student at the very center of the educational process. They are equipped with the best information and communication technology, seating is organized to support active learning in large groups, and they do not have a central area for the teacher. ALC students achieved much better grades while teachers spent significantly more time with students individually and in groups, students expressed higher levels of connectedness with teachers, they had positive feedback about the experience of the space, they rated teaching as more motivating and related pleasant emotions with learning.

Tanner and Langford (2003) conducted a study in 100 U.S. public schools on the impact of school interior (acoustics, school maintenance, school cleanliness, colors, texture of floors and walls, flooring, classroom flexibility and openness, classroom safety, etc.) on students’ achievement. The study also included principals’ and teachers’ perceptions of the school interior. The results showed that more than 95% of principals believe that school interior plays a key role in creating a positive learning environment, 90% of them state that school interior has a major impact on teacher retention, and 85% of them think that school interior influences students’ outcomes, i.e., school success. In addition, the school interior is crucial to teachers and their teaching (70%). Elkington and Blight (2019) conclude that institutional, social, contextual, and historical developments shape the space, as well as physical and technological factors. Neglecting the pedagogical-psychological dimension in the design of school spaces is an act of violence against the normal, natural, and emotional human needs.

A perfect physical learning environment is much more than designing modern furniture and equipping the space with modern technology (Volkman, Stang, 2015). The physical environment conveys discipline, habits, and implicit values (Cox, 2011, according to Mrnjaus et al., 2023), the spatial arrangement may transmit a nonverbal message of welcome or discouragement, respect or disrespect (Strange, Banning, 2001, according to Mrnjaus et al., 2023), support or hinder learning, and be considered as a second or silent teacher because space has the power to organize and foster a pleasant

relationship between people of different ages, bring about change, promote choices and activities, and to encourage different types of social, cognitive, and affective learning (Tor, 2015, according to Mrnjauš et al., 2023).

Methodology

The research problem is the school experience of students and teachers related to the experience of the school interior. The aim of the study was to determine whether and in what way the school interior affects the school experiences among students and teachers (their work, learning, teaching, etc.). Further research on this and similar topics may benefit from the results of this study.

The study addresses the following hypotheses:

- 1) "The school's interior does not affect the monitoring of classes and the quality of communication between students and teachers."
- 2) "School does not include students in co-designing school interior."
- 3) "The school interior affects the teacher's control over discipline within the classroom."
- 4) "Students and teachers assess the school interior positively."
- 5) "Students and teachers equally assess the influence of the school interior on communication and active class participation."

Considering the aim of the study, students and teachers of the same elementary and high schools were included. The respondents are attending and working in elementary and high schools, in urban and rural environments in two counties: Osijek-Baranja and Vukovar-Srijem. A total of 135 students and 80 teachers participated in this study. Teachers, aged 24 to 50 and older, teach students included in the study, regardless of the subject or area of expertise. By including teachers, this study sought to investigate the extent to which school interior affects their work and the extent to which they believe school interior can affect the surroundings in the classroom and the school in general. The reason behind selecting teachers who teach the students is to correlate and compare students' and teachers' responses. The students were eighth-grade elementary school students (ages 13–16) and fourth-grade high school students (ages 17–20). It is because the two grades are the final grades in elementary and high school in the Croatian educational system. With their experience and years of being in school, they are best able to describe and formulate the needs of the students in relation to the existing school interior. Also, they can state the spatial difficulties they encountered during their schooling, but vice versa, they can state positive examples of the use of the classroom and the school interior. A convenience sample was used during the research, and the respondents participated in the research voluntarily with previously obtained parental consent, in the case of minors, and complete anonymity of their data was ensured.

Data were collected using online questionnaires that were created for this study the results of which were processed with descriptive and inferential statistics in the SPSS Statistics program. The questionnaires included sociodemographic data and questions

related to the school's interior and its influence. Data collection lasted from September 11 to January 18, 2021. The collected data were processed qualitatively and quantitatively using descriptive and inferential statistics.

Research Results and Discussion

The survey was conducted among students via an online questionnaire. A total of 135 students are included in the study, of whom 83 are female (61.5%) and 52 (38.5%) male students. Of the total number of student respondents, 61.5% are between 17 and 20 years old and 38.6% are between 13 and 16 years old. The survey included elementary and high schools in two Croatian counties, with the total number of respondents in elementary school being 37.8%. A significantly higher number of respondents are of high school age, i.e., 62.2%. Most high school respondents attend a vocational/art school (70.9%), just 29.1% attend grammar school.

The study aimed to identify the extent to which students are aware of the school interior and whether they believe it affects the quality of communication between students and teachers and monitoring the teaching process. The results show that almost 55.6% of the respondents state that uncomfortable chairs and desks, desks covered in doodles, information and communication technology, etc., do not prevent them from paying attention in class. However, a substantial number of respondents (44.4%) state it is difficult for them to pay attention to classes because of the school interior. Smith (2013) conducted research addressing the influence of school interior on students' work, stating that students' academic success is strongly influenced by the quality of the school interior and buildings, identifying the design of chairs, air quality, and noise as the crucial factors of school interior that should be of high quality, or it may lead to a 10% to 25% decrease in student success. If that research is compared with the results of this study, it is evident that the respondents in this study do not feel disturbed by uncomfortable chairs, doodled-on desks, etc. Of the number of respondents (44.4%) who indicated that they experienced difficulties, we attempted to see if there is a statistically significant difference regarding the type of school. Thus, the independent samples t-test revealed a statistically significant difference in the variable examining the factors interfering with paying attention in class and the type of school ($t(82) = -2.3, p < 0.05$), with more grammar school students ($M = 1.72$) believing that they are hindered in paying attention in class by uncomfortable chairs, information and communication technology, and the like than vocational school or art school students ($M = 1.22$). Considering the answers given by the respondents and the analysis of the results, the hypothesis "The school interior does not affect the quality of communication between students and teachers" is confirmed.

When asked about their involvement in the design of the school interior, 80% of the respondents answered no, while 20% indicated that they are involved in designing the school interior. The independent samples t-test on participation in designing the school interior concerning gender and type of school showed a statistically significant difference. Regarding the gender variable, the independent samples t-test on

participating in the design of the school interior revealed a statistically significant difference ($t(133) = -3.38, p < 0.01$), with male respondents estimating that they participate more ($M = 1.94$) compared to female respondents ($M = 1.71$). Concerning the type of school, a statistically significant difference in participation in the design of the school interior was found using the independent samples t-test ($t(82) = -2.19, p < 0.05$), with grammar school students participating more in designing the school interior ($M = 1.96$) than students from vocational schools ($M = 1.76$).

This question is crucial because it answers whether students are involved in the design of their school interior. From 2007, when Arapović conducted his research, until this day there has not been much progress in the involvement of students in the design and creation of school interior. Furthermore, to verify the consistency of the respondents' answers, a statement was included in the research that the students could agree or disagree with. It read, "Students often participate in designing the look of the classroom." The statement confirmed the answer to the question preceding it. Almost 66% of the respondents disagreed with the statement, 16.3% were undecided, and only 17.8% agreed. In the SPSS program, we wanted to determine if there is a statistically significant difference in the age of student participation in classroom design. Thus, the independent samples t-test for on student involvement in classroom design in relation to age revealed a statistically significant difference ($t(133) = 2.47, p < 0.05$), with younger students believing they are more involved in classroom design ($M = 2.50$) than older students ($M = 1.96$). Also, the highest percentage of respondents, 47.4%, agreed with the statement "I would feel more comfortable and safer if I were involved in the design of the classroom." 36.3% were undecided and only 16.3% disagreed with the statement. The responses show that students have little or almost no involvement in the design of their school interior, and they would feel much better and more comfortable if they could participate in the design. However, when it comes to students' participation in co-designing the interior, the younger-aged (elementary school) male respondents have a much more positive attitude toward participation. Consequently, the research hypothesis "The school does not involve students in co-designing the school interior" can be fully confirmed.

The following research findings indicate the influence of the school interior on teachers' experiences of school. The highest percentage of respondents (57.5%) teach in elementary schools, while 42.5% teach in high schools. Considering the type of school, most teachers of vocational/art schools participated in the survey, 65.7%, while only 34.3% of the respondents teach in grammar schools.

The following statement aimed to show the extent of the dependence of the teacher's control over discipline in the classroom on the school interior, "School interior affects the teacher's control over discipline in the classroom." The goal of this hypothesis was to explore whether the school interior affects students' discipline in the classroom (physical environment factors, the spatial design of the classroom, etc.). First, it was necessary to examine how obvious disruptive factors as noise, temperature, color, etc., were believed by teachers to affect student discipline. The first statement of this set of questions was related to physical environment factors (noise, temperature, color, etc.) and how they

affect student behavior. Most respondents (86.3%) agree that physical environment factors influence student behavior, 12.4% remain undecided, and only one respondent disagrees, which accounts for 1.3%. These findings are supported by numerous other studies that have addressed this issue, the results of which are presented below.

The majority of the analyzed studies that observed the effects of noise came to very similar conclusions. In this very study, noise was one of the most common problems experienced by students and teachers. Akhtar, Anjum, and Iftikhar (2013) conducted a quantitative study about noise pollution around educational institutions (noise levels in classrooms and outdoor playgrounds) and examined the performance and well-being of students and teachers (e.g., learning ability, social interaction, conflict, headaches, fatigue, attention, etc.). The study found that noise levels in all observed schools were higher than the World Health Organization recommends. Indeed, a high noise level in the classroom negatively affects all dependent variables (learning ability, social interaction, conflicts, headaches, fatigue, attention, etc.). In addition, high background noise harms student success (most schools are near major roads). Linking previous research to this one confirms that physical environment factors significantly affect student and teacher performance and work. Following previous findings, we asked question if the school interior can influence student attitudes and behavior. The highest percentage of respondents, 67.5%, agreed with this, 11.3% did not agree, and 21.3% remained undecided. Most respondents believe the school interior (physical environment factors) influences student behavior. It is interesting to note that a large number of respondents (52.5%) remain undecided when it comes to the school interior and its motivation to work and active participation (“The school interior motivates students to work and actively participate in classes”). 31.3% of respondents agree with the statement, while 16.3% disagree. The respondents agree that the school interior influences student behavior, but they are undecided when it comes to assessing the impact of their school interior on student work. For the most part, respondents confirmed that physical environment factors negatively affect student behavior, and that school interior generally affects student attitudes and behavior. In addition, the research found that respondents positively characterize the impact of modern and student-friendly school interior.

In this study, we tried to detect the perception of the school interior and its influence by comparing students’ and teachers’ responses regarding the hypotheses established: “Students and teachers assess the school interior positively” and “Students and teachers equally assess the influence of the school interior on communication and active participation in class.” Responses indicate that 55.6% of students and 70% of teachers assess the school interior as good. Based on these responses, the students and teachers assess the school interior equally, i.e., they share the attitude toward the school interior. Regarding the school’s information and communication technology, it was interesting to see if teachers and students equally evaluate the technological equipment and its use in the classroom. As in the previous question, students and teachers assess their school’s information and communication equipment as good. However, teachers have a slightly better opinion of the school’s equipment (51.2% of teachers vs. 40.7% of students).

Students (54.1%) state that teachers frequently include information and communication technology in their teaching, and 80% of the teachers confirm this by responding that they frequently use information and communication technology to plan and conduct their lessons. From the analysis of the responses about the assessment of the school interior and technological equipment, we can conclude that the respondents share attitudes about the school interior and technological equipment. It leads to the conclusion that both groups of respondents feel that their school interior is good and that the classrooms are technologically well-equipped. They assess the use of the equipment and the interior as positive. By analyzing these questions, we conclude that the initial hypothesis “Students and teachers assess the school interior positively” is confirmed.

The questions concerning the hypothesis “Students and teachers equally assess the influence of the school interior on communication and active class participation” attempted to verify whether students and teachers have the same opinion about the influence of the school interior on teaching. Most of the teachers (78.7%) agree that the school interior that meets all the needs of the students to pay attention in class enables them to be more motivated for active participation. A sole respondent (1.3%) disagreed with the statement, while 20% were undecided. Just like teachers, students also believe that the school interior influences the quality of teaching and motivation to participate in class (62.2%). Both groups agree with the statement that the school interior influences the students. When asked about the influence of the school interior on paying attention in class, students and teachers give similar answers. Most teachers and students are undecided (38.8% of the teachers and 45.2% of the students). 33.3% of the students and 23.8% of the teachers responded positively to this question, while 21.5% of the students and 37.5% of the teachers responded negatively. On the other hand, they believe the school interior does not aggravate active class participation. It was interesting to compare the responses regarding the influence of information and communication technology on communication and active class participation. There are different opinions about the effect of information and communication technology on teaching. Concerning the influence of information and communication technology on active class participation, most of the teachers are undecided, i.e., 38.8%, 23.8% agree with the statement, and 37.5% disagree. Students give similar responses when evaluating the effect of information and communication technology on communication, where 32.6% of them are undecided. However, a higher percentage of students, 34.8%, estimate that information and communication technology in the classroom affects communication, while 32.6% think it has little influence, i.e., no influence at all. Here we see slight differences in opinions regarding the effect of information and communication technology in the classroom. Nevertheless, students estimate to a lesser extent (34.4%) that information and communication technology affects their communication in class, while teachers (38.8%) are mostly undecided. If we consider the effect of information and communication technology separately, we can conclude that students and teachers evaluate the effect of the school interior equally, in other words, they think that the school interior generally affects motivation and work. However, they are undecided regarding the influence of the school interior on simply paying attention

in class. Therefore, the hypothesis “Students and teachers equally assess the influence of the school interior on communication and active class participation” is also confirmed.

Conclusions

School interior is a term that combines design, information and communication technology, pedagogical concepts, strategies, organizations, partnership relations, and much more. Especially today, there is an increasing need for research on the school interior and its impact on upbringing and education. Awareness of the magnitude of the environment for learning and teaching, defined in the literature as the social-psychological or conceptual environment, is a contributing factor. This paper highlights the importance of the school interior in shaping attitudes, behaviors, and even success in learning and teaching. School classrooms should replace the traditional spatial organization with more flexible, open spaces that promote active learning. However, the authors emphasize that the space may affect each of its users differently, so the experience, understanding, and use of the space cannot be expected to be the same for everyone. To this end, many foreign authors are conducting research and examining what type of school interior is best for students and their teachers. All stakeholders in the educational process should be included, and collaboration at the architect-teacher-student-community level is necessary.

The results show that the respondents assess the school interior as good and believe it does not negatively affect their work and knowledge acquisition. However, we observed a difference in students’ and teachers’ views about school interior regarding its influence on communication, especially the influence of information and communication technology. Students’ assessment of the influence of information and communication technology on the teaching process is moderate. Moreover, the research found that the respondents positively characterized the influence of a more modern and student-friendly school interior, and they feel comfortable and safe in the classrooms where teaching takes place.

Furthermore, both groups of respondents perceive their school interior as good, as well as its equipment. When asked about participation in the co-design of the school interior, there was discord in the perception of teachers’ and students’ involvement in the process. Students indicate to a higher degree that they do not participate in this process, while teachers express their non-participation less clearly. This study highlights the importance of involving all groups in the process of designing the school interior, as both perspectives are needed to create an ideal school that allows for satisfaction in work and the acquisition of new knowledge and promotes motivation and the pursuit of the best possible success in work and learning. The results of this study highlighted some known findings about the influence of the school interior on its environment.

The term “hidden curriculum” includes the term “school interior”. As such, however, it should be carefully planned, organized, and structured, as it affects not only the motivation, communication, and work of students but also teachers. Therefore, it is crucial to raise awareness of this perception of the school interior as part of the hidden curriculum that we can influence because, in this way, the design of the school interior would receive deeper

and greater attention, making the school interior a significant segment of the curriculum and an indispensable term in the educational system that examines the perceptions and experiences of those on whom it has the highest impact, i.e., students and teachers.

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PUPILS' PERSPECTIVE ON VIDEO-BASED CLASSROOM RESEARCH

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ABSTRACT

This case study was part of a practical action research aimed at planning, carrying out and evaluating a video-based professional development program for mathematics and biology teachers. The teachers involved in the research were tasked with implementing elements of effective teaching and their lessons were video-recorded. The research lasted two pandemic school years, from early 2020 to mid-2021. During this period, the recorded lessons were analysed in online learning communities and on Moodle forums. There, the teachers could engage in video-based learning, allowing for a discussion on teaching practices while ensuring collaborative reflection and critical friendship with pedagogues and mathematics or biology teacher educators. However, their pupils were involved in the research only indirectly: they were the objects of recorded lessons with no active role in the process. In addition to analysing recorded lessons, we conducted two group interviews with pupils in order to understand their perspective on the video-based classroom research. Pupils stated that their taking part in video-based classroom research led to some positive changes in themselves, mainly improved attitude towards Mathematics and Biology as school subjects and their self-esteem. However, pupils did not understand why the lessons were video-recorded. They did not understand the positive and negative aspects of recording lessons, which is why their activity decreased during the lessons and they expressed their fear of the camera. Since pupils are at the centre of education, it is necessary to ensure their active involvement in the process of planning, implementing and evaluating changes in teaching, especially since these changes are aimed at improving their learning in general.

Keywords: *case study, pupils' voices, collective teacher efficacy, teacher professional development, video-based classroom research*

Introduction

Pupils have unique perspectives on learning, teaching, and schooling (Cook-Sather, 2006). Also, they have expertise in schooling conditions that (university) researchers lack (Rodríguez & Brown, 2009), which is why they know what is (not) working in their classrooms and schools (Conner et al., 2022). Therefore, anyone who wants to improve pupils'

educational experiences has to attend to their perspectives, take their feedback seriously and afford them opportunities to actively shape their education (Conner et al., 2022; Cook-Sather, 2006).

Mitra (2018) defines pupils' voice as the ways in which they participate in democratic processes in schools, i.e. in making educational decisions that affect them in their school lives (Smit, 2013). The background for this is Article 12 of the United Nations Convention on the Rights of the Child (UNCRC, 1989), which underlines children's rights to express their views and to be heard (Karlsen & Ohna, 2021; Smit, 2013). Among other things, pupils' voice practices can include conversations about classroom practice, wherein teachers seek feedback and ideas from pupils (Skerritt et al., 2021). However, it is equally important to form partnerships between pupils and teachers to design and implement classroom-based reforms (Conner et al., 2022). Recognising pupils as partners in learning and teaching contributes to the improvement of their awareness of the problems and challenges they face at the school level, especially by understanding pupils' attitudes towards the issues they raised (Matthews, 2018; Torres & Mouraz, 2021). For example, Bognar and Zovko (2008) conducted an action research with the purpose of enabling pupils' active participation in independent child-centred action research inquiry. In their research, pupils learned how to plan and carry out action research projects underlined by their own needs, interests and self-chosen values.

However, pupils do not necessarily have to conduct their own action research; they should at least be involved in designing educational changes at the classroom level whilst monitoring this process with their teacher(s). One research design enabling pupils' active participation in the process of change at the classroom level is lesson study (originally known as *jugyou kenkyuu*). Lesson study is a research-based form of teacher professional development and learning aimed at finding the most suitable way of realising a selected teaching unit (Lewis et al., 2012). Lesson study implies the cooperation of teachers and researchers in a circular process consisting of lesson planning, performance and lesson observation, followed by a critical reflection based on data collected. The aim of lesson study is to determine specific teaching strategies in the lesson which promote or hinder pupils' learning (Lewis et al., 2012). This form of professional development and learning helps teachers analyse pupils' thinking and detect their misconceptions (Lewis et al., 2009). The real question is: *who can tell the teacher which teaching strategies or instructional interventions help pupils learn the best – rather than pupils themselves?* In order to gain understanding of pupils' perspectives on specific instructional improvement strategies¹, we conducted this research, which will be described in detail below.

¹ We view teacher professional development as a multi-tiered instructional improvement strategy: when teachers engage in effective professional development and implement in their instruction what they have learned, pupils' learning outcomes improve (Opfer, 2016).

Methodology

Research context

Improvement of an educational system can be achieved through various interventions, the most important of which are those aimed at enhancing teachers' and pupils' learning, e.g. continuous teacher professional development (Mourshed et al., 2010; Gore, 2021). High-quality teacher professional development contributes to positive changes in teaching practice and both teachers' and pupils' learning (Borko, 2004). International assessment programs, such as PISA, TIMSS or PIRLS, help indicate the overall quality of different educational systems on the basis of which each country can evaluate its needs for educational change (Markočić Dekanić et al., 2019). Concerning Croatian fifteen-year-old pupils, the PISA 2018 results indicate below-average scores in mathematics and science (Markočić Dekanić et al., 2019). Moreover, over a 12-year-long span, Croatian pupils' reading and mathematical competencies neither improved nor declined, whereas a considerably negative trend has been observed in their scientific competencies (Markočić Dekanić et al., 2019). In order to aid pupils in achieving higher levels of mathematical and science literacy, it is necessary to coach teachers to provide high-quality mathematics and biology instruction by applying effective teaching strategies (Schroeder et al., 2007; Bognar, 2017).

Due to the lack of Croatian research analysing the link between teacher professional development and student learning (outcomes), the SURFPRIMA research team, led by Professor Branko Bognar, PhD, designed a four stage research project² aimed at designing and testing a video-based professional development model for mathematics and biology teachers with the purpose of improving pupils' learning. This particular research was nested within the second phase – practical action research aimed at planning, carrying out and evaluating a video-based professional development program for mathematics and biology teachers. Even though this study was a part of a larger research, we decided to present it as a case study because our aim was to understand how and why something might have happened (Thomas, 2021).

Participants

Given the below-average results of *fifteen-year-old* Croatian pupils on the PISA exams, thirteen mathematics and biology teachers who teach eighth grade pupils were invited to participate in the action research. Apart from the teachers and their pupils, pedagogues

² The SURFPRIMA research project was initially divided into four phases, each lasting one calendar year. In the first phase, on the basis of systematic reviews of relevant research, we aimed to determine the characteristics of high-quality and effective professional development and to design a professional development program for biology and mathematics teachers suitable for the Croatian educational system. In the second phase, we implemented and improved said professional development model through action research involving biology and mathematics teachers and the research team. The third phase examined the effectiveness of the model of professional development with regard to pupils' learning outcomes in biology and mathematics. In the fourth phase, based on the results of the action and experimental research, we proposed an effective model of in-service professional development for biology and mathematics teachers (Filipov & Bognar, 2020).

and mathematics and biology teacher educators were also involved in the research as professional development facilitators. The teachers were tasked with implementing elements of effective teaching and their lessons were video-recorded. The research lasted two pandemic school years, from early 2020 to mid-2021. During this period, the recorded lessons were analysed in online learning communities and on Moodle forums. There, the teachers could engage in video-based learning, allowing for a discussion on teaching practices while ensuring collaborative reflection and critical friendship with each other as well as with pedagogues and mathematics or biology teacher educators. Subsequently, their pupils were also involved in the research for reasons described below.

Research problem, research questions and data collection and analysis

The teachers' pupils were involved in the video-based classroom research only indirectly: they were the objects of recorded lessons with no active role in the process. In order to understand the pupils' perspective on the video-based classroom research, we conducted two semi-structured group interviews with eleven pupils ($N(F) = 5$, $N(M) = 6$) in the final stage of the research. Since the action research lasted until the end of the school year, it was not possible to conduct interviews with pupils before the summer break. Therefore, the interviewees were selected by the teachers on the grounds of willingness to voluntarily participate in the interviews outside of their regular school duties. Since the pupils were mainly passive in the entire video-based classroom research process, our main research question was: *how did the pupils view the research they were involved in?* In addition, selected responses obtained in semi-structured individual interviews with three teachers were thematically connected to the pupils' responses in order to obtain a more in-depth understanding of the pupils' answers. Our reflexive approach to the data entailed: (1) familiarising ourselves with the dataset through a repeated reading of the interview transcripts, (2) distinguishing semantic ideas by systematic coding, (3) extraction of quotes from the written dataset and generating initial themes, (4) developing and reviewing themes, (5) refining, defining and naming themes, and (6) final analysis of selected passages of text (Braun & Clarke, 2006, 2022).

Ethical considerations

In the initial stages of the research, the participants were familiarized with its purpose, goals and course of action. Informed and voluntary consent was obtained from all subjects involved in the study. Participants had the right to refuse to participate in the study and to withdraw from it at any time. We obtained written consent from the Ministry of Science and Education of the Republic of Croatia, the Education and Teacher Training Agency, school principals as school representatives and pupils' parents or guardians. In classes where some parents were not ready to give their consent, special procedures were introduced to ensure the pupils' right not to participate in the research. During the recording of lessons, those pupils would sit outside the recording angle, and their work materials, written or oral answers, were not the subject of analysis within the research. In the Results section, we anonymised both pupils' and teachers' names.

Results

The reflexive thematic analysis of group interviews with pupils allowed us to identify repeating themes, reflecting positive and negative aspects of the pupils' perspective on the video-based classroom research they were involved in (see Figure 1).

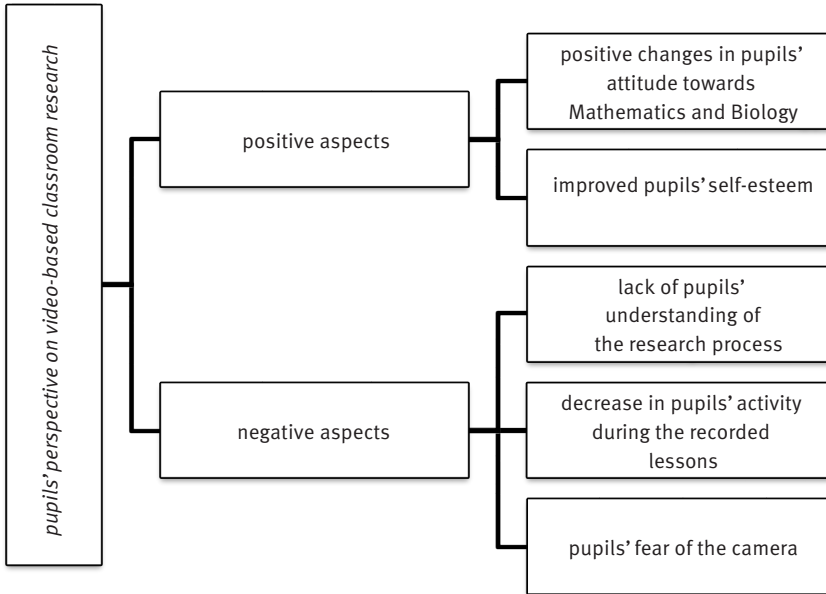


Figure 1 Positive and negative aspects of pupils' perspective on video-based classroom research

1) Positive aspects of pupils' perspective on video-based classroom research

Pupils stated that their taking part in this video-based classroom research led to *positive changes in their attitude towards Mathematics and Biology as school subjects*. They took Mathematics and Biology more seriously and “(...) started writing down more in class than before, writing homework more often and revising from [their] notebook before class.” (Pupil 1) The presence of the camera in the classroom “(...) encouraged me to be more active in class.” (Pupil 2) Pupils' attentiveness during the recorded lessons also increased: “I pay attention to what I'm going to say [before saying it aloud] to avoid saying something stupid.” (Pupil 3) As a result, they “(...) remembered a lot [from the recorded lessons].” (Pupil 3)

Pupils also pointed out that their involvement in video-based classroom research resulted in the *improvement of their self-esteem*. Being an object of class recordings increased their self-awareness: “I noticed some of my mistakes, it encouraged me to try harder and be more relaxed.” (Pupil 2) They also pointed out that recording lessons “might have helped [them] overcome the fear of camera, of talking, of saying anything at all, and even if [they] were wrong, that it was not a big deal, that nothing was going to happen.” (Pupil 4)

2) Negative aspects of pupils' perspective on video-based classroom research

However, *pupils did not understand why the lessons were video-recorded*. Although the aim of the research was explained to both pupils and their parents in the initial stage of the research, pupils forgot why the lessons were video-recorded: “I think these recordings were really helpful for university students studying this subject, who want to keep doing that for a living. So, we helped them see what kind of classes children like the most and how all of us can get involved, what we find interesting; so, I think all of this was really useful.” (Pupil 4) In reality, the recordings of lessons were used as a vehicle for lesson analysis in teachers' online learning communities and on online forums.

Since *pupils did not understand the positive and negative aspects of video-based classroom research*, there were apparent changes in their interaction during the recorded lessons. At the beginning of the research, pupils were more active because they perceived the camera in the classroom as a new, exciting feature. However, as time went on, they gradually became more careful and quieter, as if they were afraid of other people watching those videos: “Pupils who usually have some good ideas were kind of hesitant (...). Normally, they would give a good idea and then someone else would just build on it, but when they had nothing to say, the others could not think of anything good to say either.” (Pupil 6)

Furthermore, some pupils expressed their *fear of the camera* more than others: “That feeling of being exposed in front of the camera, knowing that someone's watching you and that you have to be one hundred percent careful not to do or say something stupid. This even led to some pupils not being themselves.” (Pupil 5) In a separate interview, Teacher 1 (mathematics) stated that “there are pupils who find it very difficult to express themselves, who freeze in front of the camera because they have a fear of failure. (...) I think they are too tense in front of the camera and afraid they will say something wrong.” Therefore, it may be easier to gain an insight into pupils' thought processes when classes are not video-recorded.

Since pupils were not involved in the evaluation of changes introduced to teaching, we noted a *disparity between the teacher's and the pupils' perspective on the video-recorded lessons*. Some pupils saw the “reformed” lessons as more active: “We have been doing practical work in groups and pairs more often; it hasn't been only theoretical.” (Pupil 3) The pupils explained this response by saying that the classes were different before due to the pandemic, and they also had a substitute teacher. However, in a separate interview, Teacher 2 (biology) stated:

I promised myself I wouldn't be one of those boring teachers who just stand and talk while children look at them like they're an all-knowing deity. And I've always tried to have at least two, three short activities in class (...) In fact, I was surprised when they told me my classes were different than usual. At first, I was confused, then a bit angry, and then I realised they were right. Of all generations of pupils I have worked with, I think this was the one I engaged in the lessons the least. (...) I usually apply various cognitively demanding teaching methods gradually, as pupils mature, so they get accustomed to collaborative learning with time. Since the research was done during the pandemic, I missed a few steps and it turned out that my pupils didn't consider our Biology lessons

to be as active as I did, which was alarming for me and I did a lot of self-reflection in order to change that.

Discussion

Critical friendship and collaborative reflection between teachers and research team members led to an increase in lesson efficiency and pupils' learning outcomes as teachers introduced changes in their teaching in accordance with their colleagues' feedback. Although the teachers and research team members regularly collaborated on lesson design and feedback, pupils gave very little feedback about the recorded lessons or input for future planning. Pupils were not included as equal participants in the research, which is why they did not actively participate in the process of introducing changes in teaching. They did not understand why the lessons were video-recorded nor did they understand the positive and negative aspects of recording lessons, which is why their activity decreased during the lessons and they expressed their fear of the camera. Perhaps not enough class time was dedicated to conversations about the entire research process: who the researchers are, why they are recording the lessons, what the teacher's attitude towards recording and researching lessons is, why the teachers were involved in the research, what the teachers' participation in the research will bring the pupils, how the pupils can become more actively involved in the research process and similar issues. Furthermore, the pupils were not involved in designing lessons nor did they evaluate the lessons or actively reflect on their own learning.

This poses a risk of teacher-centred education, as evidenced by an excerpt from an interview with Teacher 3 (mathematics): "I think the majority of teachers are afraid of letting pupils lead. We are used to being the ones doing the teaching and explaining, and I think we are afraid to abandon that role, as if we believe the pupils would not know how to do things themselves or they would not learn properly." However, the inevitable question is: *what would happen if we listened to the pupils' voices more?* The answer to this question may be found in collective teacher efficacy. This term is defined as teachers' belief that they can positively influence all pupils' learning outcomes by working together, mostly by improving their teaching (Donohoo, 2017). At the school level, teachers should communicate and cooperate when planning for change. The cooperation of all educational staff within a school collective, especially in relation to innovations in teaching, is strongly correlated with pupils' learning outcomes (Lynch et al., 2019). In a school culture characterised by collective teacher efficacy, the educational staff participates in building a shared vision of school development (Qadach et al., 2020). However, it is also important that pupils make an active and meaningful contribution to a shared vision of school development as well as to improvements in teaching individual subjects. Pupils are the main subjects of all educational endeavours and their voices should be heard. In that sense, collective teacher efficacy should be viewed as a precondition of pupils' participation in decision-making processes in schools. Although there is no one way to engage pupils as research partners (in teaching), Nguyen et al. (2022) suggest the following

guidelines in this process: (1) not knowing what the partnership might look like is okay and there is no single recipe on how to partner; (2) take the time to invest in partnerships; (3) provide ongoing opportunities to reflect on partnerships; (4) consider how to balance the power dynamics; and (5) consider how to incorporate diversity in the background of young partners in research.

In this particular case, the video-based classroom research could have begun with a democratic dialogue with pupils, where they could have been informed on what kind of research they would participate in and what the end goal would be. In addition, together with the pupils, the teachers could have determined the elements of teaching that needed to be improved and collaboratively monitored the progress. The pupils could have been included in lesson planning and in video-based lesson analyses. The teachers could have planned data collection procedures with and from their pupils (reflective discussions, focus groups, individual and group interviews, questionnaires, pupils' progress logs). Apart from discussing the lessons with pupils, in order to introduce effective changes, it is essential that teachers systematically reflect on their teaching, either within a learning community or within their own research diary. In doing so, it is important that they observe lessons through pupils' eyes and try to understand their perspective. Schoenfeld (2018) suggests some questions that can guide the teacher in this process: *Who generates the ideas that get discussed?, How deeply do pupils get to explain their ideas?, Do classroom discussions include pupils' thinking?, Does instruction respond to pupils' thinking?* These and similar reflective questions can contribute to a deeper understanding of one's teaching and encourage the introduction of educational changes (Krammer et al., 2006).

Conclusion

Pupils know best what kind of teaching they need. Since they are at the centre of education, it is necessary to ensure their active involvement in the process of planning, implementing and evaluating changes in teaching, especially since these changes are aimed at improving their learning in general. At the moment, video-recordings of lessons have an important role in teacher professional development worldwide. However, to the best of our knowledge, not much attention has been paid to the pupils' perspective on video-based classroom research, and the literature on how to promote equitable and meaningful involvement of young people as research partners is scarce in general (Nguyen et al., 2022). Although this research involved a small number of participants and does not allow for the generalisation of results, it opens up space for scientific discourse on pupils' voices as an important factor contributing to the overall quality of teaching.

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SCHOOL CLIMATE IN GENERAL AND VET SCHOOLS IN LATVIA: PRINCIPALS' PERSPECTIVE

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ABSTRACT

During OECD TALIS research in years 2013 and 2018 high level of school evaluation was found from principals and teachers' viewpoint.

Despite several external problems, principals and teachers found their schools as a very good working place that could be suggested to other colleagues. This opinion points to a good school climate. Such a factor leads to a good learning environment and increases the learning outcomes of students.

The international survey OECD TALIS 2013 had an additional national level survey adapted for vocational education and training schools (TALIS PROF). Despite some differences in levels general and vocational schools provide, there are some issues of education management that might indicate the overall climate in schools of Latvia, including general and vocational education. As TALIS PROF was not continued in next OECD TALIS research cycle in year 2018, the additional survey for principals of vocational schools was provided in year 2022. The additional survey was adapted from the survey OECD TALIS 201, including specific vocational education targeted questions and actual education environment and climate questions from survey of OECD TALIS 2018. The aim of this research was to find school principals' attitude to questions regarding school climate.

In order to find best answers regarding the school climate, resources were analysed. Independent sample tests were provided to find out differences between groups of principals. The study compared the opinions expressed by general and vocational school principals of survey year 2013 in order to find whether there were differences between their opinions on school climate questions. To find if there were differences between opinions on school climate questions, general and vocational school principals' views of survey year 2018 and results of the adapted survey 2022 were compared.

The research found that principals of schools in survey cycles year 2013, 2018, 2022 evaluated highly the school climate. Mainly there is no crucial difference between general and vocational education principals' opinions regarding questions on the school climate.

Keywords: *OECD TALIS, School Management, School Climate, School Environment, Management Style*

Introduction

Given the changes in education funding and content models in Latvia over the last decade, the challenges related to the prestige of education and the increase in the average age of teachers appeared. Despite that lower-secondary school teachers and principals showed high ratings of their school as an attractive and recommendable working place in OECD TALIS cycle 2 in 2013, which continued in cycle 3 of the study in 2018 (Geske, 2020).

In parallel, TALIS PROF 2013, a national survey of vocational school principals and teachers was conducted using a core survey supplemented with specific questions focusing on vocational education.

OECD TALIS 2018 cycle 3 surveyed only lower-secondary school teachers and principals, so information on vocational education and training (VET) was not available.

In order to conduct further research to improve the performance of VET institutions, it was important to find out whether the internal climate of the school is favourable so that the focus for future performance improvement can be placed on external conditions.

The aim of the study was to find out the issues related to the climate of the institution in lower-secondary and VET schools of Latvia.

The hypothesis of the study is that the opinion of school leaders on the climate of the institution they lead does not depend on the type of the institution (general or VET school).

The tasks of research were:

- to identify the characteristics of the school climate by analysing sources,
- to propose questions in the survey corresponding to the indication of the characteristics,
- to find out, by analysing OECD TALIS 2013 and OECD TALIS 2013 PROF data, whether general education and VET principals have different views on the school climate.
- to find out whether general education and VET principals have different views on the school climate by analysing data from the OECD TALIS 2018 and the author's adapted VET principals' Survey 2022.

Theoretical Framework

Principals have a crucial impact on the school climate. One principal may not have success in different schools as every school is special and different (O'Leary & Pulakos, 2011). It is not even about one person to improve the climate in school. An effective leader fosters a system to improve work results. There should be a focus on the openness of communication and culture in school (Ock & Oswald, 2015).

If schools have more autonomy and self-determination it results as much modern work environment (De Toni & De Marchi, 2023). Effective school leadership contributes to students' academic and social success (Smith et al., 2020). Although the role of

principal-administrator cannot be denied, the development of manager-leader in schools should be encouraged. Being a school leader is an art (Clipa & Honciuc, 2020).

Climate is the starting point to foster academic learning and achievement, not the driver (Hopson et al., 2014). Academic well-being strongly relates to self-rating (Rathmann et al., 2018) and impacts absenteeism inversely (Hendron & Kearney, 2016). Students must have good climate in school, high self-rating and willingness to attend school.

Three basic domains are used to measure school climate: Safety, Engagement and Environment (Waasdorp et al., 2020, Osher et al., 2020).

Relationships and in-person attendance are basics of positive school climate (Teasley, 2017; Mitchell, 2021). Involvement and feedback have a positive effect on teachers' motivation, which improves the quality of their work (Van Beurden et al., 2021; Smith et al., 2020). Some positive relationship activities may take more time, but some are relatively quick and effective. For example introduction of day provided by staff of school positively takes all engaged persons "on one wave" to work more productive (Anyon et al., 2018).

School as community hub can focus resources of engaged groups (school, family, community) to decrease drop-out rate (Anderson-Butcher et al., 2018) and to increase children's success (Britt et al., 2023). Stakeholders' care on emotional practices decrease drop-out in VET schools (Lippke, 2012). Stakeholders, schools and community should understand that investment in school climate leads to future community strengthening (Converso et al., 2019). Community strengthening is achievable through viewpoint of social satisfaction. It is important to use the trust network as it has significant impact on community strengthening (Veretennik & Kianto, 2019).

School climate measurements must be provided regularly to reduce bullying and improve programmes that foster students feeling of safety and engagement (Brewer et al., 2017). Student achievement is based on core variables: school climate and social identification (Maxwell et al., 2017). Scope of this research was school climate.

Methodology

School climate is a complex system to analyse. It was possible to divide it in smaller subdomains for the observation. This research is based on the domains: Engagement, Safety and Environment (Osher et al., Waasdorp et al., 2020). Every domain has subdomains that give a possibility to measure every subdomain separately or to create a tool that returns complex information on school's climate. This research is based on OECD TALIS Principal Survey data, case of Latvia, covering such subdomains as Relationships, School Participation (domain: Engagement), Emotional Safety, Physical Safety, Bullying and Cyberbullying, Substance Abuse (domain: Safety), Physical Environment, Instructional Environment, and Discipline (Domain Environment) (Osher et al., 2020). There are still uncovered subdomains to measure school climate more widely, but this research was focused on similarities of principals' opinion regarding the school climate.

All statements described in the research had 4 point Likert scale structure.

To collect the information 44 statements (2013) and 45 statements (2018 and 2022) were selected under the categories:

- decision-making and collective governance,
- things that the school lacks- physical, staff, methodological resources,
- actions observed by students,
- stress triggers for the staff,
- attitudes towards the profession and the workplace.

During data collection in year 2013, there were indicated groups of respondents: Principal of a general education institution ($n = 111$), Principal of vocational education ($n = 36$).

During data collection in year 2018 the respondent type and number was as follows: Principal of general education ($n = 133$), but during data collection in year 2022: Principal of a vocational education institution ($n = 8$).

As data compared in the research had scale structure and there were uneven groups of respondents to compare, Kolmogorov-Smirnov's test was used.

Data processing and demonstration tools: IBM SPSS 22, MS Excel 2016.

The hypothesis was that the results for each pair of groups will not differ with 95% confidence.

Results

The comparison of data between general and VET schools demonstrated high and very high satisfaction on principals' job (see Table 1, statements S1 to S6). Talking about the value of the profession in society, the answer is moderate (statement S7), Talking about disadvantages of the profession, principals' answers had very low points (statements S8 to S9). That means advantage statements are proportionally reversed versus disadvantage statements. It double-checks the results and shows correct controversial answers.

All groups were compared to each other by pairs to find if there are differences by data collection year or school type regarding principals' attitudes towards their work.

Table 2 shows that there is no statistical difference between opinions about job satisfaction of principals comparing groups in pairs.

Comparing data between groups of general and VET school principals (see Figure 2), it appeared that despite the big difference in number of respondents it does not make a profound impact on results. Continuing to focus on statements described in Table 1 and compared in Figure 2, data were checked using Kolmogorov-Smirnov's test to measure the difference in answers between groups. The result was as follows: there is no statistical difference in all 10 statements between groups of general and VET schools (sig.level 0.95).

44 statements were selected (2013) and 45 statements were selected (2018 and 2022) to compare the difference between groups in each cycle of data collection.

No statistically significant difference was observed in 41 statements (2013) and 41 statements (2018 and 2022) with significance level 0.95.

Table 1 Principals' attitudes towards their work, TALIS survey 2013, TALIS survey 2018, Author's survey 2022

Num.	Statement	general ed. schools (2013), n = 111		VET schools (2013), n = 36		general ed. schools (2018), n = 133		VET schools (2022), n = 8	
		Mean	S.d.	Mean	S.d.	Mean	S.d.	Mean	S.d.
S1	I enjoy working at this school	3.54	0.58	3.57	0.50	3.68	0.53	3.63	0.74
S2	I would recommend this school as a good place to work	3.41	0.62	3.46	0.51	3.49	0.60	3.50	0.53
S3	If I could decide again, I would still choose this job/position	3.02	0.71	3.06	0.59	3.21	0.66	3.25	0.71
S4	All in all, I am satisfied with my job	3.16	0.39	3.11	0.47	3.17	0.47	3.13	0.64
S5	I am satisfied with my performance in this school	3.10	0.43	3.03	0.45	3.09	0.43	3.13	0.64
S6	The advantages of this profession clearly outweigh the disadvantages	2.86	0.61	2.82	0.81	2.79	0.73	3.00	0.76
S7	I think that the teaching profession is valued in society	2.41	0.67	2.11	0.63	2.26	0.62	2.50	0.93
S8	I would like to change to another school if that were possible	1.70	0.73	1.66	0.59	1.6	0.64	1.63	0.74
S9	I regret that I decided to become a principal	1.68	0.61	1.63	0.55	1.51	0.58	1.50	0.76

Table 2 Differences in principals' attitudes towards their work, TALIS survey 2013, TALIS survey 2018, Author's survey 2022

	general ed. schools (2013), n = 111	VET schools (2013), n = 36	general ed. schools (2018), n = 133	VET schools (2022), n = 8
general ed. schools (2013), n = 111				
VET schools (2013), n = 36	DNSS			
general ed. schools (2018), n = 133	DNSS	DNSS		
VET schools (2022), n = 8	DNSS	DNSS	DNSS	

Note: DNSS-Difference is Not Statistically Significant in all statements regarding Job Satisfaction with 95% confidence

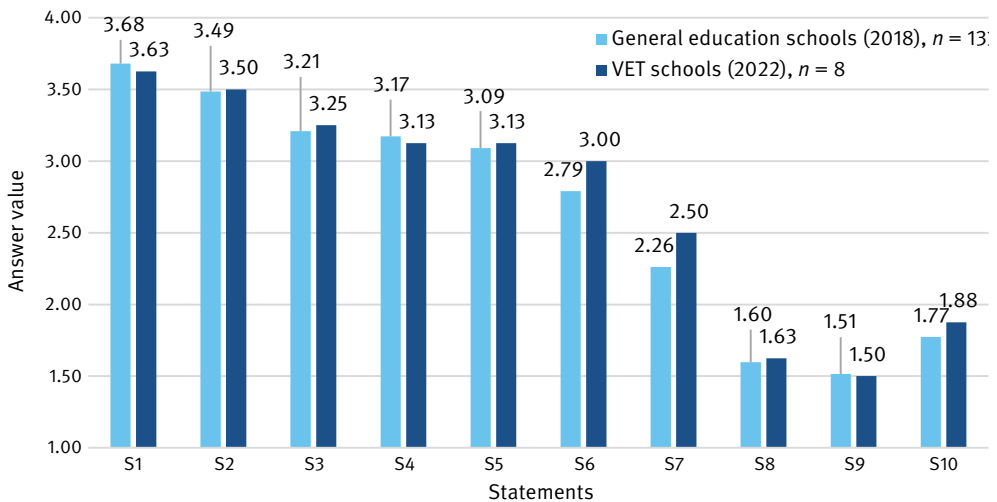


Figure 2 Similarities in principals' attitudes towards their work, TALIS survey 2018, Author's survey 2022

Table 3 Differences in school principals' views on school climate, mean values, OECD TALIS 2013, 2018 data, Survey 2022 data

Groups of respondents	Shortage of vocational teachers		Use/possession of drugs and/or alcohol		Unexcused absenteeism by students		Physical injury caused by violence among students		Shortage or inadequacy of instructional materials	
	Mean	S.d.	Mean	S.d.	Mean	S.d.	Mean	S.d.	Mean	S.d.
general 2013 (n = 111)	1.27	0.57	1.32	0.49	3.17	1.18	1.67	0.51	2.11	0.82
VET 2013 (n = 36)	2.11	1.11	2.08	0.77	3.75	1.05	1.44	0.5	2.50	0.81
general 2018 (n = 135)	1.24	0.58	1.24	0.45	–	–	1.58	0.58	1.66	0.74
VET 2022 (n = 8)	2.38	0.92	1.88	0.64	–	–	1.00	0.0	2.63	1.06

Note: difference in each pair is statistically significant with significance level 0.05

Two statements where the hypothesis was rejected (see Table 2) were reported as different in both measurement occasions, so these differences are permanent: “Shortage of vocational teachers”, “Frequency of drug and alcohol use by students” (Table 3). Data 2013 had one more rejected hypothesis in the answer regarding absenteeism by students. It is a more widely spread problem for VET schools. There were two trend items continuing both the measurement cycles and showing significant differences: VET schools are showing more care on “Shortage of vocational teachers” and “Students’ usage of drugs and alcohol”. These two statements showed no statistical difference in cycle 2013, but had a significant difference regarding “Physical injury caused by violence among

students” – VET schools are less worried, but in the question regarding “Shortage or inadequacy of instructional materials” VET schools are more concerned. Comparing results in groups of general and VET schools, year 2013, same tendency was highlighted: significant differences in opinion on school climate.

Discussion

This research shows positive viewpoint of principals to school climate not depending on time information was collected nor type of school.

Data collection in three cycles, the comparison between two groups mainly showed no difference in principals’ answers.

The in-depth view on answers regarding the evaluation of principals’ job show that greatest differences appear in statement S7 dif. = 0.24 and S6 dif. = 0.21. Such a difference might be connected with the specific difference of the school type, as VET school employees identify themselves as teachers and the specific field of profession they teach in school.

Significant differences in several answers regarding the school climate problems indicate systemic differences between general and VET schools.

Despite the low number of respondents, data 2022 indicate a trend towards the generalisation of data.

Review of literature presented strong connection to positive viewpoint of school staff and emotional wellness and academic achievements of students. Results show that principals of schools in Latvia have positive viewpoint on school climate in overall. There are just few differences between general and VET school climate. The climate in schools of Latvia is rated as good from principals of schools. That is fostering engagement and feeling of safety of students. Looking from viewpoint of principals, all school climate investments have good results. In a context of limited resources, school development should focus more on the external environment of schools, while maintaining the progress already made on school climate issues.

School climate includes several groups of characteristics. According to Osher et al. (2020), these groups are: engagement, safety and environment. School climate has a positive impact on teachers and principals’ willingness to work. School climate has a positive impact on student achievement and well-being.

Conclusions

The aim of the study “to find out the view of the principals’ of Latvian general and vocational education institutions on issues related to the climate of the institution they manage” was reached.

Research hypothesis “the opinion of school leaders on the climate of the institution they lead does not depend on the type of the institution (general or VET school)” is confirmed.

The objectives were fulfilled:

- the characteristics of school climate by analysing sources were identified,

- questions in the survey corresponding to the indication of the characteristics were proposed,
- OECD TALIS 2013 and OECD TALIS 2013 PROF data were analysed to find out whether the opinions of general education and vocational education leaders on school climate differ,
- data from the OECD TALIS 2018 and the author's adapted VET Principals' survey 2022 were analysed to find out whether general education and vocational education leaders have different views on school climate.

Teachers have a positive view on their school climate. Principals, too, have a positive view of their school climate. No significant differences were found in the opinions of general and VET school principals in the two phases of the study. The differences found are partly due to the specific characteristics of the institution, such as the lack of vocational teachers or teaching resources.

Strengths of this study in homogenous results regarding principals' opinion about their job and school climate in general not depend of measurement time or school type.

Weak point of this study is small number of participants from VET schools and discontinuation of measurements of VET schools.

This study is limited to measure school climate. To measure climate in other types of institutions, specific instruments need to be created respecting specifics of organization. Further studies can be connected with teachers' opinion and students' achievements as main task of school existence.

Suggestions

There is no reason to extend the 2022 study, as answers and the comparison show the same trends as in year 2013 with more respondents and internationally approved tools. However, many more respondents might be asked for data collection in next cycle using survey 2022 questions, to make measurements regularly and to avoid the strong individual impact of each respondent on results.

It is necessary to look towards the external environment to explore future directions for the development of schools in Latvia to foster the responsibility of the society for future development.

Issues related to the school climate need to be studied deeper to see the solutions towards the improvement of school climate. Teacher and student opinion on school climate should be measured to see the difference of perspective from process planning person to receiver of results. Although student questionnaire must be compared critically if compared general and VET students, as there are different levels of education and VET schools are mostly having students in secondary level and there are still (lower secondary) schools in general education of Latvia participating in TALIS questionnaire.

Additional questions should be added to measure the physical and mental health, culture and linguistic competence and emergency readiness to see the "whole picture" of school climate.

In the next TALIS data collection cycle, it would be very useful to conduct a parallel TALIS study on the national level in VET schools. As VET schools represent a large proportion of upper-secondary education, such an instrument is very important for planning of education on the local and national level.

From perspective of supply to labour market, principals of general and VET schools show good school climate in Latvia. Looking to satisfaction of employers, external impact of Education must be researched. Such as politics, finance investments, quality measurements, improvements, planning, and sustainability of education.

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THE CASE OF REDESIGNING THE CURRICULA OF PRESCHOOL EDUCATION STUDY PROGRAMME

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ABSTRACT

According to society 5.0. and the *Six pillars of the Recovery and Resilience Facility* EU plan, Slovenia developed National Strategy for Higher Education to 2030, that encourage the digital transition of higher education institutions (HEI). Therefore, from the basic definition of digital competences, we define digital competencies of teachers of HEIs as the ability to use digital tools purposefully in the learning process in order to (1) provide a quality learning experience, (2) empower the use of digital technologies in teaching and learning and thus foster the development of digital competencies of students and (3) create opportunities for their use in authentic learning situations (Redecker & Punie, 2017). Based on DigCompEdu model – educators present a role models for the use of digital technologies, encouraging safe and critical use of digital technologies by their students (Redecker & Punie, 2017). Starting from the assumption that the quality of teaching requires appropriate structural, and procedural conditions (Elassy, 2015; Moss, 2016), we evaluated the current curriculum and reflect on the meaningful use of digital tools for planning, learning and teaching. On this bases we developed a model for curriculum redesign with the integration of digital technology. The model includes (i) a systematic analysis of the digital competences of higher education teachers and students; (ii) implementation of targeted training in the use of digital tools within the framework of field specific instructional design; (iii) the implementation, retuning and evaluation of the redesigned curricula of the Preschool Education study programme.

Keywords: *preschool education, students, university teachers, digital competencies, curricula redesign.*

Introduction

National Strategy for Higher Education to 2030 and the project Reforming Higher Education for a Green and Resilient Transition to Society 5.0. digital transition, based on the Recovery and Resilience Plan adopted by all EU Member States, gives special attention to the digital transition and thus to digital competences (DC). Digital competences (DC) are defined as the ability to use digital tools in different ways in different environments and domains (López-Belmonte et al., 2019). The European Digital Competences Framework for Educators – DigCompEdu – is based on the premise that educators are

role models of digital technology use who promote the safe and critical use of digital technologies by their learners (Redecker & Punie, 2017). Thus, from the basic definition of digital competences (DC), we can derive a definition of DC for HEIs and outline it as the ability to use digital tools purposefully in the learning process in order to (1) provide a quality learning experience, (2) empower the use of digital technologies and thus foster the development of digital competences of students, and (3) create opportunities for their use and concrete learning situations (Redecker & Punie, 2017). The DC that a HE teacher should have to promote the development and learning of students, future preschool teachers, is summarised in the European Digital Competences Framework – DigCompEdu which includes three key areas (1) teachers’ professional competences, (2) pedagogical competences and (3) the ability to promote students’ digital competences. All three levels work in an integrated way, with the teacher’s ability to engage professionally in digital environments as a starting point for developing the ability to learn about and use digital tools, the ability to teach, monitor and assess, and to encourage the student to use digital tools appropriately. Professional competence, knowledge and ability to use digital tools is thus also a starting point for the development of the ability to promote the student’s digital competence (Redecker & Punie, 2017).

In addition to defining the DC of HE teachers, it is also necessary to identify ways of fostering their development in students. T. Štemberger and S. Čotar Konrad (2021) note that students, future teachers, have positive attitudes towards the use of digital tools in education, although they have low ratings of their DC, especially those with didactic value. Students, future teachers, are proficient users of digital tools in the field of social media, but not of other digital tools that would provide them with a rich learning experience (McGarr and McDonagh, 2021). Other research (e.g. Fernández-Batanero et al., 2021) also shows a low level of DC among higher education teachers and highlight the need for additional training of HE teachers in the field of developing meaningful use of their DC. As previous studies revealed, although the impact of the digital revolution on education is inevitable, the development of the use of digital tools for learning and teaching purposes depends on the knowledge and skills of HE teachers and their attitudes towards the digitisation of higher education (Núñez-Canal et al., 2022).

Fernandez Marquez et al. (2018) note that HE teachers often develop basic digital competences as self-learners or in the context of courses organised at the HEI. However, their awareness that they themselves can foster the development of DC in students is low. On the other hand, it is true that HE teachers who rate their own DC highly recognise its importance in the delivery of the learning process, and as a consequence, the level of students’ DC increases (Núñez -Canal et al., 2022). Higher education teachers should therefore first be trained in understanding the different approaches to learning and teaching using digital tools (blended learning, MOOCs, web- or computer-based learning, hybrid teaching model – (a)synchronous teaching) (Núñez-Canal, de Obesso & Pérez-Rivero, 2022), in order to develop DC in a meaningful way in the following areas: (1) digital literacy, (2) data security, (3) problem solving with digital tools, (4) attitudes towards the meaningful use of digital media, (5) assessment and immediate feedback with digital tools, (6) ways

of using digital tools in the context of the learning and teaching process (Núñez-Canal, de Obesso & Pérez-Rivero, 2022). Softič, (2018) notes that HE teachers use digital tools mainly to provide students with materials (use of e-classroom), to provide information on course delivery in order to ensure better communication with students, and to a lesser extent to provide feedback (evaluative aspect of HE teachers' digital competences).

Indeed, the implementation of different models of learning and teaching using digital tools during the Covid-19 pandemic has shown the necessity of providing structural conditions (digital tools provided) and qualified HE teachers that could further promote the DC of students (Núñez-Canal et al., 2022). But in order to provide teaching and learning models in HEI based on digital tools, it is therefore also necessary to provide *structural conditions* such as a digital screen, microphone, loudspeaker, computers, licences (Núñez-Canal, de Obesso & Pérez-Rivero, 2022). In addition, reasons for not using digital tools include *organisational and motivational aspects* (e.g. lack of time to develop content, lack of recognition of effort by management in evaluating staff who already use digital tools) and *content aspects* (lack of relevance of using digital tools in the context of a specific course, views on the actual contribution of using digital tools to the creation of a quality learning process) (Núñez-Canal et al., 2022). Nevertheless, an appropriately structured and stimulating learning environment, provided by the HEI and the HE teacher, within the framework of structural and procedural conditions, is the central context and space of education. It contains the anthropological-cultural as well as the specific institutional characteristics of a given environment, which are intentionally organised (starting from knowledge of the characteristics of the quality of the learning environment) and often intuitively provided (Rutar et al., 2022). A supportive learning environment is therefore characterised by appropriate material conditions and social interactions. At the same time, the innovative learning environment that we aim to provide in order to respond successfully to students' learning needs also goes beyond convergent ways of planning, delivering and evaluating the pedagogical process (Rutar et al., 2022).

On the basis of the presented starting points, we planned the development of digital competences of higher education teachers, with the ultimate goal of renewing the curricula of the Preschool Education study programme and, consequently, the development of digital competences of students. We assume that acquired skills will enable HE teachers to make appropriate use of digital tools to communicate with colleagues, students and others with whom they interact by developing effective ways of communication with existing digital tools (e.g. Moodle, Microsoft 365 application). Even more, acquired knowledge and skills will enable HEIs to provide a pedagogical process, with the aim of empowering future preschool teachers to use digital technologies and thus to be digitally competent. And finally, acquired knowledge and skills will provide opportunities for building students' digital competencies, namely (i) professional collaboration, networking (use of digital tools to promote collaborative learning and communication), (ii) knowledge of digital tools and assessment of their relevance; (i) use of digital tools in planning, implementation, evaluation (e.g. preparing e-portfolio) and (iv) individualised support to preschool children's learning and development (e.g. planning a learning process with Beebot).

Consequently, the purposes of the study were:

- to analyse the state of the existing DC according to DigCompEdu model in the current curricula of study programme of Preschool education;
- identification of needs of HE teachers for the development of DCs in order to integrate DC into the curriculum of Preschool education study programme;
- develop a model for redesigning the curricula of study programme of Preschool education.

Metodology

Participants were 25 HE teachers, members of Department of Preschool Education, Faculty of Education, University of Primorska: 13 were female and 2 male. The average age of the participants was 46 years.

Data was gathered at University of Primorska, Faculty of Education, Department of Preschool Education in February 2023 within the project Green Digital Inclusive University of Primorska sub-activity Green and Digital Transition Competences in the study programme Early Childhood Education. Data was gathered according to all requested ethical standards, including informed consent, privacy and confidentiality and data minimization. Participants could withdraw from the study at any time.

Firstly, HE teachers completed a SELFIE for Teachers self-evaluation tool (European Commission, 2023), which aimed at identifying their strengths and weaknesses in the area of DC. Secondly, after getting familiar with DigCompEdu model, HE teachers participated in focus groups led by Head of Department discussing about (i) their views of the digitalization of Preschool education study programme, (ii) identification of needs in the field of development of their DCs in different DigCompEdu areas. Finally, HE teachers completed a matrix on the presence of specific DC in each syllabus of compulsory and elective courses of Preschool Education study programme.

Results and discussion

Based on the result of the SELFIE for Teachers self-evaluation tool (European Commission, 2023) HE teachers self-reported their proficiency in DC; most of them self-assessed the level of competencies as an explorer (8), followed by newcomer (2), integrator (2), expert (2) and pioneer (1).

The first aim of the present study was to analyse the presence of DCs in the existing curricula of the Preschool education study programme. The analysis was carried out according to DigCompEdu, which foresees six main areas of DCs for teachers.

The results show (see Table 1) that the DC domain in the area of Professional Engagement can be found 42 listed competencies in syllabuses in the current Preschool education curricula, in the area of Digital Resources 24 listed competencies; in the area of Teaching and Learning 34 listed competencies; in the area of Assessment 5 listed competencies; in the area of Empowering learners 37 listed competencies; and in the area

of Promoting learners' digital competences there were 20 listed digital competencies in the current syllabuses of the Preschool Education study programme. An analysis of the existing curricula shows that the current curriculum contains particular DCs that HE teachers have located in specific areas of the DigCompEdu model. However, a more detailed analysis shows that HE teachers identify DCs to the greatest extent in the area of Professional Engagement of students, future preschool teachers, and to the least extent in the area of the use of digital technology for assessment or feedback to students.

Table 1 Overview of the current integration of digital technology in the syllabus of subjects/year

Digital competences of teachers/ students	Compulsory courses			Elective courses (22 courses)	
	1st year (12 courses)	2nd year (12 courses)	3rd year (8 courses)		
Professional Engagement	To use digital technologies to enhance organisational communication with learners, parents and third parties. To contribute to collaboratively developing and improving organisational communication strategies.	5	2	3	4
	To use digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experience, and collaboratively innovating pedagogic practices.	2	0	1	1
	To individually and collectively reflect on, critically assess and actively develop one's own digital pedagogical practice and that of one's educational community	1	1	2	1
	To use digital sources and resources for continuous professional development.	6	5	4	4
Digital Resources	To identify, assess and select digital resources for teaching and learning. To consider the specific learning objective, context, pedagogical approach, and learner group, when selecting digital resources and planning their use.	4	2	5	6
	To modify and build on existing openly-licensed resources and other resources where this is permitted. To create or co-create new digital educational resources. To consider the specific learning objective, context, pedagogical approach, and learner group, when designing digital resources and planning their use.	1	0	1	1
	To organise digital content and make it available to learners, parents and other educators. To effectively protect sensitive digital content. To respect and correctly apply privacy and copyright rules. To understand the use and creation of open licenses and open educational resources, including their proper attribution.	0	0	2	2

Digital competences of teachers/ students	Compulsory courses			Elective courses (22 courses)	
	1st year (12 courses)	2nd year (12 courses)	3rd year (8 courses)		
Teaching and Learning	To plan for and implement digital devices and resources in the teaching process, so as to enhance the effectiveness of teaching interventions. To appropriately manage and orchestrate digital teaching interventions. To experiment with and develop new formats and pedagogical methods for instruction.	3	4	5	6
	To use digital technologies and services to enhance the interaction with learners, individually and collectively, within and outside the learning session. To use digital technologies to offer timely and targeted guidance and assistance. To experiment with and develop new forms and formats for offering guidance and support.	1	1	0	1
	To use digital technologies to foster and enhance learner collaboration. To enable learners to use digital technologies as part of collaborative assignments, as a means of enhancing communication, collaboration and collaborative knowledge creation	2	1	4	0
	To use digital technologies to support learners' self-regulated learning, i.e. to enable learners to plan, monitor and reflect on their own learning, provide evidence of progress, share insights and come up with creative solutions	2	1	3	0
	To use digital technologies for formative and summative assessment. To enhance the diversity and suitability of assessment formats and approaches.	1	0	2	0
Assessment	To generate, select, critically analyse and interpret digital evidence on learner activity, performance and progress, in order to inform teaching and learning.	1	0	1	0
	To use digital technologies to provide targeted and timely feedback to learners. To adapt teaching strategies and to provide targeted support, based on the evidence generated by the digital technologies used. To enable learners and parents to understand the evidence provided by digital technologies and use it for decision-making.	0	2	4	2
Empowering Learners	To use digital technologies to address learners' diverse learning needs, by allowing learners to advance at different levels and speeds, and to follow individual learning pathways and objectives.	2	1	0	0

Digital competences of teachers/ students	Compulsory courses			Elective courses (22 courses)	
	1st year (12 courses)	2nd year (12 courses)	3rd year (8 courses)		
Empowering Learners	To use digital technologies to foster learners' active and creative engagement with a subject matter.	2	2	2	2
	To use digital technologies within pedagogic strategies that foster learners' transversal skills, deep thinking and creative expression.	1	2	4	2
	To open up learning to new, real-world contexts, which involve learners themselves in hands-on activities, scientific investigation or complex problem solving, or in other ways increase learners' active involvement in complex subject matters.	1	2	4	2
Facilitating Learners' Digital Competence	To incorporate learning activities, assignments and assessments which require learners to effectively and responsibly use digital technologies for communication, collaboration and civic participation	1	1	3	2
	To incorporate learning activities, assignments and assessments which require learners to express themselves through digital means, and to modify and create digital content in different formats.	0	1	3	1
	To teach learners how copyright and licenses apply to digital content, how to reference sources and attribute licenses.	1	0	1	1
	To take measures to ensure learners' physical, psychological and social wellbeing while using digital technologies.	2	0	1	0
	To empower learners to manage risks and use digital technologies safely and responsibly.	2	0	0	0

According to our second aim of the study, we examined the HE teachers' needs for the development of DCs in order to integrate DC into the curriculum of Preschool education study programme. Based on focus groups, HE teachers' reported needs in five areas of developing DCs (see Table 2). The results show (see Table 2) that the areas of use of digital technology identified by HE teachers partly overlap with areas already identified as important in the DigCompEdu model, and partly indicate the identification of new areas of use of digital technology in the work of HE teachers (e. g. research). We conclude (see Table 2) that HE teachers expressed need for training in the development of DCs in the field of learning and teaching, their own professional development, with a particular outline in the field of digital resources. In the latter they express the need for training in the field of data protection and copyrights, getting acquainted with concept and use of (common) licences, OER etc. An additional area that particularly reflects the specificity of the work of HE teachers, and represents a moment in which the DigCompEdu model

Table 2 Overview of identified HE teachers' needs in the area of digital competences.

Digital competence	Content
Research	Continuous technical support for the use of digital tools to ensure research based on the usage of the using up-to-date software for qualitative and quantitative research.
Didactic	Responsiveness in providing continuous technical but mostly didactical support to higher education teachers with the aim to implement appropriate digital approaches in the study process.
Professional development	Continuous training on the use of digital tools that are already available to HE teachers and staff (Moodle and 356 Microsoft) in order to make meaningful use of the available tools. Provision of training in the use of new digital tools to ensure continued professional development.
Digital resources	Empowerment of HE teachers in the field of data protection and copyrights, common licences, OERs etc.

is not sufficient for the HE teachers, is the area of research. HE teachers also expressed the need for training in the use of DC to conduct research, which goes beyond the purpose and objectives of the current research, which focuses mainly on the integration of DC in the redesign of the Preschool education curriculum.

In the context of our third aim to develop a model for redesigning the curriculum of study programme of Preschool education, we integrated the data and the theoretical and empirical background to develop a model for redesigning the curriculum of Preschool education study programme (see Figure 1). As we have already presented in the theoretical part of the paper, the model of Preschool Education study programme curricula redesign is based on wider conception and European digital competence framework – DigCompEdu. Based on this we have designed seven Phases of project, which run from analysis of the existing situation (phase 1) till final redesigning of Preschool Education study programme (phase 7).

First three phases (see Figure 1) – (1) *Research review, analysis of attitudes, knowledge and skill and identification of the needs of teachers and students*; (2) *setting objectives and planning the development of DCs according to the identified needs of teachers and students*; and (3) *training on developing DCs for HE teachers and students* – have resulted in the development of new syllabus proposals from HE teachers included in research. Currently, we are entering the pilot implementation phase (phase 4, see Figure 1) of the redesigned curriculum with the aim of testing, evaluating and fine tuning of syllabus based on feedback from students and HE teachers (phase 5, see Figure 1). On the basis of the acquired knowledge and skills, HE teachers will design and implement pedagogical approaches and pedagogical processes in a way and with the aim of empowering students, future preschool teachers, to use digital technologies and thus become digitally competent preschool teachers. On this basis, the HE teachers of Preschool education department will develop a curriculum of new study programme that will be able to respond to the challenges of digitalisation, and will empower students, future preschool teachers, for the meaningful use of digital technology in preschool education in our country (phase 7).

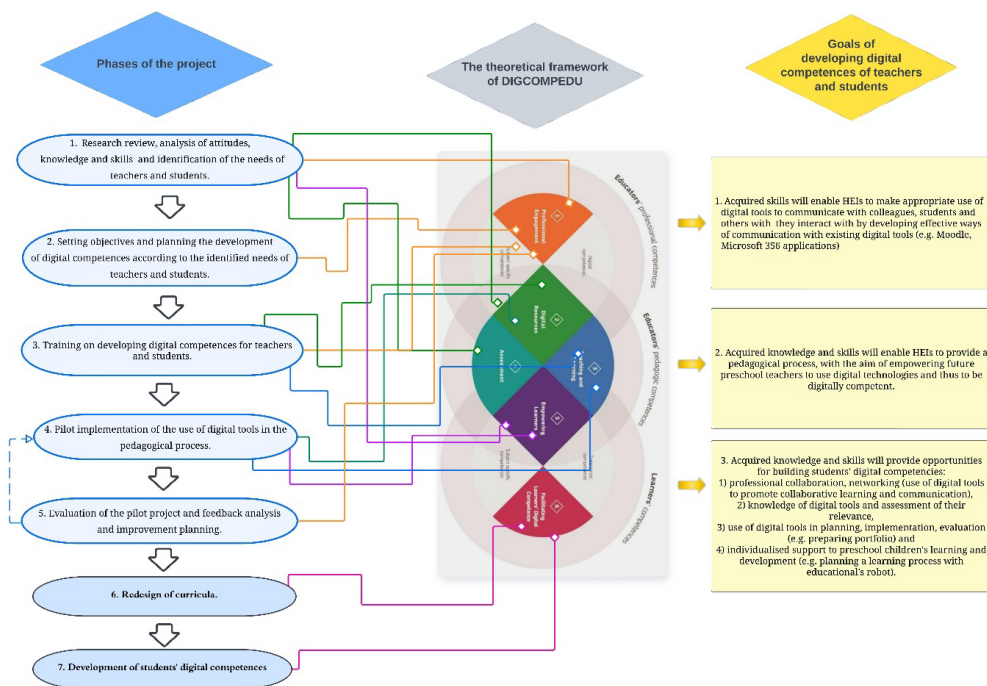


Figure 1 Planned phases of the Digital Transition Competences project activities in the Preschool Education study program

Finally, the renovation of the curriculum should be focused towards (1) the development of students' digital competencies by digitalising the study process and changing pedagogical approaches and consequently towards (2) the development of digital competencies in preschool children. By developing DC of students, future preschool teachers' we can ensure the accessibility of digital technology and its meaningful use to all children (not just to some or most of them). Therefore, the concept of digital equity should be emphasised and recognised as important in achieving inclusive education. Digital equity means enhancing equal opportunity for students at risk by ensuring accessibility of the content and the opportunity to perform tasks. It also assumes that teachers are able to facilitate the participation of all students regardless of their abilities and enable them to realise their potential by meaningfully using digital technology in the learning process (Resta et al., 2018). According to this, digital equity should be considered also in the context of the ECEC, as the letter offers the crucial opportunity for learning and development.

Conclusion

The key finding of this research highlights the importance of introducing digital technology in the curriculum of the study programme of Preschool Education that foresees a meaningful change in pedagogical approaches. Whereas, making changes just by adding new content but not also new approaches that meaningfully encompass digital technology can be superficial. The reform of the curriculum should there address three main areas. Firstly, permanent access to hardware, software, and connectivity to the Internet, so all students can equally participate in the learning process. Secondly, it is important to foster the development of digital competencies of HE teachers as they represent a model to their students. Although, they may have positive attitudes towards technology but not also corresponding skills and knowledge as they are often self-taught. Thirdly, it is necessary to adapt or revolutionise pedagogical approaches to new digital reality in a way that digital technologies make sense for all – students and teachers and therefore avoid the gap between traditional pedagogical approaches and digital technology. Finally, the digitalisation of education should consider and address the inequality in education by enhancing equal opportunity for all children when it comes to digital technology.

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THE METHOD OF INVOLVING YOUNG CHILDREN IN GROUP MUSICAL ACTIVITIES

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ABSTRACT

The possibilities and specific features of enhancing the efficiency of the educational interaction that penetrates the whole educational process by involving children in active musical activities as early as possible have been poorly explored in Lithuania so far. The aim of the research is to highlight educational preconditions of involving 3–4-year-old children in group musical activities by implementation Batia Strauss's Method of Active Listening to Music in practice with a group of children in early childhood music education. The participants included fifteen children from a kindergarten in Kaunas district (Lithuania). The conducted qualitative case research help to distinguish the following educational preconditions of involving 3–4-year-old children in group musical activities using Strauss's Method of Active Listening to Music: to feel and express contrasting rhythms through simulated, emotional body movements while listening to music; to conceive and demonstrate spontaneous body movements while listening to music; and to listen to music and express it through artistic expression and language. The aforesaid preconditions are considered as generalised and conceptualised research findings and enrich the didactics of early childhood music education based on reflective thinking, mediation, meta-comments and co-learning principles.

Keywords: *early childhood music education, educational preconditions of involvement children in group musical activities, the method of active listening to music.*

Introduction

Relevance of the research. Research on early childhood music education is extensively analysed in the studies of Lithuanian and foreign researchers (Hjälmeskog et al., 2020; Kubayeva, 2022; Pramling et al., 2019; Žitkevičienė & Monkevičienė, 2021). These empirical studies provide a reconceptualised concept of the didactics of early childhood music education, distinguish the object of didactics, i.e. the child learning, and highlight the importance of proactive interaction between the teacher and the child. The teacher, as an active moderator of learning situations in an engaging context, encourages children to involve in musical educational activities and the pathway for the development of the children's evoked initiatives is revealed through their spontaneous, creative, inquiry-based,

engaging music learning situations. Having envisaged the importance of spontaneous and child-initiated activities (Akyol & Erdem, 2021; Robson & Rowe, 2012), the researchers present the most common way of visual attention engagement of infants in musical theatre performances through gaze (Barbosa et al., 2021) and show the field of exploration of the music learning object and its critical aspects through the use of different voice intonations, words, singing, sensations, bodily movements representing sound qualities and naming other musical qualities and experiences. Žitkevičienė and Monkevičienė (2021) analyse the way in which children are involved in discovering the object of music learning and its critical aspects (the sound qualities of the music) while listening to music. Researchers present reactions to active music listening activities expressed by preschool children through visual expression, verbal communication and body percussion.

One of the special approaches (methods) for modelling children's music learning, which is based on Batia Strauss's Method of Active Listening (Isaacson, 2023) highlights the relevance of the ways in which children are engaged with music. Education that relies on this approach becomes a visual tool for listening to music allowing children to listen to the music themselves and encouraging them to feel, experience and try it out through spontaneous body movements and artistic expression. Pedagogical situations for children's musical development purposely modelled and considered in advance by a proactive teacher, involve children in music activities in which they demonstrate their perceived meanings through verbal and non-verbal means and synaesthesia, develop their understanding and show the dynamics of changes in their musical understanding.

However, there are not relatively many studies on music didactics in early childhood music education that analyse the ways in which children are involved in group music activities using Strauss's Method of Active Listening. The problem of active listening and participation of young children in group musical activities has not been extensively investigated empirically. Articles by foreign music education researchers characterise only separate aspects of this problem (Hjälmeskog et al., 2020; Kubayeva, 2022; Pramling et al., 2019). The works of Lithuanian music education researchers actualise the impact of the musical activity on the development of learners' personality at the theoretical-methodological level: development of the way of action (Balčytis, 2006), musical abilities and musical expression (Jucevičiūtė-Bartkevičienė, 2015; Šečkuvienė, 2004), creativity (Girdzijauskienė, 2017), moral values (Girdzijauskas, 2016; Navickienė, 2012). However, empirical studies analysing the specific ways in which children are involved in group music activities have been conducted so far (Rauduvaitė & Lasauskienė, 2015). The description of pedagogical communication strategies (directions) applied by music teachers in musical activities lacks not only a conceptual theoretical framework, but also examples of more widely applied research methodology and practice. Therefore it can be stated that peculiarities of stimulating active listening and involving young children in group music activities have not yet been explored.

The aim of this article is to highlight educational preconditions in which children in early childhood music education can be involved in group music activities by applying Strauss's Method of Active Music Listening.

The research question guiding our interest is: In what ways and what impact can music listening activities exert on artistic expression of young children?

Methodology

The qualitative case research carried out in the present study (Harrison et al., 2017; Yin, 2018) provides opportunities to reveal the ways in which children involve in music activities by encouraging them to listen to music and express it through body movements, artistic expression and language. Imitative, emotional, spontaneous body movements, artistic expression and language (in group musical activities) become a mediator between children and the music they listen to. The activity using the Strauss's Method of Active Listening (Isaacson, 2023) was delivered by a teacher working in the children's group. In each activity, the children demonstrated imitation, emotional, and spontaneous body movements that served as mediators between the child and the music that was listened to. These ways of involvement were designed to encourage children to feel, experience, conceive and express the music they were listening to.

Participants. Fifteen children aged 3–4 years were selected and participated in the study. The research was conducted by Norkutė (2022), a Bachelor of Arts programme student of Vytautas Magnus University and both authors of this article as research coordinators and music educators. The participants were selected applying non-probability selective sampling. Such a sampling was predetermined by the following arguments: (1) a teacher who is one of the authors of the study works in this kindergarten; this is an important aspect that can facilitate the design and implementation of the study; (2) the researchers of this study knows the parents of the children in the kindergarten group well, and this situation can help the children to become more involved in the activities when they see a familiar face; (3) the educational institution has large premises where activities take place.

The research is based on the implementation of Strauss's Method of Active Listening in practice with a group of children music lessons during which the Method of Active Listening was put into practice once a week in the kindergarten "Ažuolėlis" located in Kaunas district (Lithuania) from December 2021 to May 2022. Twenty music lessons were held in total. A voluntary decision and confidentiality were a necessary condition. Consent was received from children's parents to record the group musical activities in the audio format as well as to use the material in the research.

Data collection and data analysis. Data from the group's musical activities in the case research were collected by observing, analysing situations and musical activities, filling in the observation protocols. Subsequently, the textual content of the observation protocols and reflections of the participants was analysed by researchers applying qualitative content analysis (Schreier, 2012). Empirical data were reduced into categories, sub-categories and themes. An advance list of preconditions of children's involvement in group musical activities was made. Each participant was given a code, their body movements and speech were accurately recorded, and the actions accompanying the speech were

presented in square brackets. The analysis of the data focused on the ways in which children were encouraged to engage with the music by demonstrating their feelings through body movements, language and artistic expression.

Results and discussion

The obtained research data enabled to distinguish the following educational preconditions for the involving young children in group musical activities. The main results were found to centre on the following four themes:

- 1) application of the method of active listening (the use of practical possibilities);
- 2) encouragement of children to listen to music and express contrasting rhythms through body movements (e.g. feeling and expressing the contrasting rhythm of the listened musical work through the simulated body movements; emotional expression of body movements by feeling and expressing contrasting rhythms while listening to music);
- 3) encouragement of children to listen to music and to demonstrate it with spontaneous body movements (e.g. the listened musical work is demonstrated by spontaneous body movements; emotional expression of spontaneous body movements and commenting on the listened musical work); and
- 4) encouragement of children to listen to music and convey it through artistic expression and language (e.g. listening to musical works and their conveyance through drawing and commenting).

Analysing the data, a key focus was on the ways in which the children were involved in the group musical activities by encouraging them to listen to music and to express it through simulated, emotional, spontaneous body movements, artistic expression and language.

Application of the method of active listening (the use of practical possibilities).

A special approach (method) known as “active listening” was developed by Batia Strauss, a music teacher and mentor (Levinsky College for Teachers in Tel Aviv and Jerusalem Music Academy). Isaacson (2023) mentions that Batia Strauss introduced this unique approach to experimental listening. Beginning in the 1980s, Strauss organized multiple “active listening” workshops across various European countries. She selected pieces from various musical styles and identified a prominent feature, such as an inviting melody, a captivating rhythm, or a repeating harmonic pattern. Before listening to the piece, she isolated its’ main element and engaged the children in various activities such as moving, drawing, singing, accompanying with percussion instruments, or dancing – all while identifying the musical element. B. Strauss believed that in the early stages of learning, children lack the necessary listening experience and sensitivity to independently discover the unique meaning of a piece of music. Furthermore, they lack the tools of expression (such as vocabulary or coordination) to verbalise their interpretation of the music. The primary objective of the teacher is to perform a comprehensive assessment, acting as a channel for cultural awareness. Her educational and musical principles and techniques

are designed to capture and stimulate the cognitive and emotional growth of each individual learner.

Encouragement of children to listen to music and express contrasting rhythms through body movements. This precondition describes the teacher's aspiration to involve children in group musical activities by encouraging them to listen to a musical work via a multimedia display. The musical work listened to is a piece of contrasting rhythmic motifs embodied by a mouse and a bear. Based on the principle of contrast, the teacher challenges the children to feel, experience, practise, and demonstrate contrasting musical rhythms understood through different body movements. Simulative, emotional body movements serve as a mediator between the child and the listened to musical work.

Children express their involvement in the musical activity through simulated body movements in the following ways: contrasting rhythmic motifs consisting of short and long musical sounds, children demonstrate associations with short and long rhythmic motifs through the characters of a little mouse and a little bear. A musical picture of the little mouse is created by quick, short movements, silent clapping, a (thin) voice and short sounds (*"Imitating a little mouse, children clap softly with short and quick hand movements, squeaking in a thin voice like little mice"*), while wide arm swings, swaying from side to side, curling up a body in a ball, clasping the hands together at the chest, legs bent over the knees were employed to imitate the bear (*"With slow, wide arm swings children sway from side to side like bears"*). Children show their interest in the musical activity by focusing their attention, getting serious and using different facial expressions – eyebrows furrowed, lips pursed, eyes closed, mouth open (*"Some children prick up their ears, get serious, and other children frown, wrinkle their eyebrows, bite their lips [children respond to contrasting rhythms in this way]"*), a joyful mood – laughter, shouting, smiling (*"When the little mouse appears, the rhythms of children are accompanied by laughter, squeals, and smiles"*) and cheerful intonation of the voice (*"Well, oh my, it's even more fun here! [the girl says that in a cheerful voice]"*) show that the children are involved in the educational activity through their evoked emotions.

The findings show that children directly involve in the activity through contrasting body movements, e.g. short, quick hand movements, silent clapping and wide arm movements, and loud clapping. The ways of children's participation in the activity are also supplemented by the onomatopoeic words and voice intonations: squeaks and thin-voiced intonations evoked associations with short rhythmic motifs, while slow side-to-side body swaying, clasping the palms to the chest, and bending the legs over the knees evoked the long rhythmic formations associated with the music. Expressive facial expressions, strong emotions, and cheerful exclamations also show the interest and satisfaction felt while listening to the musical work.

Encouragement of children to listen to music and to demonstrate it with spontaneous body movements. The teacher encourages the children to listen to a musical composition (a song) and asks them to think of and spontaneously create movements that correspond to the piece of music they are listening to. Spontaneously conceived and created body movements become a mediator between the child and the musical work.

Children demonstrate their involvement in the activity by using conceived and created spontaneous body movements in the following ways: more by imitating driving a train (“*Children imitate driving a train with their hands in the air*”), pointing with both hands to the roof of a house (“*They raise their left and right arms above their heads and clasp them together to imitate the roof of a house*”), lifting the legs high (“*They march in one place with their legs held high*”), swaying the head and moving their whole body in both directions (“*The children bob their heads, they waddle like ducks to the sides*”) and imitating the sun with the arms outstretched and fingers spread (“*Children show the rolling of the sun with their arms raised and fingers spread*”). Meanwhile, the following ways of children’s involvement in the activity are revealed through emotional body movements: by shouting and jumping up and down from their seats (“*It’s cheerful*” [says a child who jumps up suddenly from his seat]), they show that they like and know the piece of music (“*I know this song*”, “*I hear it at home*”), and they show the initiative to sing it at home too (“*I’m going to sing this song at home*”). When involving in the activity, children feel and express satisfaction by demonstrating emotions through their body movements: jumping up and down, striking turning side to side, lifting their legs with energy (“*The child starts clapping and jumping at the end of the song*”, “*Children run, jump, spin, lift their legs vigorously*”). The willingness to repeat a musical work because the activity does not bore them (“*Ask to sing it again later*”) and the intention to prolong the activity by inviting the other children in the group (“*Wave their hands to invite the other children in the group to form a circle*”) are clear indications of the children’s involvement in the activity.

The findings indicate that children spontaneously conceived and created movements as they listen to music. Children boldly create their own imaginary “pictures” with their hands in the air, such as driving a train, a picturesque roof of a house, a sun by raising their hands and waving their hands. The spontaneous movements are also complemented by energetic, active, sudden body movements that show more immediate than usual response and active involvement of children in the activity. Their emotional exclamations and requests to repeat the activity show not only their emotional awareness of the song they are listening to, the initiative they have shown, but also their persistence in involving in the activity.

Encouragement of children to listen to music and convey it through artistic expression and language. The teacher suggests listening to two different musical works (songs) and expressing evoked associations, images and moods through their drawings and language. A drawing and the language become a mediator between the works being listened to and the children. The way of children’s involvement in the group activities is revealed through their drawings, where their attention focused only on the artistic activity (“*Here, I’ve finished it*”), and how the children felt after the drawing activity can be seen in their posture (“*I’m tired, already*”). Ways of involving children in group activities by encouraging them to listen to music and comment on it include: verbal comments made by the child allow us to assume whether the artistic activity was sufficiently engaging and interesting (“*I have drawn such Lithuania. There is sun, tree, flower, and water there*”); children express their views on the different images they have conceived or “discovered”

(“These are monsters”, “They come at night and sometimes frighten”, “This is my yard, [...] it’s fun to play there”), associations (“Light, soft colours, happy faces, balloons prevail in the drawings”) and the prevailing moods when drawing them (“It is fun”).

Our study also highlights the ways in which children involve in feeling, perceiving, understanding and expressing the music they are listening to by drawing and speaking. Their attention is focused solely on the drawing activity and verbal comments indicate that the activity was not boring but engaging. However, the posture of the body revealed that physical strength was also required of the child. Meanwhile, vivid images and associations presented by the other children, as well as their cheerful mood, showed that the children were interested and involved in the drawing activity.

Conclusions

The results indicated that engaging children in meaningful musical activities at an early age, through active participation and the joy of exploration and discovery, should be encouraged. The conducted qualitative case research help to distinguish the following educational preconditions of involving 3–4-year-old children in group musical activities using Strauss’s Method of Active Listening to Music: to feel and express contrasting rhythms through simulated, emotional body movements while listening to music; to conceive and demonstrate spontaneous body movements while listening to music; and to listen to music and express it through artistic expression and language. The development of these abilities is likely to have an impact on a deeper expression of musicianship among young children.

The aforesaid preconditions are considered as generalised and conceptualised research findings and enrich the didactics of early childhood music education based on reflective thinking, mediation, meta-comments and co-learning principles. In terms of scientific novelty of the topic, the chosen strategy of collecting and analysing qualitative data is important as is the qualitative interpretation model.

The main limitation of the present study is the size of its sample. This means that the results cannot be generalized. The results therefore concern the very specific context of the kindergarten included and should not be interpreted as overall. Educational preconditions of involving young children in group music activities need to be further examined and confirmed in larger samples or studies. Despite these limitations, the analysis tool developed seems promising to capture and analyse how ideas of active listening to music are received and integrated by music teachers in group activities.

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THE IMPORTANCE OF THE ECEC TEACHER'S ROLE IN ARTISTIC CREATION OF CHILDREN IN EARLY CHILDHOOD EDUCATION

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ABSTRACT

In the Early Childhood Education and Care, art can be understood through many perspective directions. Children's artistic expression is often seen through the prism of the finished product and less through the observation of the process by which art expresses children's thoughts, feelings, and experiences. The importance of expressive media in children's artistic creation is manifested in the early childhood education and care teacher's understanding of their use. The Early Childhood Education and Care (ECEC) teacher's role is to understand the developmental stages of children's artistic creativity, to know the function of expressive media, and to properly support children in their use. Therefore, this research is focused on the importance of establishing guidelines in art study programmes that would improve the competence of future ECEC teachers in performing methodical exercises in kindergartens. In the focus group, eight students from the Early Childhood Education and Care programme at the University of Slavonski Brod in Croatia participated, specifically six from the undergraduate programme and two from the graduate programme. In the focus group, open-ended research questions were used to determine opinions on the importance of art in children's creativity, the professional competencies of ECEC teachers needed to support children in art creation, and the attitude towards stencilling. Data from the thematic analysis of the transcripts of focus group conversations point to students's reliance on implicit pedagogies. Therefore, it is important to improve the development of the professional competencies of future ECEC teachers and establish an integrated approach to art activities in early childhood education and care institutions. The guidelines resulting from the research provide an overview of the possible methods of students performing methodical exercises in ECEC institutions that are focused on children's interests and a child-centred approach. The aforementioned research leaves space for further research that would include a larger number of student participants and provide a more detailed insight into the aforementioned issue.

Keywords: *expressive media; methodical exercises; phases of artistic creativity; professional competences; the role of the ECEC teacher*

Introduction

In the past three decades, three different approaches to art education have had an impact on early childhood art education (Arabaci & Gok, 2021). The first approach is teaching young children to create art, which is a natural and inward reflection of their growth. Using this method, a psychological element of the person is taken into account (Chung, 2022; Mahgoub & Ahmed, 2022; Santana et al., 2022). The second strategy is based on the developmental approach, which emphasises the importance of providing children with age-appropriate art materials and activities that are tailored to their developmental level (Johnson, 2021; Manrique, 2021). Finally, the third approach is the cultural-historical approach, which focuses on the social and cultural contexts in which art is created and viewed, emphasising the importance of exposing children to a variety of artistic traditions and practises. The cognitive development hypothesis emphasises how art helps children build a general understanding of the world (Brown, 2020; Thompson, 2021; Polat et al., 2022). According to the third perspective, learning about the arts can help children express themselves, communicate with others, and come to terms with their place in society (Ayaydin, 2011; Boone, 2008; Mynaříková, 2012). Therefore, Arabaci & Gok (2021) conclude that the early years are a time when a child cannot express themselves verbally or in writing well, so it is crucial to encourage creative child development as well as all other developmental areas because children in the early years develop and learn at the quickest rates. The roots of personal and social development are laid in the early years, which are the formative years of life, so educational programmes should encompass these developmental domains as early as possible (Cetin, 2021). During the early years of a child's life, it's critical to assist identity development. Moreover, art-related educational practises are essential for fostering in children a sense of social responsibility, self-assurance, creativity, self-expression, and fairness in people who listen to and understand others (Kaya & Romanescu, 2020; Vujičić & Ujčić, 1999; Zimmerman & Zimmerman, 2000). Children make discoveries, play with interesting objects, and they are free to express their creativity. Their artistic feelings and intuitions begin to emerge during the early childhood years. The creative process produces the most fruitful outcomes during this time since children do not have schemas, preconceptions, or rules in their minds. Children's knowledge of science, social studies, health, mathematics, and literature can be combined through the use of art (Eglinton, 2003). They are given learning opportunities and are assisted in examining the connections between the various learning objects through activities that are relevant to their daily lives. Children can discover a space to explore and create, develop their own narratives, and bring their aspirations to life via art instruction. Art helps children release suppressed, upsetting emotions and encourages the use of their imaginations and communication skills in general. Also, by exposing children to a variety of circumstances and events, these activities foster an environment where their unique traits may be seen and where they can develop their ideas and symbolic thinking (Arabaci & Gok, 2021). However, young children rely on adults to acquire art materials and to encourage them to utilise these materials. Every location and culture has various chances and limitations with relation to art instruction.

The role of the Early Childhood Education and Care teacher

According to Twigg (2011), the content and organization of a “child-centered” curriculum are determined by the interests and needs of children in art instruction. The ECEC teacher serves as a vehicle through which the children can practise their requirements. The primary goal of the art curriculum is to support each child in developing their artistic abilities and expressing their unique needs. The rights of children with regard to the child as artist must be acknowledged by adults (including ECEC teachers, parents, researchers, carers, and others). A very effective yet subtle way to promote children’s rights in relation to their own is through the straightforward process of talking with each child about the artwork and the suggested method of presentation. Kaya & Romanescu (2020) maintain that the integration of physical, intellectual, and creative skills into an educational model is made possible by art education.

Thompson (2021) asserts that adopting a new materialist perspective on how children interact with the conceptual, experiential, and physical materials used to create art works enables us to recognise the improvisational singularity of art-making events. Art education in early childhood and education is essential for encouraging a child’s creativity and helping them to develop an aesthetic sense (Polat et al., 2022). It is important that ECEC teacher adopt constructive attitudes and behaviours in order to support children art expresion. Twigg (2011) suggested that it may be beneficial for ECEC teachers at all career levels to receive additional training in the arts. For ECEC teachers to grow professionally, it is crucial to use pedagogical strategies from the core curriculum, including those for art education. Eglinton’s (2003) maintain that teachers play an integrating and active role where they motivate the participation of children in an art-based discussion or activity. The role of the ECEC teacher in viewing art should be one of mentoring, guiding, and supporting children in discovering their interests rather than imposing knowledge and information on specific works of art.

According to Balić-Šimrak & Markotić (2018), the new educational paradigm and contemporary knowledge of children both take a holistic approach to the child in all of his or her facets. An engaging atmosphere encourages the use of artistic language. The child’s pre-existing knowledge of the ECEC teacher’s authenticity, along with the ECEC teacher’s intrinsic motivation when choosing such incentives and content, and the ECEC teacher’s active and creative approach, all help to develop the child’s creative potential, strengthen competencies (Brooks, 2005; Edwards et al., 1993). Children’s research abilities, the creation and co-construction of their knowledge, and their creativity should all be seen as predicated on the social, physical, and temporal context of a contemporary educational institution (Vecchi & Giudici, 2004). In today’s social environment, cooperation and cooperative learning are encouraged. It is essential to encourage children’s cooperative play, inquiry, and creative expression (Twigg, 2011; Yolcu, 2004). Because of the culture or ambiance of the kindergarten context, children are encouraged to develop theories and come up with ideas together. In such a setting, children gain the ability to work together, listen to others’ ideas, and jointly develop their own (Arabaci & Gok, 2021; Eglinton, 2003). Several fundamental elements of work, such as respecting and accepting

the authenticity of others' work, can help children develop their artistic abilities (Garvis et al., 2012; Miller et al., 2008; Workman, 2017; Wright, 2003).

Traditional vs. holistic approaches in Early Childhood Education and Care

According to Arabaci & Gok (2021), 30 to 50% of the children attending kindergarten are involved in art-related activities every day. ECEC teachers typically have not gone through a formal art education. However, they are encouraged to integrate art into the basic curriculum. The number of studies (Ahi et al., 2016; Chung, 2022; Edwards et al., 1993; Johnson, 2021) claims that the teaching of visual arts by ECEC teachers who lack adequate expertise widens the gap between theory and practise.

According to Twigg (2011), there are many problems with how art education is incorporated into early childhood curricula and how art is taught to children because there is a lack of knowledge and pedagogy in this field. Another problem appears to be the early childhood art education textbooks, which seem to place more of an emphasis on teaching kids how to use their hands and develop their fundamental motor skills than on letting them express themselves through painting. Art-related textbooks tend to place more emphasis on the surface-level meaning of art than on figural elements like colours, lines, and shapes. These kinds of activities don't call for artistic ability and don't encourage the children to examine, comprehend, or discuss the artistic works of other children (Holt, 1997; Li et al., 2022; Lyon et al., 2016). These events are very structured and do not give children a chance to be creative.

Methodology

The research is focused on the importance of establishing guidelines in art study programs that would improve the competence of future ECEC teachers in performing methodical exercises in kindergartens. In the focus group, eight students of the Early Childhood Education and Care programme at the University of Slavonski Brod in Croatia participated, specifically six of the undergraduate students ($N = 6$) and two of the graduate students ($N = 2$). Although the participants study at the same university, they come from different regions of the Republic of Croatia, and they have different work experiences in kindergarten. Two graduate students are working ($N = 2$), and the six undergraduate students ($N = 6$) still do not have work experience. The research participants were guaranteed anonymity, and thus the ethical aspect of the research was respected. The research was conducted using the Zoom platform. In the focus group, interviews contained research questions to determine opinions on the importance of art in children's creativity and competencies, the professional competencies of ECEC teachers needed to support children in art creation, and the attitude towards stenciling. The possibility of answering an open question enabled a deeper understanding of the role of ECEC teachers and the needs ECEC teachers have when working with children in art creation. The recorded conversation was transcribed into text, which was then classified into topics with regard to areas and dissected, and key concepts were determined through thematic analysis.

Results

Participants were asked to comment on their opinions on the importance of art in children's creativity, the child's cognitive development, social and emotional development and language development in the early years. When asked about the development, of creativity in children's art, the participants said that children's art is the most powerful medium for expressing creativity. It provides children with the opportunity to experiment and reason in a new way.

S2: "A child's way of expression, and I actually think that it is the strongest way of expressing creativity, and children create something new through such artistic expression... S3: experimenting and creating something new."

The link between visual expression and communication is based on verbal deficits in accordance with children's age and visual arts as a medium that helps children verbalise thoughts and situations.

S1: "If they are smaller children, then they may not know how to express themselves verbally, so they express themselves through expressive media."

Research participants point out that art creates social connection between children, develops dialogic speech because children analyse their art works with each other.

S7: "Children should have the opportunity to exhibit their artwork. Then the children will later observe, analyze, and talk about the works. I can compare and explain to other children what someone has drawn or made."

The participants believe that children express their emotional states by drawing, painting, and modelling.

S3: "Actually, we know that through art, when children are angry, when they are sad, when they are unhappy, or when they are happy, it is all expressed..."

S5: Children express their experiences and emotions. Everything they experience mentally and emotionally The art medium conveys the inner state of the child."

As for cognitive development, the participants note that children express their experience of the world, and the art medium serves them to channel their overall development.

S4: "They express the world around them and the situations they are in."

Likewise, the participants note the importance of developing critical thinking in children's art expression.

S1: "We influence children to think for themselves, to encourage their own thinking, and, in the long run, to one day be people who think for themselves and don't just do what they are told."

The participants state the importance of the role of the educator in supporting the child's artistic expression. Support is defined as showing the ECEC teacher's interest in children's drawings.

S6: *“I think that even a lot of educators, at least from what I’ve seen in practise, tell the child what to draw with and what to draw, and then when the child draws something, he says: “Look, I did something”, and the ECEC teacher replies that great without general interest really what the child did.”*

and as verbal support from the ECEC teacher to the child:

S4: *“Vocal support and praise to the child. The praise should be appropriate and supported by describing the reason for the praise.”*

According to the participants, the ECEC teacher’s role is to create a play and material context.

S5: *“The ECEC teacher’s role is primarily to provide the spatial environment, incentives, and materials, to provide them with all these materials, to provide them with freedom of expression, not to impose anything on them, but primarily the spatial environment and materials, resources, to provide them with everything.”*

and the importance of pedagogical documentation of children.

S3: *“So we are here to enable everything that is needed and to watch from the side like a supervisor, and they with their own free will in the time that suits them in the way that suits them, and on the fourth we are here to provide them with everything and to be observers without any interference, directing, or suggesting.”*

Also, research participants believe that providing autonomy to children in their artistic expression is very important because in this way they avoid stencilling, which is an undesirable directive form of work that is focused on the product and not on the process of children’s artistic creativity.

S1: *“The children just coloured 20 of the same violets, and no, no, I immediately said no, no, no, and I will say no. Then, of course, there are the children who do not want to draw or paint...”*

S5: *The problem is when the child receives exact instructions on how to work...*

S2: *It is also an important process for the child to participate in and express himself. Whether it will be something or resemble something is ultimately not important.*

S4: *If the works are identical, then the child is not given the freedom of self-expression...*

S3: *Children should be given enough time for artistic expression. Sufficient time is important.”*

The participants in the research point out that it is important that the competences of ECEC teacher’s are an important factor in supporting children in artistic creation.

S2: *“Until the age of three, it is acceptable that it is the doodling phase. However, if my child, who is four or five years old, is still in the doodling phase, it means that this is already some kind of alarm for me.*

S3: *a complex discipline that needs to be developed...*

S5: *We must also be pedagogically competent and know the psycho-physical abilities of children, their possibilities, their wishes, and their needs...*

S6: *know how to communicate with children about the artistic work they have made...*

S8: *we need to find ways and elements to induce the child to give the maximum of himself."*

The attitude of the participants towards the importance of the contemporary curriculum and the holistic approach to the upbringing and education of children in the early years is based on the integrated approach of art creation in kindergarten.

S4: *"We specifically had music, so we did pre-exercises in reading and writing. Art can be integrated in such a way that it integrates through the development of all competencies in a very interesting way."*

Research participants believe that it is important to cooperate with parents so that parents also understand the importance of art and expressive media in early and pre-school education. Therefore, they emphasise modalities that would improve the relationship and increase awareness of the importance of art.

S2: *"We can invite parents to some kind of art workshop, creative workshop in kindergartens, together with the children..."*

S4: *At the individual interview, give the parent an insight into the child's developmental map. The main thing is that the parent has an insight into the child's progress and his artistic status.*

S6: *Through parent meetings, she would encourage them to learn about the importance of art...*

S2: *I think it is important to emphasise to parents that children's works do not agree with the aesthetic criteria that adults have and that it is actually very important to encourage and praise the child."*

According to the ECEC teachers' statements, the factors that play a role in the child's holistic approach to art in kindergarten are shown in Table 1.

Table 1. The crucial elements for children's art expression in kindergarten

Development of children's competencies	The role of the ECEC teacher	Parental involvement	Contemporary curriculum
<ul style="list-style-type: none"> • social development • emotional development • language development • creativity • critical thinking • cognitive development 	<ul style="list-style-type: none"> • interest of children's art • verbal support • create a play and material context • pedagogical documentacion • providing autonomy to children in art expression • ECEC professional development 	<ul style="list-style-type: none"> • workshops for parents and children • parents meetings • creative workshops • individual interview 	<ul style="list-style-type: none"> • holistic approach • integrated approach

Table 2. The needs of the ECEC teacher

Formal education	Non-formal education
<ul style="list-style-type: none">• more methodical exercises• art literature• art education (early years)	<ul style="list-style-type: none">• support by:<ol style="list-style-type: none">1. Agency of Education2. principal and expert team3. lectures

Regarding open questions about the understanding of the role of ECE teachers and the needs they have in initial education, the research participants expressed the need for factors that would contribute to the quality of education of future ECE teachers in the field of fine arts. Also, they believe that artistic creativity is underestimated and that they do not have adequate literature related to the artistic creativity of children in kindergarten. They also point out the need for more hours of methodical exercises in kindergarten.

S2: *“I had as a student little experience in direct art work with children in kindergartens, so I think that children’s drawing and artistic expression are actually greatly underestimated...”*

S5: *“Unfortunately, as a student finishing my 3rd year, I can’t really brag about the literature I’ve read on the stages of children’s artistic creation...”*

S6: *“I am fully aware, but I am sure that when I was working and when it came to that, I would have read everything necessary because I know that it is very important. I am not doing very well at the moment, but I know that I will try to study it.”*

Research participants state the need for formal and informal professional development; education; professional development; and the need for support from the professional service and the institution where they work. They also believe that the Agency of Education should organise more lectures and provide more support for ECEC teachers on this topic.

S1: *“We have a need for additional art research, improvement, and education...”*

S4: *“Again, we are focused on the fact that we have to educate ourselves through research because everything is changing. I can say that we lack workshops or some kind of education.”*

S5: *“Education should be provided by the kindergarten principal and the expert team...”*

S8: *“An Agency of Education that would support ECEC teachers in their professional development.”*

Discussion

The results of the research support previous research (Chung, 2022; Çetin 2021; Mahgoub & Ahmed, 2022; Santana et al., 2022) in which the importance of developing children’s competences through expression through the medium of art is represented.

Participants in the research maintain that children's art is the most powerful medium for expressing creativity. According to Brown (2020) and Thompson (2021), art in education helps the cognitive development of children. Data from the thematic analysis of the transcripts of focus group conversations point out that the art medium serves children to channel their overall development. Arabaci & Gok (2021) believe that children in their early years do not have sufficient vocabulary, and art helps them express themselves more easily. As for older children, at the age before starting school, research results indicate a connection between speech development and social development, as children talk to each other dialogically about their artistic expressions, which is also confirmed by research, according to Arabaci & Gok (2020) and Eglinton (2003). Furthermore, research participants emphasise the importance of an integrated approach to art in early and preschool education, which is also confirmed by research from Eglinton (2003). They also believe that a contemporary curriculum and a holistic approach are important in working with children so that they express and develop all their potential. Furthermore, the participants emphasise that the development of children's critical thinking is necessary for artistic expression. The obtained results related to emotional development point to the importance of the role of ECEC teachers in recognising the emotional states of children. According to research (Ayaydin, 2011; Boone, 2008; Mynaříková, 2012), children express their emotions through visual expression. It is questionable whether the educator has sufficient competence in understanding and monitoring children. Therefore, the research results point to the importance of developing professional competencies and pedagogical documentation, i.e., monitoring children and recording their thoughts and emotional states. Pedagogical documentation is possible if the professional competencies of ECEC teachers are developed, which, according to Balić-Šimrak & Markotić (2018), leads to defining the quality of the institution's culture. The research participants pointed out that the role of the ECEC teacher is important in children's artistic expression. Even if they do not have sufficient professional competence, it is desirable that they provide autonomy to children in artistic expression and create a play and material context. It is also important for ECEC to show an interest in children's artistic expression, to talk with children about what they have drawn, and to try to find a deeper understanding of artistic expression. According to Garvis et al. (2012) and Miller et al. (2008), precisely respecting and accepting the authenticity of others' work can help children develop their artistic abilities. Research participants believe that the mentioned support is based on verbal support for the child's artistic expression. According to the authors (Chung, 2022; Edwards et al., 1993; Johnson, 2021), ECEC teachers have lack of adequate expertise widens the gap between theory and practice in early childhood education. Research participants believe that initial education does not include enough methodical exercises and direct work with children in kindergarten. The lack of literature that refers exclusively to art in the early years is a problem faced by future ECEC teachers. In formal education, they believe that they do not have good enough support from the principal of kindergarten and professional services that should organise additional education on the subject of fine arts or the organization such as the Agency of Education. Precisely because of the lack of

support and insufficient professional knowledge of ECEC teachers about art, the use of stencilling in kindergarten is more frequent, which is also confirmed by the research of Twigg (2011). According to the participants in this research, an important factor in the high-quality artistic expression of children is partnership with parents and parental involvement in the educational context. Parents, ECEC teachers and children participate together in various creative or art workshops and thus learn about art together. During individual conversations, they can analyse a child's drawing and its meaning together, as well as their emotional state and overall development. It is the joint aspiration of parents and ECEC teacher that children's research abilities can contribute to the creation and co-construction of their knowledge, which ultimately results in a contemporary educational institution (Vecchi & Giudici, 2004). Further research on the relationship between ECEC teachers' professional expertise and children's artwork as well as recommendations for factors that can improve the quality of art instruction in the early years may benefit from the findings of this study. The number of participants is a research's limiting factor. More participants with various professional development backgrounds and more work experience in kindergarten may be enrolled in future research.

Conclusion

The importance of artistic expression for children in the early years is of great importance for their overall development. Children discover the world in different ways; they need to express themselves in different ways and in different forms of expression. Although the stated claims are common knowledge, the importance of art education in educational institutions is often underestimated. The paradigm that refers to the instructional method of teaching children art often leads to patterning and denies children's creativity. Although ECEC teachers have a professional responsibility in working with children, their initial education does not enable them to systematically understand children's artistic expression or the possibility of analysing children's work. The importance of supporting future and current ECEC teachers is precisely in the development of professional competencies related to the arts. Initial education that includes methodical exercises carried out in kindergarten can be aimed at systematic mentoring of future ECEC teachers in working with children. Also, participation in joint art and creative workshops with parents and children can contribute to the enrichment of knowledge about art and art elements.

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GENDER DIFFERENCES IN MATHEMATICAL COMPETITION PERFORMANCE FOR GRADE 4 PUPILS IN LATVIA

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ABSTRACT

There are stereotypes that boys are better than girls at mathematics and other STEM subjects. For example, at the International Mathematical Olympiad, most of the participants are boys, and only some girls qualify for the competition. However, a team (6 secondary school pupils) from Latvia, unlike other countries, almost every year contains a girl participant in this prestigious olympiad. Special competitions and olympiads for girls are organized. The goal is to increase their interest and confidence in mathematics, like the European Girls' Mathematical Olympiad.

To determine whether there are gender differences in Latvia for the primary school pupils in the mathematical problem solving we analyse data obtained in a school year 2021/2022 in the national level mathematical competition "This much or... How much?" in which participated about 3200 pupils from various schools in Latvia. Pupils solved problems ranging in difficulty from multiple choice questions and standard computation tasks to non-standard problems that requires explanations and creative thinking. The main objective of this study is to determine if there are any gender differences in mathematical competition for Grade 4 pupils. In the paper we analyse pupils works and solutions according to mathematical skills necessary in the tasks to find out whether there are gender differences in solving different tasks and what are the strength for each gender. The obtained results could be useful for math teachers so they can differentiate the teaching process and improve each pupil's performance in mathematics, as well as rise pupils interest using non-standard tasks.

Keywords: *mathematics for Grade 4, mathematical olympiad, gender differences in mathematics, mathematical skills, olympiad results*

Introduction

Some theories in the past had tried to describe the differences between genders emphasising the influence of biological factors (Girelli, 2022). It contributed to the strengthening of various stereotypes about masculinity. One of the myths is that

certain parts of the brain function biologically differently between men and women. To measure gender differences in neural processes a group of researchers (Kersey et al., 2019) scanned the brains of young 3 to 10 years old children and adults with functional magnetic resonance imaging. Gathered images were compared among children and adults. Researchers found no evidence of differences in neural functions while children were watching educational videos with mathematical content.

Psychologists, sociologists, and educators have spent decades studying differences between genders' performance in mathematics. As the initial studies focused on the belief that mathematics and science are dominated by males, subsequent research broadens its scope to include various social and cultural aspects (Hana, 2003), such as learning environment, learning ways, and the significance of teachers and parents. Additionally, research has shown that girls experience higher levels of math anxiety than boys (Devine et al., 2012), which is an obstacle to choosing a carrier in the STEM (Science, Technology, Engineering, and Mathematics) field (Daker et al., 2021).

Internationally recognized studies, such as Trends in International Mathematics and Science Study (TIMSS) and Program for International Student Assessment (PISA), have acknowledged that the achievement gap between boys and girls in mathematics is minimal. TIMSS 2019 reported that in half of all 58 participating countries, boys outperform girls in Grade 4, although the differences were negligible (Mullis et al., 2020). Whereas pupils from 27 countries presented gender equity in mathematics achievement on average. According to the PISA assessments the differences between 15-year-old participants were not significant in a vast majority of countries (OECD, 2016). Notable differences were observed among top-performing pupils, with boys outperforming girls (OECD, 2019).

Ellison and Swanson (2010) drew attention to gender inequity at mathematics competitions in the USA. They analysed data from the American Mathematical Competitions for high school students in 2007. These competitions are organised in several levels, at the first level 44% of participants were girls. Only those students who scored at least 100 were invited to take part at the next level. Only 25% of pupils who scored 130 were girls. To get to the highest level, knowledge beyond the standard secondary school curriculum is necessary. Researchers suggest that a change in government policy is necessary to motivate girls to learn mathematics at a higher level.

When it comes to the most prestigious event in mathematics, the International Mathematical Olympiad (IMO), girls comprise a small portion of all the participants. Hoyos (2019) analysed the percentage of girls at the IMO, determining that from 1959 till 2022 only about 10% of all the contestants were girls. Only 3.6% of all gold medallists at the IMO were girls. Hoyos guessed that the discrepancy is caused by young women's lack of interest in the most competitive levels of mathematics. However, a relatively high number of girls from Latvia were included in teams from 2000 to 2022 (see Table 1). Considering that each team has a maximum of 6 members, during this period Latvian teams have included 16% girls who also have won awards (see Table 2).

Table 1 Number of girls included in the teams of IMO (2000–2022)

Country	Girls	Country	Girls
Finland	21	Norway	14
Latvia	20	Germany	8
Estonia	18	China	3
Sweden	18	USA	3
Lithuania	13	Poland	2

Table 2 Awards of female contestants from Latvia

Year	Contestant	Award
2022	Komisarova Milana	Honourable mention
2021	Oliņa Līva	Bronze medal
2017	Upīte Agnese	Bronze medal
2012	Ošiņa Ilze	Honourable mention
2009	Ozola Ieva	Honourable mention
2000	Koroļova Aleksandra	Bronze medal

For various fields of natural sciences, economics, engineering, and other fields to develop more comprehensively and to reduce gender gap, it is necessary to involve more women in these fields. There are a lot of young talented girls that should be motivated to study more STEM subjects. Numerous math competitions are therefore held specifically for girls (Veilande, 2018). The European Girls' Mathematics Olympiad (EGMO), which began in 2012 at Murray Edwards College in Cambridge, is one of these significant events. This olympiad has similar rules and similar difficulty as the IMO. The results indicate that girls can be as high achieving as boys.

The rapid development of STEM fields contributes to creation of new jobs. It is crucial to give women access to high-quality education and to encourage them to pursue careers in STEM professions to ensure that there are adequate workers in these fields of science and engineering (Ghasemi et al., 2019). For instance, Lazio and Ford Jr acknowledged that there are millions of unfilled STEM jobs which hinders economic development in the USA (Lazio & Ford Jr, 2019).

According to the economic survey of Latvia given by OECD (OECD, 2022), Latvia has further challenges because its population is declining. The study highlights poor basic digital skills and high rates of student dropouts in higher education which indicates a lack of workforce skills. Quite a few students choose to learn STEM subjects. According to the official statistics of Latvia (Official Statistics Portal Database, 2022) many young people study humanities and health science (see Figure 1). The number of men who choose to study STEM subjects is more than twice as high as the number of women. In 2022, a survey questionnaire for grade 7 to 12 pupils was developed to determine conditions in the learning environment that can predictably affect the academic achievements of girls in Latvia (Daniela et al., 2022).

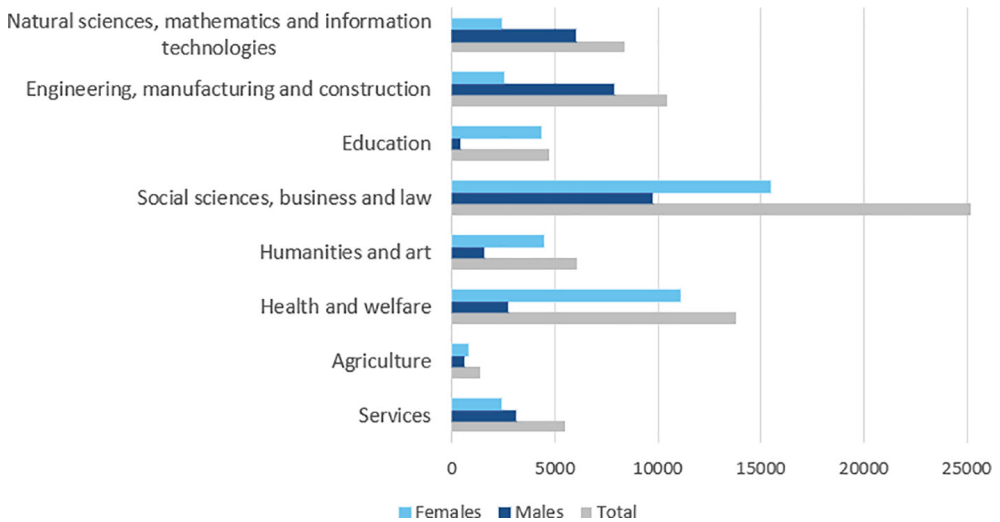


Figure 1 Enrolment in higher education institutions and colleges grouped by sex, mode of studies, and discipline (at the beginning of school year) 2022

Methodology

The research subject of this paper is the gender differences in mathematical performance in the national level mathematical contest “This much or... How much?” for Grade 4 pupils in a school year 2021/2022. We use secondary data collection to analyse pupils’ scores in rounds 1 to 3 using data received from participating schools from different regions in Latvia as well as qualitative data analysis such as pupils’ solutions of round 4 problems accordingly to mathematical skills used in solutions to see whether there are gender differences in pupils’ performance and what skills and tasks are better done by each gender. In total, there are 3256 participant results analysed in this paper.

Results

This section is divided into two parts. In the first part, we describe and analyse gender differences in the first three rounds of the mathematical contest “This much or... How much?”, the second part is dedicated to the analysis of some mathematical skills for girls and boys according to tasks of the round 4 of the contest.

A mathematical contest “This much or... How much?” for Grade 4 pupils was established in 2004 because there was a necessity for a contest in which could participate pupils from Grade 4 since mathematical olympiads in Latvia are organized starting from Grade 5 pupils. The contest is organized by the University of Latvia A. Liepa’s Correspondence Mathematics School and has 4 rounds that include tasks that are intended as an introduction to mathematical olympiad problems. Pupils solve problems of various difficulty levels, from multiple-choice questions and standard computation tasks to non-standard problems that require reasoning and creative thinking. Every pupil is

welcome to participate in the first three rounds, which are held in schools. However, the fourth round is held in regional centres, and students who performed best in the first three rounds are invited. Pupils' works (round 1 to 3) are evaluated by maths teachers according to common criteria, the fourth round is evaluated by the organizers. Further, we analyse data from the mathematical competition "This much or... How much?".

Pupils Results in Round 1, Round 2 and Round 3

In this section we analyse girls' and boys' results in the first three rounds of the contest "This much or... How much?". There are no significant differences between the number of girls and boys that participate in the contest (see Table 3). Since there were 8997 girls and 9462 boys in Grade 4 in Latvia in 2021 (Official Statistics Portal Database, 2021), we may conclude that both genders are equally interested in this mathematical competition.

The contest problem sets have different types of tasks (A. Liepas Correspondence Mathematics School, 2023). In each round tasks from all main subbranches of mathematics (algebra, geometry, combinatorics, number theory) are included. The first round consists of single-choice answer tasks, the second round is single-choice answer tasks and open questions and in the third round, there are only open questions. The average results in these rounds (see Table 4) show that boys are better at single-choice tasks (in almost all tasks of round 1 the boys scored higher, see Table 5), but in round 2 and round 3, the average results have no significant differences.

Table 3 Number of participants in rounds 1 to 3

	Participants	Girls	Boys
Round 1	2144	47 %	53 %
Round 2	2535	49 %	51 %
Round 3	1821	50 %	50 %

Table 4 Average points obtained by pupils in rounds 1 to 3

	Average points	Average points (girls)	Average points (boys)	Problem type
Round 1	16.4 (max 48)	15.5	17.2	Single-choice questions
Round 2	14.1 (max 38)	14.2	14.1	Single-choice questions and open questions
Round 3	8.14 (max 25)	8.1	8.2	Open questions

Table 5 Percent of pupils who solved the task correctly in rounds 1 to 3

		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11
R1	Girls	54	24	45	29	33	8	28	22	24	34	
	Boys	57	28	47	33	41	10	36	22	27	37	
R2	Girls	88	61	52	20	77	50	15	18	4	19	15
	Boys	90	60	59	26	72	50	15	17	4	16	13
R3	Girls	35	16	11	8	9	2	14	12	78		
	Boys	41	18	11	11	9	2	17	13	70		

Although average results are relatively equal there are several tasks that show gender differences in performance. In the first three rounds, boys outperformed girls in 17 tasks, while girls outperformed boys in 6 tasks and the results were equal in 7 tasks (see Table 5). Although boys solved more tasks correctly, in many of them the difference between the performance of boys and girls is not significant, only 1%-2%.

The tasks with the biggest differences between girls' and boys' performance are analysed next. All these tasks can be found in Appendix I. It can be observed that boys are more likely than girls to answer correctly single-choice questions and tasks involving real-life problems and tasks with practical context. Girls performed better in tasks that require them to carefully study task criteria and complete only what was requested. For example, in R2 P5, where girls outperform boys by 5% (see Table 5), it was necessary to read the data accurately from the given graph. However, no additional data operations were required for the task. Similarly, in R3 P9, girls perform 8% better, which required pupils to follow the instructions of the task accurately, without delving into any real-life problem.

Tasks in which boys perform better involve real-life problems and practical context. Pupils must complete numerous operations to obtain the correct answer in these tasks. This requires delving into the task's context and understanding the meaning of each number. The differences in results and the most common mistakes made in these tasks are described further.

- The boys performed 4% better in R1 P4. Girls were more likely than boys to select the incorrect option E (see Figure 2, where the correct answer is given in brackets). The error could have resulted from counting congruent triangles and selecting the answer whose denominator contains the number of triangles.
- In R1 P5, 4% more girls than boys selected the incorrect option A. This can be calculated by subtracting 10 from 12, ignoring the fact that half-litre bottles are provided instead of one-litre ones.
- The most frequently wrong response in R1 P7 is C (6% more for girls than boys). Although the question asks by how much the temperature has increased, answer C gives the exact temperature of one day. To acquire the correct answer, students must do various things, including not just reading the data from the graph for both days, but also evaluating the difference between them.

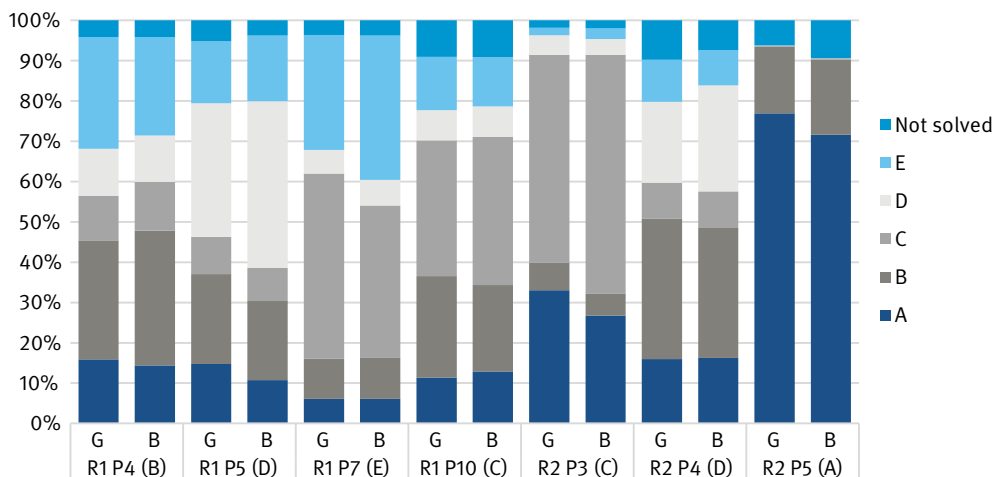


Figure 2 Percent of selected answer choices for some tasks of the round 1 and round 2

- In R1 P10, 4% more girls than boys selected the incorrect option B. The task's question contains the phrase "white shirt," and the number in response B matches the number of white shirts. Finding just one number in the text, as in previous tasks examined here, is not enough.
- In R2 P3, the most frequently incorrect response is C (6% higher for girls than boys). The error may have been caused by oversimplifying the task. The divisibility of 70 by 7 is obvious.
- The most frequently picked wrong answer in R2 P4 is C (6% more for girls than boys). It can be obtained by adding the numerators and denominators of all fractions in the text. There could be two issues: a lack of ability to add fractions or a lack of understanding of the task's context.
- R3 P1 is an open question, and 6% more boys than girls correctly answered it. Although the problem is brief, the solution entails several steps, including expressing an hour in minutes and calculating the value of the required fraction.

It can be observed that girls are more prone than boys to select wrong responses whose values can be acquired by performing a single operation on provided numbers – reading values from a graph or finding them in the text, adding or subtracting given numbers. The task's context and complexity, which require more than one operation, are not recognized by girls more often than boys.

Pupils Results in the Round 4

According to the pupils' performance in the first three rounds, at least one pupil from each participating school is invited to participate in round 4. Since boys' results in the first three rounds were better, the number of boys invited to round 4 was greater (233 boys and 183 girls). As well as in the average result of round 4, boys outperformed girls (average number of points for boys is 20.5, but for girls, it is 19.2 out of 47).

Mathematical skills are conceptualized as a separate area that includes verbal components (number knowledge, counting, computation, and reasoning) and nonverbal components (math notation, reasoning in time and space, and computation) (Miller, 2004). Mathematical skills are not only related to topics taught in mathematics lessons but also include practical skills and abilities that are considered useful in everyday life and for different professions. Next, we analyse some tasks of round 4 according to the main mathematical skills necessary in each task where differences in gender performance were observed previously. See the contest problem set in Appendix II.

Problem 1 is a task where pupils must demonstrate their numeracy skills by dividing two numbers in which girls scored higher than boys (71% of girls made computation correctly contrary to 65% boys) and is shown in Figure 3. The task required accurate computing by employing a school-taught algorithm. The main mistake for each gender was missing 0 in the result. When analysing pupils' solutions, it was discovered that girls checked the accuracy of the answer more frequently by using the opposite operation.

Problem 2 is a task where pupils must show their understanding of time calculations and an analogue clock. Boys solved this problem significantly better than girls (see Figure 4), although the main mistakes were similar for all pupils. Girls more briefly described and explained their solutions, whereas boys' solutions were shorter and they more often wrote only an answer.

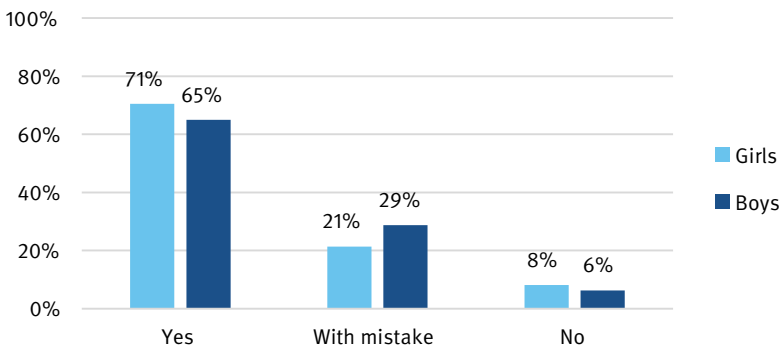


Figure 3 Girls and boys' numeracy skills in problem 1

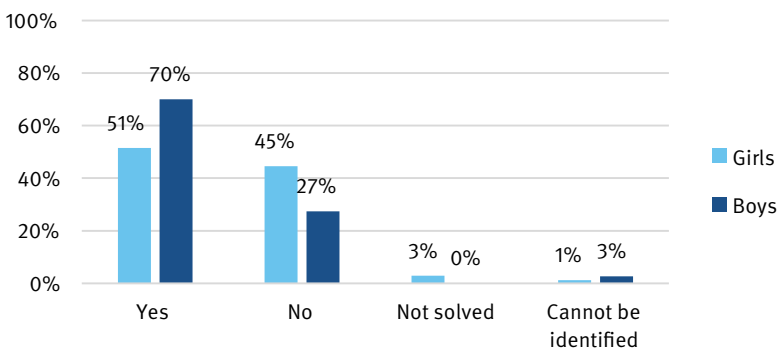


Figure 4 Girls' and boys' time calculation skills in problem 2

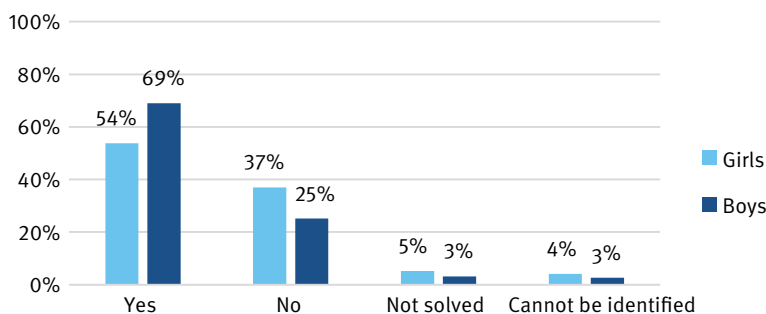


Figure 5 Girls' and boys' abstract thinking skills in problem 4

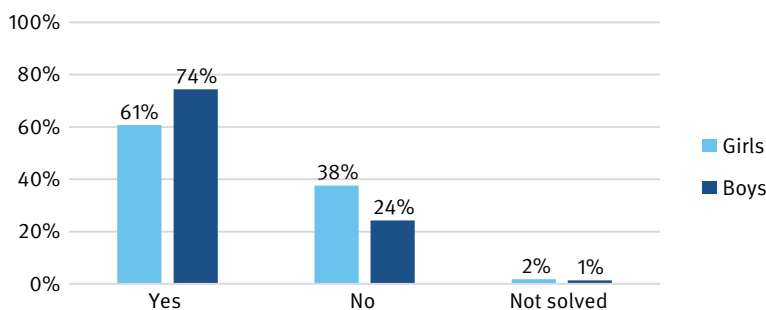


Figure 6 Girls' and boys' money conversion skills in problem 5

Problem 4 is a task where abstract thinking is needed because a pupil must think about all possible 2-number combinations and find a counterexample. Boys showed a more general view in solving this problem, while girls wrote a few examples that met the required conditions and did not think about whether the statement is true for all numbers (see Figure 5). Abstract thinking is very crucial in learning mathematics since properties, ideas, and concepts must be generalized without being tied to a specific example.

At a young age, pupils must learn to deal with tasks that involve units of measure, because it will be necessary in their daily lives. Problem 5 checks whether a pupil understands the difference between cents and euros and knows how these units are related. Boys performed better than girls in this task (see Figure 6), the main mistake was an incorrect conversion of EUR 20 to 200 cents. However, girls communicated more about their mathematical reasoning than boys. While girls made some arithmetic mistakes, their solutions were better and more well-organized.

Reading skills are the basis for solving any problem. In problem 6 reading and the accuracy of it was the key to the correct solution. Girls outperformed boys in this task (see Figure 7). Although the task only required colouring the given figure according to the requirements, more than half of the pupils, due to the lack of thorough reading, cannot solve the problem correctly. Analysing the correct solutions, we did not notice any algorithms for how pupils got the necessary colouring, only one girl showed how she decided which squares to colour (see Figure 8).

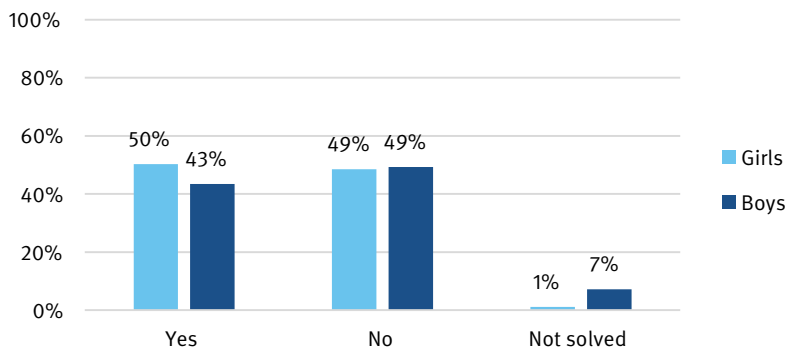


Figure 7 Girls' and boys' reading skills in problem 6

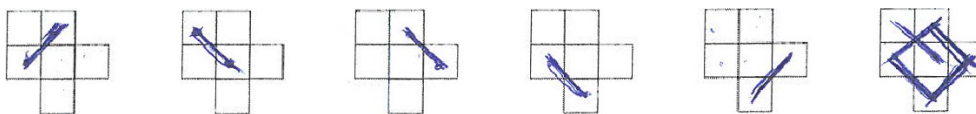


Figure 8 Girl's solution of problem 6

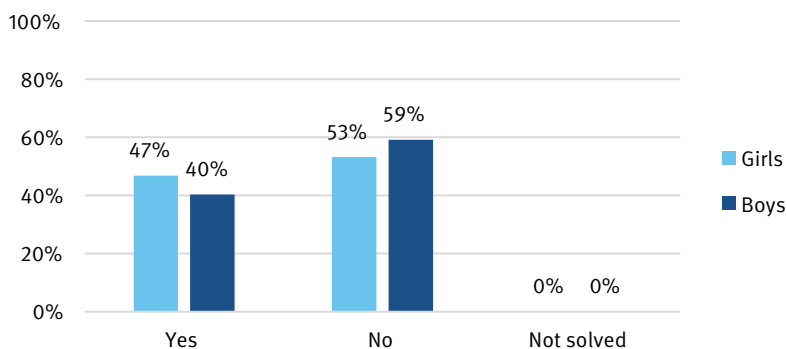


Figure 9 Girls and boys' figurative thinking skills in the problem 11

Figurative thinking provides a means of finding the patterns that give meaning to experience and involves the visual process of seeing correspondences of shape or function (Smolucha & Smolucha, 2012). Figurative thinking is the main type of thinking in preschool ages and the development of it is crucial since it will be hard to solve complex problems in the future if one has no ability to manage pictures. Problem 11 requires building a figure from given shapes and in this problem girls' performance was better than boys' (see Figure 9). This task is a good example of how to develop pupils' figurative thinking.

The obtained data do not show a significant difference between the performance of boys and girls in the contest "This much or... How much?" for Grade 4 pupils in the school year 2021/2022.

The previously covered observations are consistent with the findings of the Progress in International Reading Literacy Study (PIRLS), where it was acknowledged that girls had higher average achievement in reading than boys in the fourth grade. The results of the contest confirm that reading and comprehension of a text are important and necessary for correct problem solving, not only in standard situations during everyday lessons but also in mathematical contests that require non-standard thinking. Girls got better results in solving these types of tasks where careful reading and thorough work was all that was needed for a correct solution. Boys did better at solving tasks with a practical context and use of mathematics in real-life situations. This implies that boys are more interested in practical subjects. It must be recognized that both girls and boys are equally interested in solving exciting mathematical problems.

Conclusions and Discussion

The article analysed Grade 4 pupils' performance in a mathematical contest in Latvia. We can see that there is no significant difference between the performance of boys and girls when it comes to their scores or solutions. When it comes to multiple-choice questions and tasks with a practical context that require more than one operation, boys fare somewhat better. However, girls are better at tasks that require careful work and reading skills. Both genders are equally interested in entering competitions, so it is important for teachers as well as for parents and society to keep this interest in the future by motivating and supporting pupils.

In mathematics lessons, teachers should place emphasis on mathematical literacy for pupils to develop their reasoning capabilities and to learn how to structure their solutions so that they are easy to read.

Discussions should be started in several directions:

- The stereotype that girls cannot be good at mathematics or in the field of STEM must be eliminated and a significant role can be played by social media and public beliefs and statements.
- To motivate both girls and boys to learn mathematics and other STEM subjects special supporting materials for teachers must be developed containing more real-life and practical problems that would be challenging and interesting for pupils.
- Interest clubs for teachers and outdoor activities for pupils should be organised to disseminate information, exchange views, and motivate pupils to choose to learn STEM subjects in the future.

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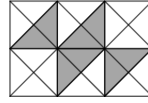
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Appendix I

Some Tasks of the Round 1 to 3 of the Contest “This much or... How much?”

R1 P4 A rectangle is divided into equal triangles, what part of the rectangle is coloured?

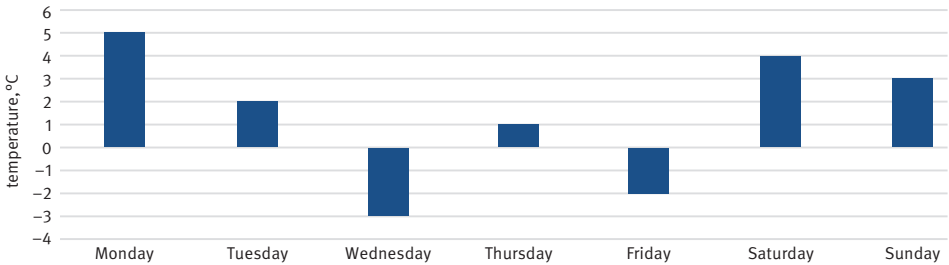


- A** $\frac{1}{4}$ **B** $\frac{1}{3}$ **C** $\frac{1}{2}$ **D** $\frac{2}{3}$ **E** $\frac{7}{24}$

R1 P5 10 half-litre bottles of water were poured into a 12-litre bucket. How many more such bottles of water need to be poured to fill the bucket?

- A** 2 **B** 7 **C** 12 **D** 14 **E** other number

R1 P7 The graph shows the average air temperature during the nights of the second week of October. By how many degrees was Saturday night warmer than Wednesday night?



- A** by 1°C **B** by 3°C **C** by 4°C **D** by 6°C **E** by 7°C

R1 P10 On a dark autumn evening, the electricity went out in the whole town, and John’s house was completely dark. On this evening, John must perform at an orchestral concert, so he needs to bring a suit and a white shirt. John knows that he has 6 white, 4 black and 5 red shirts in his wardrobe. What is the smallest number of shirts he needs to take out of his wardrobe to make sure he has a white shirt?

- A** 1 **B** 6 **C** 10 **D** 11 **E** 15

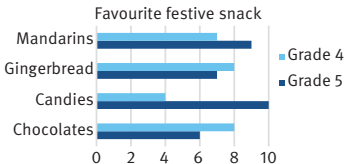
R2 P3 What is the largest number divisible by 7 that is less than 100?

- A** 70 **B** 97 **C** 98 **D** 99 **E** 105

R2 P4 On Monday it snowed $\frac{1}{51}$ of a centimetre, on Tuesday it snowed $\frac{3}{10}$ of a centimetre and on Wednesday it snowed $\frac{1}{10}$ of a centimetre. What is the thickness of the snow on Thursday morning if we know that it did not snow overnight and did not melt on any day?

- A** $\frac{5}{10}$ cm **B** $\frac{5}{25}$ cm **C** $\frac{5}{5}$ cm **D** $\frac{6}{10}$ cm **E** 5 cm

R2 P5 Which table shows the same data as the chart?



A

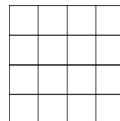
Favourite festive snack		
Snack	Grade 4	Grade 5
Mandarins	7	9
Gingerbread	8	7
Candies	10	4
Chocolates	8	6

B

Favourite festive snack		
Snack	Grade 4	Grade 5
Mandarins	7	9
Gingerbread	8	7
Candies	4	10
Chocolates	8	6

R3 P1 (2 points) How many seconds is one-twelfth of an hour?

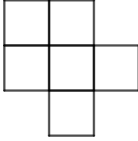
R3 P9 (2 points) In a given table, colour some of the boxes so that there are exactly two coloured boxes in each row and in each column of the table!

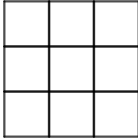


Appendix II

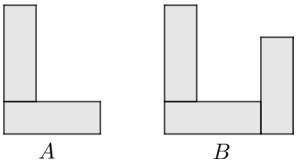
The Round 4 Tasks of the Contest “This much or... How much?”

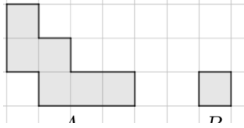
- (2 points) Calculate $2020 \div 20$.
- (3 points) How many minutes will have passed from today at 20:22 until 02:10 tomorrow?
- (4 points) How many natural numbers are greater than $20 + 22$ and less than 20×22 ?
- (4 points)
 - Is the sum of two equal numbers always greater than the number itself?
 - Is the product of two equal numbers always greater than the number itself?
- (5 points) Jane has several 5-cent coins with a total value of 20 euros and several 2-cent coins with a total value of 50 euros. How many coins does Jane have?

- (6 points) In how many ways can you paint two squares in a black colour in the given figure so that they share a vertex but not an edge?
 

- (3 points) From 24 cm long string Nick made a net consisting of 9 squares $1 \text{ cm} \times 1 \text{ cm}$ (see the net in the picture). How long does Nick need to make a similar net consisting of 20×20 boxes of the same size?
 

- (4 points) All 42 students from the village go to an art school or a music school (some go to both). It is known that there are as many students in the art school as there are only in the music school. It is also known that twice as many students go to both schools at the same time as there are students who go only to the art school. How many students go to both the art school and the music school?
- (6 points) Ann wrote a two-digit number on a piece of paper. Then she divided this number by 5 and subtracted 5 from the result. What number could Ann have written on the page? Find all the possible numbers!

- (6 points) The shapes in the picture are made of equal rectangles. The perimeter of the figure in *A* is 58 cm and the perimeter of the figure in *B* is 85 cm. What is the perimeter of each of the rectangles used?
 

- (4 points) Create a rectangle using two figures *A* and four figures *B*!
 

TRANSVERSAL SKILLS IN THE MATHEMATICS EDUCATION CURRICULUM IN PRE-SCHOOL: EXPERIENCE OF LATVIA

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ABSTRACT

The acquisition of mathematics begins with the birth of a child within the cultural environment or socio-economic environment of the child. The child learns mathematics by investigating and exploring the environment in which they are located. The article describes and analyses theoretical materials and documents about applying transversal skills for the acquisition of mathematics in the new education curriculum in pre-schools in Latvia. From the school year 2017/2018, new education curriculum is being implemented in Latvia. The research focuses on the analysis of Preschool education curriculum (2019) and Transversal skills in preschool (2019), as well as document “Education for modern literacy: description of the teaching/learning content and approach” (Skola 2030, 2017) giving particular attention to mathematics to be acquired in pre-school. Research questions were chosen in the research aspect of applying the new education curriculum for the acquisition of mathematics in preschool: What transversal skills are included in mathematics education in preschool? What are the essence of transversal skills in preschool education? How are the mathematics learning outcomes in preschool education related to the transversal skills? Main findings reveal the improvement of the learning outcomes by including the transversal skills in the acquisition of mathematics in preschool. Critical thinking and Problem solving as transversal skill dominate in the mathematics education in the preschool curriculum as the learning outcomes. In turn, such transversal skills as Civic participation and Digital literacy are neither included, nor specified in mathematics outcomes.

Keywords: *curriculum, education, mathematics, learning outcomes, pre-school, transversal skills.*

Introduction

The question of priorities in mathematics education has been a topical issue for several decades. Modern mathematics education in preschool is not only content-oriented, but gives equal importance to both the content and the process of mathematics. The child must become a flexible thinker who, with the knowledge of all areas of mathematical content and an understanding of what is being taught, is able to apply mathematical ideas and skills to

everyday life and other activities (National Council of Teacher of Mathematics, 2000). To this end, mathematics learning in preschool involves both content (number and counting, geometry, measurement, data analysis) and process (problem solving, reasoning, communication, connections, and representation) (Bullard, 2017; Robertson, 2017; Cotton, 2019).

The need for changes in Latvian preschool education, including the acquisition of mathematical skills, is also stated in the document “Education for Modern Literacy: a description of the curriculum and approach”. Despite the fact that the child is able to solve tasks that require remembering facts and following learned algorithms in familiar situations, difficulties arise in non-standard situations where there is no single learned correct solution to a situation. Children find it difficult to relate theoretical knowledge to real life (Skola 2030, 2017). The education, children receive in preschool, is the foundation for them to benefit from learning opportunities in primary school (Burchinal et al., 2021).

In addition to basic skills such as literacy, numeracy, digital skills and civic participation skills, skills such as creativity, critical thinking, initiative taking and problem solving are becoming increasingly important in today’s complex and changing societies (European Commission, 2018). Thus, new Guidelines (2018) were introduced which state that the compulsory curriculum shall be designed with a focus on what is most relevant for the child in learning the content, in order to build literacy (competence) as a complex outcome of the child’s learning over a longer period. According to the guidelines, not only knowledge, understanding and basic skills in the subject areas, but also values, virtues and transversal skills (Preschool education guidelines, 2018) constitute the compulsory content of preschool education. By learning social and emotional, executive, mathematical and literacy skills in preschool, children will be better prepared for the higher expectations and requirements, and more formal curriculum in primary school (Burchinal et al., 2022).

Essence of Transversal Skills

Transversal skills are embedded in life activities in the 21st century and have an important place in the knowledge society for lifelong learning (Care & Luo, 2016; Larraz et al., 2017). Transversal skills influence an individual’s future competences throughout his life, as well as employment, income, life satisfaction and health (European Commission, 2018).

Transversal skills are essential and transferable across the lifespan and include cognitive and metacognitive skills, as well as they are closely related to subject knowledge and attitudes (Babiloni et al., 2017) and include several important skills that can be acquired, which are necessary for everyone to successfully adapt to change and live a meaningful and productive life (Trzmiel, 2015). Transversal skills comprise skills, values and attitudes that are necessary for learners’ holistic development and their ability to adapt to change (Care & Luo, 2016). In preschool, transversal skills include the cognitive, emotional and social aspects of a child’s functioning that help them acquire knowledge, understanding and basic skills in areas important to human functioning (Preschool education guidelines, 2018).

Transversal skills are interdisciplinary and go beyond a specific field or curriculum (Flora, 2014). Transversal skills are used in a variety of disciplines, situations and contexts

(Economou, 2016). Transversal skills are crosscutting and transferable across contexts (Sá & Serpa, 2018). Transversal skills are an important component of education at different levels (Larraz et al., 2017) and need to be developed at several stages of education (Gasquet et al., 2017). Transversal skills are the basis of the compulsory content of preschool education and the development of transversal skills is an important goal of preschool education, as they are increasingly needed in a variety of situations, including unfamiliar and complex ones (Preschool education guidelines, 2018).

Methodology

The aim of the study is identify, analyse and assess transversal skills as changes in the mathematics curriculum after the education content reform in the preschool. Therefore, the study used the document analysis, a systematic procedure for reviewing or evaluating documents. Like other analytical methods in qualitative research, the document analysis requires the exploration and interpretation of data in order to clarify meaning, to gain understanding and to develop empirical knowledge (Corbin & Strauss, 2008).

For the purpose of the document analysis, the following criteria were selected: documents for the preschool education stage, including conditions for mathematics learning in preschool, defining the implementation of the preschool pedagogical process in Latvia, defining transversal skills, approved by the Cabinet of Ministers, issued in the period 2013–2023. The analysis of transversal skills in mathematics education in Latvia for preschool includes the analysis of the following documents:

- Preschool education curriculum (Preschool education curriculum / Pirmsskolas izglītības..., 2019);
- The document “Education for modern literacy: description of the teaching/learning content and approach” (School 2030 / Skola 2030, 2017);
- Transversal skills in preschool (Transversal skills in preschool / Caurviju prasmes..., 2019).

The analysis of the documents was based on the following research questions:

- RQ1: What transversal skills are included in mathematics education in preschool?
- RQ2: What are the essence of transversal skills in preschool education?
- RQ3: How are the mathematics learning outcomes in preschool education related to the transversal skills: critical thinking and problem solving, creativity and entrepreneurship, self-directed learning, collaboration, civic participation, digital literacy?

Results

The Preschool Education Curriculum (2019) has been improved to include the transversal skills to be learnt in the preschool and the outcomes that the child has to attain: Critical thinking and problem solving, Creativity and entrepreneurship, Self-directed learning, Cooperation, Civic participation, Digital literacy (Skola 2030, 2017).

Table 1 Transversal skills in mathematics (Preschool education curriculum, 2019)

Transversal skills	1st level			2nd level			3rd level		
	ML	MR	SH	ML	MR	SH	ML	MR	SH
Critical thinking and Problem solving									
Creativity and Entrepreneurship									
Self-directed learning									
Collaboration									
Civic participation									
Digital literacy									

CODE Mathematics Language – ML

Measurements – MR

Shapes – SH

yes

partly

no

Table 2 Description of civic participation, digital literacy as transversal skills in the preschool curriculum

Transversal skill (Skola 2030, 2017)	Description of the transversal skill in preschool (Transversal skills in preschool, 2019)
Civic participation. Conscious action for the society, the environment and people, embracing diversity and influencing community processes.	In preschool, civic participation skills are learned through creating and following group rules, understanding others, empathising and acting in an environmentally friendly way. Children begin to take conscious responsibility and act accordingly. In preschool, children learn to be responsible for themselves, their peers and the environment. In the future, they will form a community where they can feel safe and equal with others and have a say in what happens. They will act appropriately in unacceptable situations.
Digital literacy. Digital literacy helps to use digital technologies effectively, intelligently and responsibly.	In preschool, it is important to learn to distinguish between the virtual and the real world, to understand the role of digital technologies, and to learn to respect the conditions of using digital devices.

The data analysis suggests that the attainment of *Critical thinking and Problem solving* dominate in the preschool curriculum as the learning outcomes are more strongly indicated for the first stage of preschool education in mathematics than for the third stage of preschool mathematics, where the mathematics content dominates in the learning outcomes. In turn, the mathematics outcomes are neither included, nor specified for such transversal skills as *Civic participation* and *Digital literacy* (see Table 1).

Typically, **digital skills** (see Table 2) that could help to use digital technologies effectively, intelligently and responsibly are not taught in preschool mathematics, although digital devices and technologies have become an integral part of modern human learning. However, the preschool curriculum does not provide guidance on how to use these different technologies in a meaningful way to complement teaching and learning in preschool mathematics. Data on preschool children’s ability to solve simple, everyday problems, to

use mathematical concepts, to use the language of mathematics in everyday conversations and reasoning skills show that children who use digital devices once a week, as opposed to those who use digital devices every day, show higher achievement in mathematics learning (OECD, 2020). Digital technologies can change how mathematics is taught and learned, as technology can make mathematics meaningful (Papadakis et al., 2021). Different applications encourage preschool children to share their experiences and facilitate the learning of mathematical concepts in geometry, grouping and counting (Magnusson, 2021).

Preschool curricula, regarding the **civic participation** (see Table 2) as a transversal skill for the mathematics literacy, do not envisage outcomes that enable children to understand the interaction between the society, environment and their own personality; nor do they set out to understand the personally meaningful values according to which decisions are made. The inclusion and implementation of civic participation as a transversal skill in mathematics is underestimated; attention should be paid to seeing interconnections in the society, in an environment where community involvement is important. Therefore, in the process of learning the content of mathematics, it is possible to enrich the mathematics content by linking it to things, their interconnectedness, participation and co-responsibility. It is also done by connecting the learning of mathematics content with life situations in which challenges are addressed both from a mathematical point of view and the point of view of a civic participation, e.g. what to do if someone lacks something or has too much of something. Research in mathematics education emphasises that such problems will not be solved with certain specific skills, learned rules that are important in a certain field of activity (Claxton et al., 2016), knowledge that is acquired formally during learning without practical application.

In the preschool curriculum the use of mathematical terms and naming them dominate the results achieved in the acquisition of **cooperation** (see Table 3) as a transversal skill. For instance, *Name the number of objects; Identify the location of an object in space using the concepts of above, below, near, behind, next to; Compare objects using the concepts of more, less, bigger, smaller* (Preschool education curriculum, 2019). However, the cooperative skills component, indicated in the Preschool Programme that the child learns to cope with learning and everyday situations with peers (Skola 2030, 2017), is not addressed in mathematics. Typically, the gradual development of cooperation skills only partially follows a continuum, with a higher number of outcomes being indicated

Table 3 Description of cooperation as transversal skills included in the preschool curriculum

Transversal skill (Skola 2030, 2017)	Description of the transversal skill in preschool (Transversal skills in preschool, 2019)
Cooperation. The opportunity to learn from each other in a conscious way, working together to find creative solutions to the needs of the group and individuals, and to gain satisfaction from what has been achieved.	In the early years of preschool, cooperative skills are developed by doing different tasks together with an adult. Over time, the necessary skills in building respectful relationships and using vocabulary develop into a habit. As the child grows up, he/she learns to deal with learning and everyday situations together with peers.

in the second stage of preschool education than in the third stage of preschool education. Outcomes in the two above-mentioned stages may overlap completely, e.g. in the learning of shapes. Outcomes in the second stage are: *Identify the position of an object in space using the concepts above, below, near, behind, next to*, and in the third stage: *Identify the position of objects in space and in the plane using the concepts above, below, near, behind, next to, to the right, to the left* (Preschool education curriculum, 2019).

Thus, in the context of the Preschool curriculum, the acquisition and use of mathematics-related vocabulary is emphasised in the context of cooperation as a transversal skill, which is positive in the context of learning mathematics content. This is because the language of mathematics plays an important role in children's learning of mathematics (Barner et al., 2009; Hornburg et al., 2018; Burchinal et al., 2022). When children understand and practise using mathematical language, they are better equipped to learn mathematics and to engage in conversations where mathematics is discussed (Riccomini et al., 2015; Burchinal et al., 2022). Greater attention should be paid to ensuring that children use the vocabulary they learn in their communication with adults and peers. When playing with peers, talking with an adult, children hypothesise, ask questions, and formulate answers. Often the answers to questions from both peers and adults may be contradictory; they may differ from the child's experience, but this is what gives the child a new understanding of what is going on. It is this experience that allows the child not only to construct, but also to expand and restructure his or her knowledge (Copple & Bredekamp, 2009; Kostelnik et al., 2014).

The following **self-directed learning** (see Table 4) skills as a transversal skill are identified in preschool: to plan own actions, to monitor own actions, to recognise, to name and monitor own emotions, to reflect on own growth, direct own growth (Transversal skills in preschool, 2019). Self-directed learning also involves asking questions rooted in the child's interests and expressions of curiosity. Self-directed learning allows children to explore, create, adapt, modify and play with ideas, as children are the determinants of the learning process. They begin to gain greater self-determination and freedom over their learning (Stone, 2016; Alwadaeen & Piller, 2022). The mathematics learning outcomes included the following self-directed learning skills:

- planning, where the child learns to predict the outcome of a situation, learns to be aware of the purpose of his/her actions, and plans one or more actions to achieve his/her intentions (Transversal skills in preschool, 2019). For example, *Fetches, takes away, puts objects according to a certain shape; Handles objects, places them in a certain place, e.g. a leaf on a table, a trolley under a shelf; Independently chooses a feature to group objects by* (Preschool education curriculum, 2019).
- implementing and monitoring his/her actions when the child perseveres to achieve the desired outcome; independently tries to overcome difficulties, looks for new solutions, changes the plan and adapts to the situation; asks others for help when necessary (Transversal skills in preschool, 2019). For example, *Works practically with the counting material, exploring number composition; Chooses an appropriate number (1–5) to represent the number of objects* (Preschool education curriculum, 2019).

Table 4 Description of self-directed learning as transversal skills included in the preschool curriculum

Transversal skill (Skola 2030, 2017)	Description of the transversal skill in preschool (Transversal skills in preschool, 2019)
Self-directed learning. Conscious judgement, reflection on one's own learning activities and the ability to guide one's own learning in any life situation, context.	Self-directed learning in preschool is promoted by developing the ability to be aware of and manage one's emotions, thoughts and behaviour, by learning to set goals, to plan how to achieve them and implement the plan, evaluating the process and the results in order to achieve growth.

Table 5 Description of creativity and entrepreneurship as transversal skills in the preschool curriculum

Transversal skill (Skola 2030, 2017)	Description of the transversal skill in preschool (Transversal skills in preschool, 2019)
Creativity and entrepreneurship. Creativity is the process of generating new ideas that are useful to a person or a group of people. Entrepreneurship allows putting these ideas into practice, achieving one's own and societal goals.	In preschool, a child is ready to learn something new, to create ideas and to implement them. Playing and experimenting with familiar activities and objects, the child creates different combinations of things never experienced before, strengthens the desire to learn new knowledge and skills, and develops the habit of showing initiative and complete the started activities.

However, the mathematics outcomes are not specified for self-directed learning as a transversal skill such as: reflecting on own growth, guiding own growth. In mathematics, it is not expected that the child reflects on his/her own growth, guides his/her own growth by evaluating the process and outcome of his/her work according to criteria given by the teacher or set by the child, by being aware of his/her achievements and difficulties, and by taking action to improve his/her performance.

As **creativity** (see Table 5) is the process of generating new ideas, which are useful to a person or a group of people (Skola 2030, 2017), the mathematics outcomes indicate that the outcome for the child is to see and respect diversity. There should be a particular focus on reducing stereotypes, e.g. *Conditionally and creatively makes arrangements, including rhythmic rows, of objects and geometric shapes that differ by one characteristic; Invents and arranges their own arrangements, including rhythmic rows* (Preschool education curriculum, 2019). During the third stage of preschool education, in Learning shapes, special attention is paid to innovation: *Through hands- on activities the child is able to divide a shape into parts, obtaining new shapes, e.g. from a quadrilateral two triangles are obtained; Experiments with shapes, e.g. by combining them, creates another shape and relates it to a familiar object* (Preschool education curriculum, 2019). No similar simpler activities are intended in the earlier stages of education.

Despite the fact that the regulatory documents defining the preschool process emphasise that **entrepreneurial skills** (see Table 5) enable students to put these ideas into practice, achieving their own and society's goals (Skola 2030, 2017), the mathematics outcomes of the preschool programme do not include entrepreneurial skills as a transversal skill. This could be because entrepreneurship is a different and relatively new skill in the field

of education (Deveci, 2018). Entrepreneurship should be learned through practical application rather than theoretically (Sijde et al., 2008). Learning entrepreneurial skills such as planning, organising, academic risk-taking, communication, and teamwork are important for everyone to be successful and productive in their professional lives (Harari, 2018).

The analysis of the data showed that the Mathematics learning domain is most closely related to **critical thinking** and **problem solving** as transversal skills (see Table 6), as the nature of these skills corresponds to the process of learning mathematics, including the components and activities that are important in learning mathematics.

This is in line with the trend in mathematics education for several decades where the development of thinking skills, including critical thinking, has been given special attention in mathematics education (Jacobs et al., 2007; Sfard & Kieran, 2001). Critical thinking is the art of analysing and evaluating thinking with a view to improving it (Paul & Elder, 2008), as well as an important skill in problem solving, discovery and research (Thompson, 2011). Critical thinking is essential for life in the information age (Connor-Greene & Greene, 2002), a prerequisite for education (Sezer, 2008). Problem solving as a transversal skill, on the other hand, is consistent with the four stages of the problem-solving process in mathematics formulated by Pólya: understanding the problem, developing a plan, implementing the plan and reviewing the work (Pólya, 1945). Problem solving skills include the ability to mathematically interpret a real situation, choose a solution strategy, develop the solution process, change the strategy if necessary, and reflect on one's work and results (Samo et al., 2017).

The curriculum, describing the learning area of mathematics, gives references to the outcomes of critical thinking and problem solving skills (see Table 7). For example, *The child solves a problem in a mathematical way; The child begins to learn to verify a statement – makes an assumption; The child can process and analyse data about objects, situations, events, processes mathematically to make informed decisions* (Preschool education curriculum, 2019). The analysis of the mathematics learning outcomes for all three preschool stages revealed that they mainly focused on mathematics content and the development of critical thinking. For example, *During hands-on activities, the child investigates, selects, finds, distinguishes, sorts, groups, compares, counts objects, explores, describes geometric shapes and figures* (Preschool education curriculum, 2019).

Table 6 Critical thinking and problem solving as transversal skills in the preschool curriculum

Transversal skill (Skola 2030, 2017)	Description of the transversal skill in preschool (Transversal skills in preschool, 2019)
Critical thinking and problem solving. Targeted analysis of information and situations, evaluation, finding and implementing solutions.	In preschool, these skills are acquired by observing, studying natural objects and phenomena, identifying and naming different relationships, understanding the sequence of actions, causes and consequences, evaluating the reliability of what is seen and heard, as well as solving everyday problem situations.

Table 7 Critical thinking and problem solving as transversal skills (Skola 2030, 2017)

Critical thinking as a transversal skills	Problem solving as a transversal skill
Analyse: investigate and observe details, compare, contrast, look for and see relationships in objects and processes	<ul style="list-style-type: none"> Define a problem or opportunity: recognise and explain own and others' needs and problems, learn to formulate a preferred solution to a specific need or problem
Synthesise: connect, combine, transform, represent simple information experienced, heard, seen in play activities	<ul style="list-style-type: none"> Evaluate and choose a solution: evaluate their own solutions and those proposed by others, choose which to implement, learn to justify their choices
Evaluate: assess and compare information obtained in different ways according to certain criteria and attributes	<ul style="list-style-type: none"> Plan and implement a solution: use trial and error method or purposeful planning to solve a problem, if unsuccessful seek other solutions
Conclude: see and explain simple relationships, cause and effect, make generalisations based on previous experience and known information	<ul style="list-style-type: none"> Check and evaluate the solution: evaluate whether and how the problem was solved, learn to formulate what is harder or easier to do

The curriculum describes the goal of mathematics learning or literacy at the end of pre-school education and outlines the big ideas. The text contains references to problem-solving skills, for example, *The child solves a problem in a mathematics-specific way, The child begins to learn how to verify a statement – makes an assumption conjecture, the child understands by doing that data about objects, situations, events, processes can be processed and analysed mathematically to make informed decisions* (Preschool education curriculum, 2019). However, in the outcomes for the child only indirectly and only at the third stage of preschool education there are indications of problem-solving skills, e.g. *The child makes an assumption about the number in pictures and in sets of objects and checks, explains, verifies his/her assumption by counting* (Preschool education curriculum, 2019).

When a child engages in activities where mathematical content is revealed, he/she receives support from an adult for thinking, analysis, and reasoning. This means that the child does not receive answers, one correct solution from the teacher, but obtains them by trying, making mistakes, cooperating, discussing, exchanging opinions, predicting, and concluding. A good problem situation encourages the child to analyse, synthesise, evaluate the information, events, ideas, and does not always have one definite solution. The child's own judgements, conclusions help to make new mental connections and generate new ideas. The child's wrong answers, misjudgements should be heard, they can be indirectly guided by engaging the child in a discussion, challenging him/her to look at an event, an idea, information in a different way. In this way, even children's mistakes and misjudgements can be used to plan future learning activities.

Without solving daily and teacher-modelled problem-solving situations that are purposefully developed and only engaging in formal activities, it is impossible to develop the skills of problem-solving, reasoning, searching, seeing patterns, and communicating about what has been learned. The child should develop the impression from pre-school

age that mathematics is more than specific skills and that its content is more than counting, measuring, recognising shapes and figures. The preschool teacher should not be engaged in a retelling of mathematical facts, but should think how to organise the learning experience in a purposeful way so that the child sees the meaning of what is being learnt, helping the child to relate informal knowledge, which is learnt in playing, in everyday life, to formal knowledge. Without developing a strong understanding of mathematics in the early years, children too often believe that mathematics is a guessing game and a system of rules without a foundation (Munn, 2006). Mathematics is not about finding the right answer, but the skill of being able to draw conclusions, analyse, compare and apply personal life experiences.

This is also what the new preschool curriculum, which “reflects the expected outcomes for the child at each stage of preschool education in a sequential manner” (Preschool education curriculum, 2019, 5), requires of preschool teachers. The child gets the first conscious learning experience in preschool, which becomes the foundation for all future learning experiences. In the preschool curriculum, unlike the 2012 curriculum (Preschool education curriculum, 2012), the learning of mathematics in preschool focuses on the achievement of specific outcomes in a meaningful learning process. The emphasis is on actively involving the child in a variety of activities and providing effective feedback that focuses on the child’s learning rather than praise or blame. The curriculum specifies how the learning process should be organised and managed so that learning is meaningful and the child is an active participant in the learning process, so that the child develops understanding rather than rote learning.

Conclusions

- The new mathematics curriculum incorporates the planning of the mathematics teaching/learning content and the learning outcomes. The innovation in the new mathematics curriculum is defining the transversal skills. Transversal skills include the cognitive, emotional and social aspects of a child’s actions that help them acquire knowledge, understanding and basic skills in areas important for human functioning. However, mathematics content is characterised by its dominance over the mathematical process and transversal skills, their acquisition in preschool.
- Critical thinking and Problem solving as transversal skills are dominant in the preschool curriculum in the field of mathematics education. Typically, the mathematics learning outcomes focus more on critical thinking and less on problem solving.
- Civic participation and Digital literacy as transversal skills are not included in the preschool curriculum in the field of mathematics education. While it would be desirable to include both civic participation and digital literacy in learning the mathematics content, thus linking the mathematics learning outcomes to real-life situations in which a variety of practical tasks are tackled from both a mathematics perspective and from a civic participation and digital literacy perspective.

- Learning outcomes of transversal skills are transferable across contexts and specific transversal skills. One specific learning outcome can be included under different transversal skills, for instance, Critical thinking and Problem solving and Creativity and Entrepreneurship include similar learning outcomes. However, the purpose of the activity, the outcome it aims to achieve for the child determines the belonging to a particular transversal skill.

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THE RELEVANCE OF THE CONCEPT OF POWERFUL KNOWLEDGE IN EDUCATIONAL SCIENCES

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ABSTRACT

The global changes of the twenty-first century are largely based on the rapid development of science and technology. Academic knowledge is growing quickly. Knowledge plays a vital role in ensuring individuals' competitiveness and in society's development. The issue of social justice in education is becoming relevant, and greater educational equality begins with the issue of knowledge. All students have equal rights to knowledge. But – to what kind of knowledge?

Michael Young, noting that in many countries the education policy neglects the question of what kind of knowledge today's student needs, created the concept of "Powerful knowledge," the idea of which is based on authors of the sociology of education such as Durkheim, Bernstein, Bourdieu works. Powerful knowledge is also the basis of the third model of the future of school programs described by Young and Muller, with emphasis on high school.

This work aims to perform a systematic literature analysis and contextual analysis of the concept of powerful knowledge. Research question – How does the concept of "Powerful knowledge" correspond to the needs of modern education? Since 2009, this concept has been developing cumulatively, along with initiating discussions and research among scientists regarding the problems of this time in schools and school programs. By analyzing the works of Young, Muller, and Lambert, and getting acquainted with other authors who developed, and added to the concept (Wheelahan, Hordern, Monton, Deng, Niemala, etc.), the definition and characteristics of powerful knowledge have been discovered, scientists' thoughts on what makes knowledge powerful have been gathered, along with understanding how to get them, what place they could have in school programs, how it is consistent with current events in education today. The study found the relevance of the concept to the demands of the twenty-first century and contributed to stimulating discussions on the quality of education.

Keywords: *education, equality powerful knowledge, quality, school programs*

Introduction

In the past decade, discussions on what knowledge is in the twenty-first century, when and why it is acquired, and what can ensure the sustainable development of education have become relevant among education researchers, politicians, and entrepreneurs in

a knowledge society. The existing crisis in the education sector, in which what is learned in schools no longer meets society's needs, necessitates urgent solutions. It is worth noting that in the early 2000s, national surveys on education research and development showed a low level of investment in education research as well as research capacity, particularly in quantitative research. They also confirmed the weak links among research, policy, and innovation in the system (OECD, Who Cares about Using Education Research in Policy and Practice Strengthening Research Engagement, 2022).

This study reflects on the essence of a new concept in education called “Powerful Knowledge” (PK) and its relevance to modern views on education quality, and proposes a scheme that shows the concept's location in different contexts in a complex system that reflects its diversity and dimensions.

The assessment of the current situation in education and its development is analyzed in the report “Rethinking Our Common Future,” prepared by the International Commission for the Futures of Education (ICFE) in November 2021. This is a new social contract in education that analyzes the role of education globally, which is undoubtedly influenced by various global trends, such as geopolitical unrest, environmental degradation, and climate change. The report indicates that the changing patterns of human mobility and the pace of scientific and technological innovation also impacts education. Therefore, the focus has shifted from the goal of societal well-being to the survival of society and humanity. The authors of the report believe that the power of education lies in its ability to connect us with the world and each other, take us beyond the familiar, and offer us new opportunities. Education promotes understanding and creates opportunities to ensure social inclusion, economic justice, and environmental sustainability (ICFE, 2021). The report emphasized digital and scientific literacy and human values.

Michael Young and his colleagues David Lambert and Johan Muller developed the concept of PK (Young, 2008; Young & Lambert, 2014), which can be seen as a way to ensure scientific proficiency and promote values such as equality and equal access to knowledge. This concept also applies to the middle education stage. The authors' envisioned future scenario for education (Young & Muller, 2010) predicts that the “best” knowledge of each discipline is at the center of the curriculum, learned through subjects that allow for a deeper understanding of the subject matter, epistemologically high-quality knowledge, and new opportunities for thinking and analyzing various situations, perspectives, and debates in the field. Access to PK leads to the acquisition of skills necessary for the 21st century: communication, logical thinking, critical thinking, imagination, creativity, and so on (Deng, 2020; Calgren, 2020). Theoretical and practical research conducted by scientists and researchers also supports the notion that PK can achieve these goals (Gericke et al., 2018).

In the new education agreement with society, it is also stated that it is time to create a new set of dynamics that supports a strong knowledge-based approach while not abandoning what has been gained in project work and problem-solving approaches, such as closely examining existing challenges and developing meaningful curriculum content for learners (ICFE, 2021). References to the fact that disciplinary knowledge is a reflection of

human wisdom, ways of thinking, and attitudes (Dewey, 1966) are increasingly common in the education space, as well as the recognition that competence is an economic, not an educational concept, whose origins lie in the field of human resource management (Deng, 2021).

Education sociologists, including Young, have raised the question of what knowledge is available to students in school and who has the right to decide on it (Young, 2008). Given that one of the goals of modern society is to create an inclusive society, equal opportunities for quality education must be considered. Young, like-minded individuals believe that curricula should be based on knowledge, which makes it possible to provide equal opportunities for all. The PK concepts include both principles for developing educational programs and a socio-epistemic view of knowledge, which means equal access to knowledge for everyone and qualitative, epistemically deep knowledge, which, in turn, provides the basis for professional judgments and actions necessary for the development of society.

The theoretical basis of the concept

The term “Powerful Knowledge” was first used by Wheelahan in 2007 to analyze professional education, where the introduction of competency training in the curriculum due to pressure from market economics made knowledge a secondary issue. (Wheelahan, 2007). Michael Young developed and theorized this concept using PK as a response to three trends in education and society. First, social constructivists question the truth and objectivity of knowledge based on beliefs and theories. Second, schools focus too much on providing well-being, leaving knowledge a secondary issue in secondary education. Third, there is a high concentration of scientists connecting science and politics (Young & Muller, 2016). This reduces the scope of knowledge in school programs. PK is a response to policies seeking to narrow educational activities, marginalize knowledge, and efficiency.

As this concept gained acceptance, it became popular among teachers and researchers. Most acknowledged that the proposed term and idea evoke positive emotions and create a sense that one would definitely want to attain. However, there were and still are skeptics who disagree and seek various counterarguments. This has led to intense discussions among scientists who have benefited from the concept. As the concept lives, it evolves, and becomes more elaborately developed and unambiguously understandable. Discussions in the context of the concept also promote the analysis of modern educational goals and content, as well as the development of new proposals.

The authors of this concept use the boundary principle to explain that PK indicates the boundary between knowledge that is easily acquired in everyday life and that acquired in school, the boundary between specialized knowledge and the best specialized knowledge, and the boundary between scientific disciplines and subjects in the processes of knowledge creation and transmission (Young & Muller, 2013). They refer to Pierre Bourdieu’s theory of cultural fields to justify this boundary marking, which explains the use of social capital as a growth resource for individuals – the greater your social capital, the greater your potential opportunities (Bourdieu, 1986). Therefore, the school

should be a compensatory environment that is not based on students' existing social capital but provides equal opportunities for everyone. The authors of this concept find a basis for explaining the boundaries of everyday and school knowledge in Lev Vygotsky's (1987) sociocultural theory (cultural-historical psychology), which expresses the idea that specialization or the separation of knowledge from experience is the basis of human development. The school must provide the opportunity to "go beyond" the previous experience, to open up new fields of knowledge, which in turn allows expanding the previous experience. The ideas behind Young's concept also refer to Emile Durkheim's sociology of knowledge, where one of the ideas expresses that each person perceives the world differently and is determined by their thoughts and experiences, and that everyone differentiates knowledge depending on how they see the reality of the world and how they intuitively feel it. Everyone also intuitively feels that some knowledge is "better" than others, from different perspectives, epistemologically, morally, and ethically (Durkheim, 1956). This idea plays a decisive role in determining what is included in the curriculum. As mentioned earlier, Young's educational future scenario three is based on "powerful knowledge," the "best" knowledge in each field. Hence, there is a need for specialist discussions in each field to determine what is best at a particular time and place. Such knowledge identification and regular reviews ensure modern education and the opportunity to create a logical connection with real-life and solvable questions.

Based on Basil Bernstein's insights into the differentiation of knowledge, the authors of the PK concept explain two boundaries: one between subjects, and the other between everyday knowledge and knowledge acquired in school (Bernstein, 2000). This approach also underlies the structure of the school curriculum in the authors' developed scenario for the future of education, where learning is initially organized by subject, sequentially and systematically acquiring the best specialized knowledge in each subject, and then solving creative, research-based tasks. The boundaries were compiled to cross them later.

However, as noted by the scientist Mikko A. Niemelä, the discussion about PK is more focused on the question of maintaining boundaries, and what crossing boundaries actually means (Niemelä, 2020). This concept is still not theoretically justified. (Niemelä, 2020).

Formation and essence of powerful knowledge

A content analysis of the theoretical literature on strengthening knowledge allows us to answer several important questions related to the understanding of this concept: How are they formed? What characterizes the features of this knowledge? How have they been implemented in schools? What do they offer to students?

Strengthening knowledge is formed in the formal environment of each discipline's scientists (institutes, laboratories, etc.), where it is regularly reviewed and improved. However, as emphasized by the social realist approach to knowledge (Young, 2008), at a specific time, they are the best and most reliable at recognizing the dynamic nature of knowledge. This aspect of strengthening knowledge – the connection between the content and structure of science and school programs (division by subject corresponding to scientific disciplines) – is the basis for scientific discussions (Niemelä, 2020; Horden et al., 2021)

on the importance of disciplinary consciousness – understanding of the field, discipline awareness in modern times (Eaglestone, 2020). The fact that strengthening knowledge is specialized is the basis for ensuring that a student’s knowledge has a high epistemic quality during the quality transformation process in school (Hudson, 2018). Epistemic quality is a way of formulating aspects that we understand through strong knowledge at the class level. Researchers in the Knowledge and Quality across School Subjects and Teacher Education (KOSS) network continue to work on improving subjects’ didactics in accordance with the implementation of strengthening knowledge and seeking reasonable opportunities for integrating knowledge at the level of curriculum (Hudson et al., 2023).

Based on a systematic and content analysis of the theoretical literature on strengthening knowledge, the author summarized the PK characteristics indicated by the concept authors and the characteristics of chronological formation (Table 1). However, it should be noted that the knowledge that exhibits PK characteristics at a particular point in time may not have these characteristics later. Therefore, it was not possible to create a consistent list of PK. Knowledge must be regularly reviewed by subject specialists and the best knowledge must be selected for inclusion in school curricula.

Table 1 Characteristics of powerful knowledge

Characteristics of powerful knowledge	Literature
Provides more reliable explanations and new ways of thinking about the world and language, in order to engage in political, moral, and other types of debates.	Young, 2008, p. 14
Separated from everyday knowledge, systematic and specialized.	Young, 2009
Disciplinary knowledge; is distinct from the self-evident knowledge gained through everyday experience.	Young & Muller, 2010
Has emerged in formal communities of specialists in specific fields.	Young & Muller, 2010, p. 14
Specialized, context-independent knowledge undergoes codification, systematization, and systematic review within specialized communities.	Young & Muller, 2013
Dynamic in nature; it evolves and changes with the development of society, and, as Jung says, has a “seeker of truth” form.	Young, 2013
Gains objectivity by using various methodologies to generate and confirm knowledge claims with concepts that are “systematically related to each other in groups.”	Young & Lambert, 2014, p. 75
Knowledge is “powerful” if it predicts, if it explains, if it allows to predict alternatives.”	Young & Lambert, 2014, p. 74
Emphasizes the objective nature of knowledge, a reality that is free from values.	Young & Muller, 2016, p. 116
The acquisition of such knowledge allows us to go beyond our specific experience and “predict alternatives and new opportunities.”	Muller & Young, 2019
Includes creativity and the possibility to expand into other contexts, which gives the potential to create something new, deepens understanding of knowledge formation in the corresponding field of science, and provides an idea of the structure of the subject.	Muller & Young, 2019

As mentioned previously, the concept develops cumulatively, providing authors with answers to their opponents' questions and comments on supporters' understanding and practices. As Young acknowledges, this aspect also has its negative sides; as freely interpreted, misunderstandings have arisen, which have somewhat hindered the qualitative implementation of this concept in practice (Chapman, 2021). Another topic that scientists discuss in relation to PK is whether this concept applies to all disciplines or only to science, technology, engineering and mathematics (STEM). Young and his colleagues believed that this concept was applicable to all subjects, although its expression may vary. Young and Muller distinguished between two broad types of disciplinary knowledge: natural sciences and social/humanistic sciences. In natural sciences, knowledge develops "cumulatively and progressively, incorporating earlier formulations into later ones," whereas in social and humanistic sciences, knowledge accumulates "not by one enveloping the other, but by adding parallel theories" (Young & Muller, 2013). The differences lie in the aspect of knowledge formation, which suggests the need for the development of didactics in various subjects. However, what students are capable of when acquiring such knowledge is the ability to understand the relationship between different concepts within one field as well as between fields, to participate qualitatively in discussions on important issues in the field, using appropriate vocabulary and principles of understanding the field, creating new knowledge, and solving non-standard situations. Active citizens are involved in the sustainable development of society.

Strengthening knowledge is not a new division of knowledge, but rather a new perspective on knowledge that encompasses multiple fields and directions. The author of this paper has created a diagram that reveals the place of PK in existing systems and demonstrates that concepts are developed by considering multiple directions and fields related to educational quality (Figure 1). One of these systems illustrates the place of PK in knowledge formation and transmission processes. It arises in formal scientific environments and specific scientific disciplines. Disciplinary specialists evaluate the "best" knowledge that can be included in school programs. By mastering PK, students understand that the knowledge of one discipline is formed, and they understand the connection between the concepts of one discipline; they are then able to see the connection with other disciplines, transcend the boundaries of one discipline, generalize, and provide a global view that, in turn, provides opportunities for creative thinking, creating new knowledge and solutions. The second system reflects how PK was implemented during the educational process. Initially, educational policymakers decide upon the educational goals, where PK, in this case, is the understanding that socially active citizens of society who can solve non-standard situations and seek innovative solutions can be educated with educational programs divided into subjects, based on the knowledge that Young called the third scenario of the future of education. Understanding is reflected in decisions. In the classroom, these "best" programs' knowledge is recontextualized or "translated" to make it understandable and practical for the learning subject's needs and goals. The process of recontextualization, to adapt the discipline's knowledge to the practical needs and goals of the learning subject, is the main implementation of the teacher's experience-dependent

curriculum. The process of recontextualization undoubtedly requires knowledge selection, acquisition, and transformation in accordance with the principles created and maintained in practice (Hordern, 2021). The third system that includes PK is the sociology of education. PK is based on a social realist understanding of knowledge, which, as mentioned, is the view that knowledge is socially changeable, dynamic, but true, reliable, and “best” available in a particular scientific discipline at a particular time in a real situation. Knowledge incorporated into educational programs is available to everyone, regardless of the student’s place of residence, social status, nationality, skin color, etc. Thereby, equality in obtaining quality education increases.

Summarizing the aforementioned, the author offers a definition for PK:

- Powerful knowledge is structured, epistemic, dynamic, and specialized knowledge created and transmitted in an academic environment, which, when recontextualized in the classroom, provides opportunities for interpretation and generalization, helps to understand the natural and social world, and enables individuals to become productive citizens in global society.

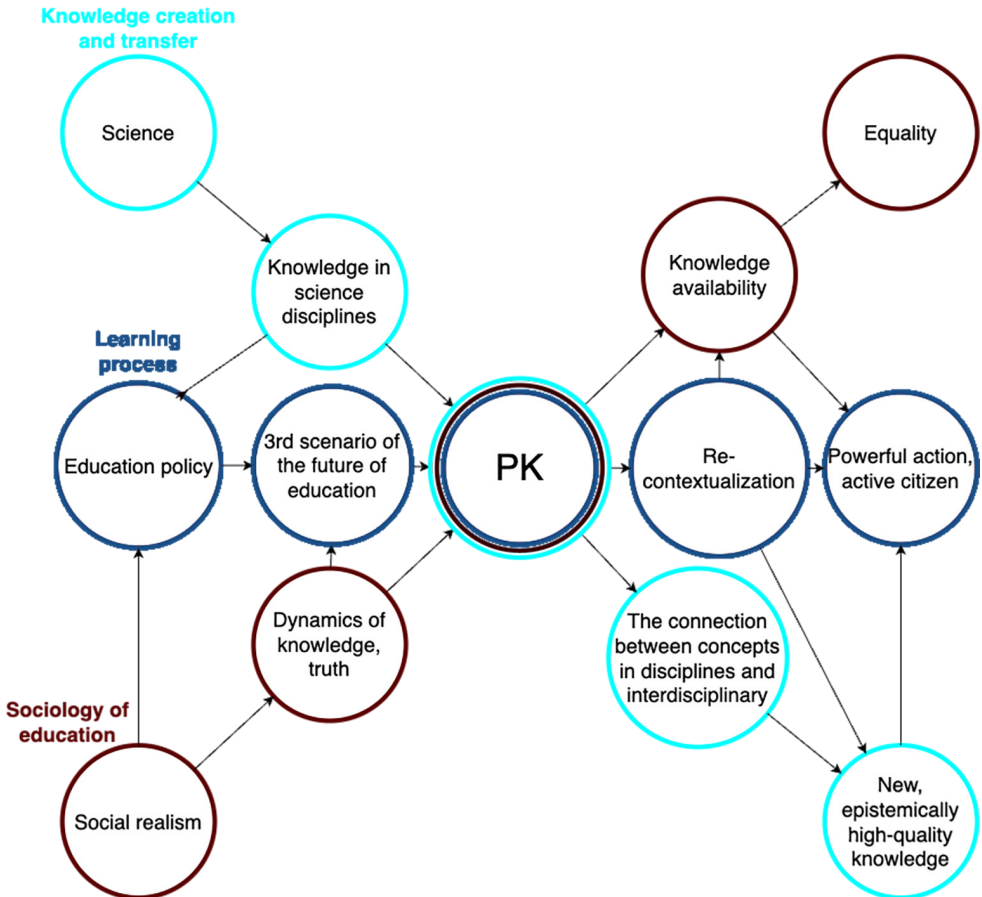


Figure 1 The place of PK in complex systems

The concept of powerful knowledge is the basis of contemporary research and discussions

Initially, when presenting the third scenario of the future of education, Young and his colleagues believed that the content included in educational programs, where PK is at the center, should be separated from pedagogy. However, in scientific discussions, it has been concluded that acquiring PK is possible only by using pedagogy, including high-quality, epistemic knowledge recontextualization and transformation in the classroom (Deng, 2021). The key is to transform disciplinary knowledge into educational purposes, curricula, and teaching to promote human empowerment (Deng, 2020). This has led to the development of modern didactics for teaching subjects (Hudson et al., 2023). Research within the KOSS network on PK in school subjects, epistemic quality, and knowledge transformation, has identified positive student outcomes discussed in symposia and summarized in the book “International perspectives on knowledge and curriculum,” 2022, published by Bloomsbury Publishing. ([ed.] Gericke, 2022). In doctoral dissertations, various issues are researched: the development of integrated educational programs based on PK – Knowledge-based curriculum integration (Niemelä, 2022), how to ensure equality in classrooms with different social statuses – Developing pupil understanding of school-subject knowledge: an exploratory study of the role of discourse in whole-class teacher-pupil interaction during English literature lessons (Smith, 2018); Ensuring Meaningful Access to Powerful Knowledge to Enable Success of Students from Rural Areas in the Field of Science in Higher Education: A Decolonial Perspective (Madondo, 2023).

The PK developed by Young and his colleagues is relevant to modern educational demands, prompting scientific discussions and facilitating the creation of modern curricula and didactics for teaching subjects, as well as the professional development of teachers, understanding of PK pedagogy, and implementation opportunities.

However, several aspects of this concept remain unclear. Three main directions are identified. One of them is regarding the term “powerful knowledge” itself – whether the term reveals anything new about knowledge and how well-founded it is. Young’s opponent, John White’s opinion regarding ‘powerful knowledge’ is quite negative; he argues that it is just an emotionally appealing phrase for the same specialized knowledge (White, 2018). Some scholars offer their own terms: “living knowledge” (Ivinson, 2020), and “more usable and effective knowledge” (Wrigley, 2018). The second direction of discussion is whether knowledge should be the main focus of school curricula. John White advocates for the importance of a child’s well-being and points to the need for a child-centered and holistic approach in school curricula, while also acknowledging that practical skills, which will be necessary for future employees, as well as other forms of knowledge and cross-cutting skills, should not be overlooked. (White, 2013) One of the most debated issues is whether PK is possible in all subjects. Claims have been made that, given that Young is a chemist by primary education, his understanding of how

knowledge is formed is more STEM-oriented and has influenced the development of the concept (Eaglestone, 2020).

All these questions contribute to the dialogue on the modern, high-quality, and sustainable development of education.

Conclusions

- Powerful knowledge is structured, epistemic, dynamic, and specialized knowledge created and transmitted in an academic environment that, when recontextualized in the classroom, provides opportunities for interpretation and generalization, helps to understand the natural and social world, and enables individuals to become productive citizens in the global community.
- The concept of PK is based on a social realist understanding of knowledge, which recognizes the social nature of knowledge production but maintains that in a particular time and field, the “best knowledge” is true and reliable.
- Powerful knowledge can be explained using the boundary principle: 1) boundaries between every day and academic knowledge, 2) the boundaries between different subjects.
- Powerful knowledge is both a principle of educational programs and a socioepistemic concept that includes an understanding of the place of knowledge in educational programs, the quality of knowledge, and the belief that everyone should have equal access to this knowledge.
- Scientists in their research and discussions on PK address significant issues, such as equality, which determines what knowledge will be taught in schools and who will have access to it; the importance of changing understanding and working on the theories of educational programs; didactics of different subjects; and the significance of teachers’ education and attitudes–PK pedagogy.

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COMPARISON OF KNOWLEDGE RETENTION IN FACE-TO-FACE AND ONLINE ENGLISH LANGUAGE LEARNING FOR ADULTS

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ABSTRACT

Online education has become increasingly important in recent years. With the development of technology more pedagogical methods can be applied online, thus increasing the diversity of learning experiences for learners and teaching opportunities for educators. Considering the benefits of online education such as accessibility, convenience, the possibility of differentiation and personalization, it is important to evaluate the feasibility of wider implementation of this learning modality. This is especially significant in adult education, as adult learners are self-motivated and potentially have developed self-directed learning competence – both essential for successful learning online. However, adults often experience time-related constraints so online may be the only learning modality available for some of them. There are ongoing and extensive discussions on the benefits and drawbacks of face-to-face and online learning. This paper aims to analyze the relationship between a course modality and knowledge retention as one of the important aspects of learning effectiveness. The data is gathered from two demographically similar cohorts of adult students who took an English language course of the same volume and content either online or face-to-face. The results show no statistically significant difference in knowledge retention between these modalities. However, there is an indication of better knowledge retention in writing after an online course.

Keywords: *online education, face-to-face education, adult learners, knowledge retention, English as an additional language*

Introduction

Research into comparing learning outcomes between traditional face-to-face (F2F) and online modalities so far has produced mixed results, with no significant or modest difference being the most common conclusion (Jabeen & Thomas, 2015; Nguyen, 2015; Soffer & Nachmias, 2018). Most studies examined learning outcomes in undergraduate courses, using completion rate, and grades earned for assignments and final tests as the main indicators. Harmon & Lambrinos (2006) hypothesize that more mature

graduate students, who have better developed human capital and thus are better at self-directed learning, achieve higher test scores in online classes compared to F2F ones. The idea is reiterated in a study comparing learning outcomes in F2F and online Master of Business Administration (MBA) courses, simultaneously pointing out that, controlling for an associated selection bias, the outcomes of an online course are lower than those of F2F (Skidmore & Anstine, 2005). It is worth noting that all the studies use students in degree programs and their final course tests for the analysis.

At the same time, while retention of knowledge is an essential aspect of learning effectiveness (Turner & Turner, 2017), the research into it in adult education is scarce. This research aims to answer the following question: what is the impact of a course modality on knowledge retention in an English as an additional language course for adults?

Literature Review

Adult education online

With the advent of technology, online learning has gained popularity worldwide. Online learning has become a common method for adults to acquire new skills and knowledge, as well as to advance their careers. It offers several benefits for adult learners. Firstly, online learning is flexible, allowing learners to study at their own pace and at a time and location that suits them best. This is particularly important for adults, since adults refer to work-related lack of time as one of the main reasons preventing them from participating in education. Secondly, online learning is often more affordable than traditional classroom-based learning, as it eliminates costs associated with traveling and accommodations. Thirdly, online learning offers a wider range of courses and subjects, as it enables learners to access resources and materials from all over the world. In addition, online learning can be more personalized than traditional classroom-based learning, as it allows learners to choose the content and pace of their learning (Bonde et al. 2014, Dhawan, 2020, Nolen & Koretsky, 2018). Moreover, online learning can improve learners' digital literacy and computer skills, which are essential in today's workplace (Gudmundsdottir & Hatlevik, 2018, Instefjord & Munthe, 2017).

Development of technologies led to the increase in the use of various teaching formats. Among those the most common are asynchronous learning, synchronous learning and various combinations of both, with flipped classroom gaining significant popularity (Tang et al., 2020; Russell & Murphy-Judy, 2021).

Despite the benefits of online learning, there are also limitations that must be considered. Firstly, online learning requires self-motivation and discipline, as learners must be able to manage their own learning. It can sometimes lack the personalized support and feedback that is available in traditional classroom-based learning, which can impact learners' motivation and engagement. Secondly, online learning may lack the social interaction that occurs in traditional classroom-based learning, which can result in feelings of isolation and disengagement. Thirdly, online learning can be challenging for learners with limited computer skills or access to technology. Finally, online learning can be less

effective for certain types of learning, such as practical or hands-on learning (Azorín, 2020, Dhawan, 2020, Reimer & Schleiche, 2020, Digiuseppe et al., 2017, Bonde et al., 2014, Lee & Choi, 2017). Online learning is still widely seen as inferior to face-to-face instruction (Hodges et al., 2020) and there are also concerns connected to legal and ethical aspects when implementing online learning, including safety online and observing copyright (Rubene et al. 2021, OECD, 2020, Yang & Huang, 2008).

It is probable that the adoption of online learning will continue to grow (Azorín, 2020, Balyer & Öz, 2018, Nolen & Koretsky, 2018). Since online education is a recent form of learning, it is crucial to investigate and evaluate the effectiveness of various teaching methods and subject matters, including the competencies provided through this format. This is particularly important in light of the rapid advancement of technology and the increasing range of online activities available.

To summarize, online learning offers several benefits for adult learners, including flexibility, affordability, wider subject choice, and improved digital literacy. However, there are also limitations to online learning, such as the need for self-motivation, lack of social interaction, and potential challenges for learners with limited technology skills and access. Future research should explore strategies to enhance the benefits and mitigate the limitations of online learning for adult learners.

Methodology

Research context

This research focuses specifically on the retention of knowledge that adult learners gained in English as an Additional Language (EAL) course. Reflecting on the increasing globalization, mobility, and the fact that adults become multilingual and multicultural later in life, The Douglas Fir Group defines EAL as “additional language learning at any point in the life span *after* the learning of one or more languages has taken place in the context of primary socialization in the family” (The Douglas Fir Group, 2016, p. 21). This research compares results of the English language proficiency test administered to selected students 1–2 years after completing the course.

Two demographically similar cohorts of adult students took courses of the same volume and content at Riga Technical University (RTU) Riga Business School English Language Center (RBS ELC). One course was delivered in the traditional F2F format in the 2019–2020 academic year to the faculty and academic staff of RTU ($n = 43$) as a part of an EU-funded project. In the 2020–2021 academic year following COVID-19-related restrictions, it was moved online having been restructured according to the principles of the flipped classroom (Bergmann & Sams, 2012; Chen et al., 2021; Russell & Murphy-Judy 2021; Tang et al., 2020). This cohort comprised RTU academics ($n = 35$) and RBS ELC adult students ($n = 31$) who studied the same content in a less distinctive flipped format over a longer period. Since analysis of knowledge retention shows no significant difference between the results of the latter two groups (Ginzburg & Daniela, 2023), these students can be considered as a homogeneous group.

Research design

The aim of this research is to provide data that would eventually guide practice; therefore, we use pragmatism as the philosophical worldview (Saunders et al., 2019). The students were placed into groups according to their initial level of English to avoid mixed-ability groups and, although they could not select a modality, they could choose not to participate in studies. Therefore, assignment to a group was not totally random and thus, a quasi-experimental design is used as the research method (see Figure 1). We use quantified change in proficiency level defined through an independent secure online test EduSynch CEFR Level Test (Edusynch) administered 1–2 years after the course to draw conclusions on the knowledge retention in each modality.

We took the following steps to analyze knowledge retention:

1. Student placement into study groups. In the 2019–2020 academic year, all students took a written test followed by an interview with an ELC instructor. They were placed in the groups according to their overall level. In the 2020 – 2021 academic year, RTU students were placed in groups upon completing an EduSynch test that included all four language skills (reading, listening, speaking, and writing), while RBS ELC students sat an online placement test followed by a Zoom interview with an ELC instructor. The group levels corresponded to those of the Common European Framework of Reference for languages (CEFR).
2. Intervention. All students had an English language course of 100 academic hours, regardless of the modality. At the end of the course and provided students met all course requirements, they received a certificate stating that the corresponding level of English is achieved. For pragmatic purposes of this research, we assume that the level is constant across language skills. We use the data from the courses administered in the traditional F2F format (see Figure 2), and in two online formats employing the principles of flipped classroom (Figure 3 and Figure 4).

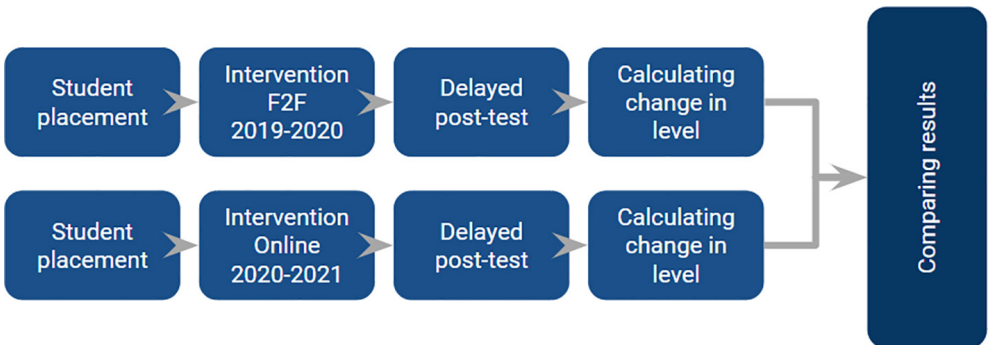


Figure 1 Research design

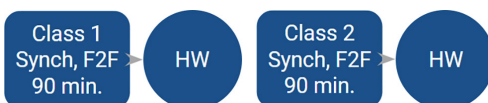


Figure 2 Face to Face modality



Figure 3 Online modality – standard



Figure 4 Online modality – intensive

3. Delayed post-course testing. All students were approached one year after the course with the request to sit an online proficiency test. Nineteen students (44.2%) from a F2F course and eighteen (27.3%) from those who studied online agreed to take the test. The EduSynch test demonstrates high reliability and high validity for the total scores, and moderate validity for the individual skills' scores (Mughisi, 2022). It defines the overall level of English as well as for each of the language skills according to CEFR. However, it utilizes more discrete levels than RBS ELC uses, so we employed the following scale: A1+/A2; A2+/B1–/B1; B1+/B2–; B2; B2+; C1.
4. Calculating changes in level. If the EduSynch test result was equal to the level achieved in a course, the change was considered as zero, the result different by one level yielded +/- 1, etc. We used IBM SPSS 22 to calculate mean values for overall and by-skill changes in levels for each group and for independent samples t-test to find out whether the differences are significant.

Results

Descriptive statistics show a slightly smaller overall change in level after an online course (see Table 1). Considering the change in skills, it appears that it is smaller after a F2F course for Reading and for an online course for Listening, Speaking, and Writing. However, in all cases a smaller loss of level is characterized by a wider spread of data, as demonstrated by standard deviations. On the other hand, Levene's test shows homogeneity of variances was not violated for any of the categories. Moreover, the change may not be considered significant overall $t(35) = -.553, p = .584$, for Reading $t(34) = 1.305, p = .201$, Listening $t(35) = -.749, p = .459$, and Speaking $t(34) = -.576, p = .568$. It is significant for writing $t(35) = -2.468, p = 0.019$.

Table 1 Change in Levels After F2F and Online Courses

	Modality	N	Mean	Std. Deviation	Std. Error Mean
Change in level, Overall	F2F	19	-.84	.83	.19
	online	18	-.67	1.09	.26
Change in level, Reading	F2F	18	.06	1.26	.30
	online	18	-.50	1.30	.31
Change in level, Listening	F2F	19	-.26	1.45	.33
	online	18	.06	1.11	.26
Change in level, Speaking	F2F	18	-1.11	.90	.21
	online	18	-.89	1.37	.32
Change in level, Writing	F2F	19	-1.53	.96	.22
	online	18	-.72	1.02	.24

Discussion

Overall change in proficiency level after a F2F course appears close to that after an online one. The differences in mean values are not revealed as statistically significant, and the data for the online course varies more. Although not large, the sample sizes allow for the use of parametric tests (Boneau, 1960; Mircioiu & Atkinson, 2017) and the number of observations in each set are similar. The changes in specific skills vary more for F2F and online; however, apart from the change in writing, they are not proved as significant. At the same time, considering the high validity and reliability of the EduSynch test for overall language proficiency and moderate ones for the separate skills, we believe that we can accept all the differences as not significant. This confirms the research in comparing F2F and Online learning in higher education (Harmon & Lambrinos, 2006; Jabeen & Thomas, 2015; Nguyen, 2015; Soffer & Nachmias, 2018, Turner & Turner, 2017). However, it contradicts the results of a degree course for more mature students (Skidmore & Anstine, 2005). On the other hand, none of the previous research focused on adult education.

The results indicate that a language course of the same content and volume delivered either F2F or online may lead to the similar retention of knowledge in adult learners. As an essential factor in assessing effectiveness of teaching and learning, this adds a data-based argument to the discussion of the feasibility and value of online education.

At the same time, several points need to be kept in mind. Firstly, the students in both cohorts were motivated people with well-developed learning habits and relatively good technical skills. The results could potentially be different with demographically different learners. Secondly, although the samples were not small, the result could be more convincing with a larger number of observations. Admittedly, it is not easy to persuade adults to agree to a proficiency test a year after a course, so more research would be useful. Thirdly, comparing these results with the change in levels after the same course delivered in a blended modality would provide more information on how it affects knowledge retention. Finally, adult education providers and decision makers should consider other criteria of teaching effectiveness before planning training programmes, i.e. students' perceptions of each modality.

Conclusions

This small-scale research allows to draw the following conclusions:

1. Controlling for other factors, we cannot state that the modality of this course had an impact on participants' knowledge retention.
2. The results of this research suggest that online modality can be as effective as face to face modality for adult learning.
3. Taking into account the social nature of language learning which could be considered one of the main challenges for online learning, it is probable that similar or possibly better results would be seen for other learning content.
4. Further research could use larger samples, explore knowledge retention with different learning content, and include other modalities such as blended for comparison.

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EXPERIENCES OF MEETING THE CULTURAL EDUCATION NEEDS OF UNIVERSITY STUDENTS

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ABSTRACT

The purpose of the research is to analyse the experiences of meeting cultural education needs of students who had studied at universities of Lithuania and the United Kingdom. In the course of the study, the qualitative research has been conducted. The results of the research on students' experiences in meeting their cultural education needs at Lithuanian universities have revealed that the students who had studied in Lithuania describe their cultural life as insufficient, poor; the reasons for the choice of cultural life are: the desire to do what they like, lack of time due to busyness, low finances. The study participants describe the supply of cultural education at Lithuanian universities as insufficient. They believe that Lithuanian universities need a greater variety of cultural education activities, more attention to artistic and other cultural activities as well as better communication and dissemination of information about the availability of cultural education activities. The results of the research on students' experiences in meeting their needs of cultural education at universities of the United Kingdom have revealed that these participants describe their cultural life as active, driven by their living environment and desire to improve. Research participants, who had chosen cultural education activities, indicated this as an opportunity for self-expression, improvement of competences, acquisition of skills necessary for professional development, finding friends and like-minded people, an opportunity to look for a job, etc.

Keywords: *cultural education, cultural experiences, cultural life, meeting of needs, students, self-expression, university.*

Introduction

The United Nations' document *Culture as a Vector for Youth Development* (2022) proposes that culture has the power to transform entire societies, strengthen local communities and forge a sense of identity and belonging for people of all ages. As a vector for youth development and civic engagement, culture plays a key role in promoting sustainable social and economic development for future generations. In this context, as also stated in *The Assessment of the Impact of Cultural Education Activities* (2021) initiated by the Lithuanian Council for Culture and the Ministry of Culture of the Republic of

Lithuania, it is very important to ensure the closest possible interaction between culture and education policy. To achieve this, the educational role of culture must be strengthened. Young people (between the ages of 15 and 24) are the most active consumers of cultural services and participants in artistic activities. More than half of the population with higher education and high incomes are also actively involved in such activities. Almost half of them are also particularly active consumers of cultural services. People who are actively involved in cultural activities are more likely to feel happier, more creative and have a stronger spiritual health (*Kultūra 2030. Kultūros politikos kryptys*, 2019).

Chatterton (2000) maintains that over the last century universities have played a crucial role in nation-state identity building by developing cultural values. Today, universities are faced with new circumstances that change their position and cultural relations with the community and encourage them to engage more with their locality or region. However, at the same time, they are also being exposed to greater levels of globalisation. Colbert (2010) states that culture is an integral part of the study process. Universities are founded and run on a set of values and principles, but social, political, economic and cultural forces, working together and interacting with each other, are of great importance in the daily life and activities of universities. Brereton et al. (2019) also argue that the economic, cultural and social capital of a university is important, as it enables students to grow, develop, express themselves, etc. Cultural education is understood as upbringing, training, education, and includes both active participation in related activities and passive participation in cultural phenomena (Bockhorst et al., 2012). Participation in cultural activities can help young people to express their creativity and contribute to their personal development, as well as give them a sense of belonging to a community. One of the main social problems in the higher education system is the development of the student's personal creative activity, wherein a key role is played by the university's organisational culture and its cultural initiatives. A number of scientific researches on contemporary culture, youth cultural education and students' cultural life have been published. Researchers are also interested in the possibilities of meeting students' cultural education self-expression needs in universities. There are not a lot of studies related to meeting the self-expression needs of university students in cultural education.

The questions of this research: what are the experiences of meeting cultural education needs of students who had studied at universities of Lithuania and the United Kingdom? How can those experiences help to improve the satisfaction with cultural education needs of students studying at Lithuanian universities? The purpose of the research is to analyse the experiences of meeting cultural education needs of students who had studied at universities of Lithuania and the United Kingdom. The novelty of this study can be defined by the fact that the cultural experiences of students from two countries are revealed. The results of the research cannot be applied to the entire population, but it is possible to see trends and contours for future research, to outline the possibilities of offering cultural activities in Lithuania. Methods of the research: the analysis of the scientific literature, document analysis, qualitative research (structured interview), written interview (by e-mail), qualitative content analysis.

Young people's cultural education and opportunities for self-expression

Inglis (2016) proposes that contemporary culture is in many ways characterised by a search for distinctive self-expression, but it is equally oriented towards a different search – the search for authenticity. Contemporary culture involves questioning and abandoning certain ‘traditional’ ways of acting and seeing inherited from the past. Modernity seems to be dissolving and destroying traditions, constantly replacing them with new phenomena. The Council of the European Union, in its *Conclusions on Promoting a Creative Generation: developing the creativity and innovative capacity of children and young people through cultural expression and access to culture* (2019), maintains that a long-term perspective is needed which focuses on developing the creativity and innovative potential of young people and equipping them with the skills and competences to face these challenges. It also proposes that participation in cultural activities, including direct contact with artists, can boost the creative and innovative potential of all young people through stimulating creative thinking, imagination and self-expression.

According to Rahman et al. (2018), the higher education sector, in response to the changing cultural needs of society, has to play a critical role in preparing competent individuals, shaping the values and norms of the society, as well as transforming its socio-economic structure. Petraitė et al. (2021) have carried out a study, one of the aims of which was to review and evaluate cultural education and creativity education activities that contribute to the continuity of cultural education, young people education and the development of their creativity (graduates under 29). The study has shown that the lack of information about cultural activities among young people aged 20–29 has been increasing in recent years: 15 % in 2014; 23 % in 2020. The study's recommendations suggest that higher education institutions and non-governmental organisations should be more involved in these activities, and that young people should be given additional discounts or benefits to participate in culture. Meanwhile, according to Gardner et al. (2008), theory and research on positive youth development propose that fostering positive, supportive relationships with people and social institutions promotes healthy and smooth development. Participation in organised youth activities (cultural, etc.) is positively related to educational, civic and, to some extent, professional success later in life.

Wilson (2019) points out that young people around the world are increasingly involved in the protection and promotion of cultural heritage, recognising that cultural heritage is not only part of the past but also part of their identity. Conveying the values of heritage to young people promotes intercultural understanding, respect for cultural diversity and contributes to the creation of an environment favourable to the culture of peace and principles central to the mission of the United Nations. Heritage initiatives clearly demonstrate that culture is an indispensable driver and enabler of sustainable development. According to Ramos et al. (2018), 21st century students live in an interconnected, diverse and rapidly changing world. Interacting economic, digital, cultural, demographic and other environmental forces shape the lives of young people around the planet and increase their intercultural encounters on a daily basis. This complex environment presents both opportunities and challenges. Young people today must not

only learn to participate in a more interconnected world but also to appreciate and benefit from cultural differences. Moore (2015) believes that youth culture refers to the cultural practices of the members of this age group, through which they express their identity and show their sense of belonging to a particular group of young people. As it is noted in the report on the *Access of young people to culture* (2018), access of young people to culture as actors or users is an essential condition for their full participation in society. Access to culture can reinforce awareness of sharing a common cultural heritage and promote active citizenship and openness to the world. Involvement in cultural activities can help young people to express their creativity and contribute to their personal development and their feeling of belonging to a community.

Research by Elpus (2016) has shown that academic youth highly value their artistic pursuits and that their art study becomes an important context to help them overcome various challenges in life. Treija et al. (2018) consider that, in contrast to formal and study-based education, non-formal education is an organised and purposeful process of voluntary participation, focused on teamwork, oriented towards individual and collective development, adaptability and maximum accessibility. Non-formal education has traditionally been free of hierarchy among participants, where a diversity of debate and viewpoints is welcomed, with no formal evaluation of outcomes. According to Thomas (2013), social engagement in cultural activities offered by universities creates a sense of belonging and offers informal support in interacting with friends and peers. Social engagement takes place in the social sphere of the institution, including social spaces, clubs and societies, the student union, student housing and general living conditions. All activities or services offered by universities are important for student engagement: academic, pastoral and professional development. These services often contribute to the development of students' capacity for engagement and belonging in higher education; students may not only participate in various spheres of the institution (academic, social and professional activities), but also at different levels, from involvement in their own learning to involvement in the institution and in national policies.

Methodology

To better understand and explore the phenomenon under investigation – students' experiences in meeting their cultural education needs – the participants of the qualitative research, following the statements by Gaižauskaitė et al. (2016), were selected referring to their possession of certain characteristics (e.g., had studied at university) and experiences (e.g., cultural education). Also, the selection of the research participants can be described as purposive, as the most strategically and purposefully informative cases were selected, i.e., those students who had studied at universities in Lithuania and the United Kingdom. The qualitative research involved 10 informants: 5 of them had studied at universities in Lithuania (state universities in Vilnius, Kaunas, Klaipėda) and 5 at universities in the UK (state universities in London and Manchester). Of the 10 informants, 3 were male and 7 were female. The average age of the participants was 23 years, ranging from 22 to 25 years

old. All participants had a university degree; one of the 10 had a Master's degree and the rest had a Bachelor's degree; and 5 of the 10 are currently studying for a Master's degree.

The interview method was chosen as a way, according to Gaižauskaitė et al. (2016), to gain insight into opinions, experiences, motives, etc. According to these authors, interviews allow “to enter into the perspective of another person, whereas qualitative interviews are based on the assumption that other people's perspectives are meaningful, worth knowing and can be expressed clearly. Interviews are conducted to gain insight into what is in other people's minds and to collect their stories” (p. 67). Interviews can provide insights into the past; how certain events have influenced people's thoughts or feelings; and to gain knowledge about social environments that are only available to researchers through the narratives of research participants (Gaižauskaitė et al., 2016). The research used a structured interview, whereby the informants were asked a series of questions prepared in advance, with all the informants being asked the questions in the same order and with the same question wording. The interview questions can be divided into 4 groups. The first group of questions (questions 1–3) is designed to reveal the views of the informants on the concept of culture and their evaluation of cultural life. The second group of questions (questions 4–6) is intended to find out participants' experiences of cultural education during their studies at a university. The third group of questions (questions 7–8) is designed to find out participants' opinion on whether change is needed, who should initiate it and what should or could be students' cultural and educational activities. The fourth group of questions (questions 9–11) is designed to gather demographic data.

When planning the research, the written interview was chosen, which, according to Gaižauskaitė et al. (2016), is an exceptional form of interview, where there is absolutely no verbal or visual communication: ‘conversation’ takes place through correspondence. In the case of our research, it was an e-mail interview. The advantages of this type of interview are: the interview transcript is generated immediately; information of the research participant is recorded exactly as it has been provided. It also allowed access to geographically distant research participants which was practical, since the research participant and the researcher did not have to coordinate with each other in terms of time and location. The interview questions were sent to the participants by e-mail. After answering the questions, the informants sent their answers to the researcher. To conduct this research one session of correspondence was sufficient, all informants immediately responded to the questions adequately and sufficiently, thus no clarification or additional correspondence was needed. Participants were coded (L1 to L5: for those who had studied in Lithuania; K1 to K5: for those who had studied in the UK). The responses received from the participants were analysed by using qualitative content analysis (categories and sub-categories were distinguished according to certain meaning units, and then the frequency of the use of sub-categories was counted). The responses of the participants are presented in tables.

The following ethical principles, noted by Žydzūnaitė, et al. (2017), Gaižauskaitė et al. (2016), were followed in this research: 1) to acknowledge and respect a person's

independence, his/her freedom to participate or refuse to participate in the research; 2) to provide the (potential) research participant with sufficient information about the research; 3) to protect the anonymity, confidentiality and privacy of the research participant; and 4) to care of the safety of research participants, to protect them against moral harm, or to prevent it as much as possible.

Findings

Students' experiences at Lithuanian universities

During the research, the participants were asked to describe their cultural life. The majority of the participants described their cultural life as inactive: *“cultural life is quite average <...>. Indeed, cultural life could be more diverse”* (L2); *“my cultural life is poor”* (L3); *“... due to lack of time, interest in art, sport or other events is limited by work and studies”* (L4); *“... I spend too little time for cultural education”* (L5). The answers suggest that the participants have not ‘fallen’ out of the cultural context, they are involved in cultural life, but they are not very active. One informant indicated that they try to keep their cultural life active and varied: *“... I try to ‘bring’ culture into my everyday life and I try to be interested in the exhibitions and the like”* (L1). Similar trends have been also observed in the *Assessment of the Impact of Cultural Education Activities* (2021), which has shown that 56 % of young people aged 20–29 actively participate in cultural activities (attended events, exhibitions, museums, cultural heritage sites, archives, libraries, cinema, read books). Meanwhile, the UNESCO document *Youth and culture* (2021) points out that cultural participation is essential for young people to understand their own and other cultures, which in turn would broaden their horizons, strengthen their ability to resolve conflicts peacefully, and foster respect for cultural diversity.

Research participants were asked about cultural education opportunities offered by their universities during their studies. One participant did not answer this question. Other informants believed that they had been offered cultural education activities during their studies: *“they offered various conferences and participation in them”* (L1); *“dancing, sports (traditional and e-sports), theatre, choir”* (L2). There were also such statements that there had been no offers for cultural education: *“I did not receive any offers”* (L3); or there had been some offers, but they did not meet the student’s needs: *“... student clubs and organizations are oriented towards science and sports. <...> the only club is dedicated to literature, <...> there are no activities for theatre, dance or music”* (L4). The answers of the research participants suggest that students who had studied at Lithuanian universities had the opportunity to satisfy their cultural education needs only partially. Meanwhile, as stated in *Kultūra 2030. Kultūros politikos kryptys (Culture 2030. Cultural Policies)* (2019), academic performance is manifested in the pursuit of intellectual and social maturity. First, it is professional development: responsibility in science and studies, at work, in society. Academic participation also includes students’ engagement in informal activities inside and outside the higher school: attending events in the higher school; participating in artistic, sports or scientific activities; student representation, clubs, projects, event organisation activities and non-governmental organisations.

During the research, the informants were asked in which cultural education events they had participated during their studies. There were some research participants who had taken part in cultural education events: “*I had the opportunity to participate in several conferences*” (L1); “*I sang in the university choir*” (L2); “*... folk art ensemble, academic choir, photo and theatre studies*” (L5). However, there were also those informants who had not participated in cultural education: “*I did not have the opportunity to participate*” (L3); “*I did not participate. The university does not offer any cultural activities that are acceptable to me*” (L4). Informants who had participated in cultural education mostly chose artistic activities such as choir, theatre, etc. and participation in conferences, while one of the reasons for non-participation was that the university had not offered any suitable and acceptable activities. Meanwhile, the document *Education 2030. The future of education and skills* (2018) states that all educational service providers are committed to helping each learner develop as a person, fulfil their potential and help shape a shared future based on the well-being of individuals, communities and the country.

During the research, it was important to find out the opinion of its participants about what should be changed in the cultural activities of universities and in the cultural education of students (what to include, what to add, what to abandon, what was missed, etc.). According to the research participants, in order to change and improve cultural activities of universities and the cultural education of students, the main opportunities are the following: the development and increasing diversity: “*... activities not necessarily related to the studied subject could include more art*” (L1); “*... it shouldn't be focused only on 'luxury' or popular activities*” (L4); “*... perhaps there could be some kind of world clubs where students could engage in interesting activities from other countries*” (L5); and dissemination of information: “*... students lack awareness about involvement in cultural activities*” (L2); “*there is a lack of basic communication about what is offered*” (L3). Increasing the diversity is also mentioned by Petronienė (2009), who asserts that the trends of modern society, education and culture are oriented towards the development of personal, social, cognitive and cultural competences of the individual, the aim is that the content and process of education are connected with the experience of the young person, relevant social and cultural needs of his/her environment, communication skills, conscious and critical approach to current events are developed.

Students' experiences at universities of the United Kingdom

The statements of students from universities of the United Kingdom about cultural life were diverse, which can be related to the existing variety of descriptions of the concept of *culture* itself. The informants define their cultural life as socially active: “*it's about the places you visit, the way you present yourself in public, the people you interact with. <...> I like to go out in the city, to walk around, to participate in events*” (K1); “*... I like to travel, where I get to know other cultures face to face, communicate with locals*” (K2); related to self-education: “*... I read various articles and listen to Spotify*” (K3); related to attending art events: “*... very active, almost all free time is given to art. I like the theatre, opera, concerts, museums and exhibitions of all kinds*” (K4); and described as comprehensive:

“... I try to get involved in as many cultural activities as possible <...>. I volunteer at weekends, I'm interested in art: music, photography, painting, I visit exhibitions <...>, I discuss current issues, and I read literature” (K5). These informants' responses may support Wilson's (2019) statement that young people all over the world are increasingly engaged in cultural activities, heritage protection and promotion, recognise that culture does not only belong to the past but is also a part of their identity.

During the research, the participants were asked to tell what cultural education opportunities the university had offered them during their studies. Participants indicated that they had been offered the following: “... highly encouraged to participate in various competitions to have more opportunities to publish my works, to show myself and find acquaintances. The teachers provided a lot of information” (K1); “My university offered a lot of activities” (K4); “Over 200 volunteering, art, sports and general interest clubs. A very wide range of activities including the possibility to start a club of your own interest by gathering 30 like-minded people” (K5). There were also such participants who indicated that there had been an offer, but they did not use it: “... while studying, I could join various cultural activities and communities, but I did not have time to actively participate in them” (K2); “There were quite a few communities <...> I had other activities and hobbies, I didn't join those communities” (K3). Responses from research participants point to a large number of communities in the UK universities where students can satisfy their cultural education needs. This possibility can be seen as very positive because, according to Moore (2015), youth culture refers to the cultural practices of members of this age group through which they express their identity and show their sense of belonging to a certain group of young people.

When asked whether the participants had participated in cultural education events at their universities during their studies, all the UK students answered that they had participated in community activities, only some of them had not been directly related to culture, while others – on the contrary – their studies had been so much in the field of culture and art that there was no more time or meaning for additional involvement. Some of the participants stated that: “... encouraged by teachers, I participated in competitions, <...> I was invited to exhibition openings” (K1); “... I was a member of a computer modelling community where people with the same interest come together” (K2); “During my studies, we had the opportunity to organise events, visit exhibitions in the city, listen to lectures and seminars with different people from various exhibitions” (K5). Those who had participated in other activities said: “... I joined a few communities related to finance and participated in their events <...> I don't think I could classify those activities as cultural education” K3; “... the studies themselves were like one big and intense cultural activity that left no time to get involved in other activities” (K4); “... in the investment club we had guest speakers every few weeks who would give lectures and various discussions” (K5). A survey of UK student opinion by Brereton and Mistry (2019) has revealed that students highlighted costs, time, geography, convenience and safety as barriers to engaging in community activities. In the OBESSU position paper on the promotion and validation of non-formal education and informal learning (2017) it is stated that in the 21st century, young people

must leave formal education with a love of learning. We must create lifelong learners who expect new and different educational opportunities throughout their lives. This can only be done through informal, voluntary youth cultural and other activities.

Participants were asked to share their views on what should be changed in cultural activities and cultural education of students at the university (what should be included, what should be added, what should be left out, what is missing, etc.). The informants' views on the possibility of changing cultural education at universities were as follows: some students said that everything is enough: "... *current contribution by the university seems sufficient*" (K2); "... *there are enough activities and activities offered, and you can always start organising some activities yourself*" (K3); some believed that cultural education activities and studies should be combined: "... *universities should encourage greater student involvement in extra-curricular activities while ensuring that a student and his/her main studies do not suffer*" (K4); "... *to provide a possibility to get credits for being actively involved in cultural activities. It would be a great opportunity to exchange an elective subject for a cultural activity*" (K5); one informant felt that the range of educational activities should be expanded: "... *more extra-curricular activities/lectures/events should be included*" (K1). According to Strunkina et al. (2016), young people are the most socially active part of the society. Having inherited a degree of social development, the young population shapes the image of the future and should be seen as a potential for innovation to be taken into account in all spheres of life.

The findings of the research suggest that students studying in the UK have more opportunities for self-expression of cultural educational. This is determined by the size of the universities, traditions, diversity of students, and opportunities outside the university (museums, concerts, etc.). A distinctive feature is that cultural educational activities in the UK are initiated and created by students themselves. Despite the wide availability and opportunities, not all students who had studied in the UK took advantage of this. In Lithuanian universities, the number of cultural education and self-expression activities offered to students is significantly lower. They are usually organised and created "from above", with very little initiative from students themselves. Not all students who had studied in Lithuania also took advantage of the existing offer for cultural activities. The opinions of the informants who had studied in Lithuania and the UK were very similar when discussing the importance of meeting their cultural educational needs: personal development, cultural continuity, acquisition of competences, preparation for professional activities, etc.

Conclusions and recommendation

1. The theoretical analysis of the possibilities of meeting cultural education needs at universities has revealed that culture is not only material objects created by human; it is also social norms, customs, ideas, images, and a world of symbolic meanings, which is manifested in various spiritual values, human relations, and attitudes towards nature, other cultures and people. In recent years, governments in various *countries*

have made efforts to mainstream culture, to involve as many and as possible diverse social groups, communities and age groups as possible, and to give everyone the opportunity to develop their cultural and creative abilities and to enrich their personality. European and Lithuanian cultural policy documents emphasise the issues of cultural development and transferability, recognising that the expression and development of culture depends on individuals, their thinking, behaviour, etc. Young people are both creators and consumers of culture and are capable to exploit the potential of new media and digital technologies for these purposes. *Cultural education* is multifaceted, determined not only by external factors, but also by the specificities, objectives and forms of the institutions that implement it. *Participation in cultural activities helps young people to express their creativity and contributes to their personal development.* One of the main social problems in the higher education system is the *development of the creative personality of the student*, where the organisational culture of the university and its cultural initiatives are of crucial importance.

2. The results of the research on the experiences of students who had studied at Lithuanian universities regarding the possibilities of meeting their cultural education needs have revealed that students who had studied in Lithuania *describe their cultural life as insufficient*, poor, to which insufficient time and attention is given. The research participants indicated two main reasons as the factors determining the choice of cultural life: personal choice, i.e. the desire to do what one likes, for which passion is felt; and external factors that usually have a negative effect on the cultural life of students, because it is a lack of time, finances, and high employment. *Research participants described the supply of cultural education in Lithuanian universities as limited.* They describe the value of cultural educational activities as having provided them with new knowledge, experience, and satisfying the need for self-expression. Research participants believe that *Lithuanian universities should increase the diversity of cultural educational activities*, pay more attention to artistic activities, activities for learning about other cultures, as well as improve communication and dissemination of information about cultural educational activities.
3. The results of the research on the experiences of students who had studied at universities in the United Kingdom regarding the possibilities of meeting their cultural education needs have revealed that these research participants describe their cultural life as *active with a lot of social contacts and exposure to other cultures*. Research participants indicated that their living environment was a decisive factor that led to their choice of an active cultural life, another reason being the desire and need to develop in order to change society and the world. Every university in the UK has a large number (depending on the size of the university, but on average around 200) of *cultural and other activity communities* bringing together students by nationality, culture, religion, hobbies, skills, interests, etc. Despite the opportunities and abundance of activities, not all research participants had joined these communities, due to work or other reasons. Those who had chosen cultural education activities referred to them as an *opportunity for self-expression, improvement of competences, acquisition of skills*

for professional development, finding friends and like-minded people, an opportunity to look for a job, etc. Research participants mentioned receiving credits or exchanging optional study subjects for cultural activities as an opportunity to change cultural education.

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VENI, VIDI, DIDICI: TEACHING APPROACHES AND LEARNING OUTCOMES OF SEMIOTICS

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ABSTRACT

Semiotics is the study of signs and sign systems, and the formation of their meanings. From the point of view of semiotics, signs are explained by the assumption that everything has a certain meaning, often multiple meanings. The purpose of this paper is to answer the question – what is the role of semiotics in educational science? Education and art education have always been at the crossroads of these interpretations of meaning because semiotics presupposes an interpretation that is influenced by a myriad of circumstances and coincidences.

The scoping review and nodes strategy was used in this literature review to select relevant articles. The Web of Science Thematic Framework of Education and Educational Research database was chosen to map the role of semiotics. The criteria for article selection were language – articles written in English were selected – and keywords (“Semiotics” and “Semiotics, Art Education”). Based on these criteria 167 open-access articles were initially selected for analysis, from which further exploration was based on keywords relevant to the topic.

After analysing the abstracts of the selected articles, the papers were grouped according to the theoretical framework and approach. The main finding of this literature review was that semiotic analysis can help develop students’ critical thinking skills.

Keywords: *education, interpretation, semiotics, sign, visual culture*

Introduction

Meta-communication is present in almost all aspects of everyday experience. As a powerful yet interpretative communication medium, the formation of meanings of signs and symbols is an essential component of education. Semiotics, as the theoretical study of signs, symbols and signifiers as communicative behaviour models in communication networks, traces the paths through which meaning is constructed. Semiotics is relevant as it can prevent viewing everyday practises as entirely objective, existing independently of interpretation, and points to reality as a system of multiple signs (Chandler, 1994). Signs and symbols can take many forms – a word, a gesture, a work of art, a pattern or a set of actions. Regardless of their form, signs and symbols communicate meaning.

A sign is formed by combining an abstract concept (the signified) and a tangible form (the signifier) that our senses can perceive (Batu, 2012).

From a Pragmatist perspective, identity formation is primarily a social process, not an isolated one (Legg & Hookway, 2008). As such, it is influenced by various layers of meaning resulting from the interaction of social and cultural practices. Writer and philosopher Umberto Eco (1979) wrote, “semiotics studies all cultural processes as communication processes” (p. 8). Semiotics enables comprehension of the relationship between signs and society. Often, it is the visual symbols and signs that define, explain and shape the meaning of a particular educational concept as an illustrative example. From an educational point of view, images in learning content and visualisations created by educational actors make it possible to understand certain educational and cultural phenomena. Like an image for advertising purposes, images created or selected for educational use are structured to convey the intended connotations. As a general science of signs, semiotics can contribute to educational science in both theoretical and practical ways. The crossroads between education and semiotics, known as edusemiotics, underline the crucial role of semiotics in educational research (Petrilli, 2016).

How would one learn and teach image reading? The answer may vary depending on the aim and the field of science that is being addressed. Philosopher Roland Gérard Barthes, in his essay “The Rhetoric of the Image” (1964/1999), wrote, “we may say immediately that the literal image is denoted and the symbolic image is connoted” (p. 137). It is important to note that the language of signs and systems is remarkably diverse – the semiotics of formalised languages is being read differently from the creative scene of signs, which usually involves the formal analysis of an image. Semiotics represents a colossal research field, and no single study can have any claim to being encompassing (Chandler, 1994).

This scoping literature review aims to clarify the impact of semiotics in educational sciences, especially in art education. This research aims to clarify the role of semiotics in educational sciences by analysing the teaching practices and learning outcomes of semiotics through a general review of the literature.

Methodology

A scoping review was carried out, complemented by a snowball approach, which the authors of this scoping review refer to as a nodes strategy. Initially, 167 articles were selected for abstract analysis. After analysis of the abstracts, 18 papers were considered relevant, and eight articles were included based on the node strategy. The Scoping review was chosen because the aim of this article is to identify the role of semiotics in education by reviewing the literature selected according to the criteria listed below. The definition of a scoping review can be described in one word as mapping. The scoping reports are the basis for developing a framework mapping a research area’s key concepts (Peters et al., 2015). A scoping review covers the aspects of the research subject and the scope of the field of study, identifies the relevance and value of a systematic literature review

and outlines a perspective for future research on the topic (Levac et al., 2010). The mixed search strategy is persuasive in literature reviews (Wohlin et al., 2022). Eight additional articles were selected using a node strategy, the main concept of which is to select articles based on keywords and/or references from the initially selected articles.

A keyword search was performed in the Web of Science database. The selection criteria were the thematic framework of education and educational research, the English language, and open access. Based on the research question of this study, the keywords “Semiotics” and “Semiotics, Art Education” were used.

A review of all abstracts was carried out, and the selected papers were grouped into the following categories to provide a comprehensive overview:

- Theoretical approaches (Multimodality, Semiotics, Social semiotics, Symbolic interaction).
- Teaching and learning approaches (Interdisciplinary approach, Multimodal approach, Semiotic approach).
- Teaching and learning methods (Scaffolding, Flipped learning, and Semiotic mediation).

Based on the exclusion and inclusion criteria below, 18 articles were found to be relevant.

Exclusion criteria

- Articles exploring the use of semiotics in STEM (Science, Technology, Engineering, and Mathematics) formalised languages.
- Case studies that are not appropriate to the general research.
- Articles exploring the use of semiotics not related to educational science.
- Papers that focus on the research of specific scholars.

Inclusion criteria

- Research articles that analyse aspects of semiotics as a meaning-making process.
- Articles exploring semiotics in humanities and art studies.
- Semiotics and Arts-integrated curriculum.

A node strategy was used to select the eight articles. In total, 26 articles were selected for this literature review.

Results

Out of 167 papers selected in the database according to specific criteria, 151 were in social sciences, 1 in natural sciences and 16 in humanities. After an abstract review of papers selected based on mentioned criteria in the Web of Science database, papers were grouped into three categories – theoretical approaches, teaching and learning approaches, and teaching and learning methods. The findings of the scoping review can be grouped into conceptual categories depending on the purpose of the review (Peters et al., 2015). The selected articles were grouped into the categories listed above based on the keywords given by the authors and the research content. Each group of categories was reduced to specific types of impact, shown in Table 1, Table 2 and Table 3. A comprehensive overview

is, therefore, necessary to trace the diverse nature and applications of semiotics and for the most comprehensive analysis of the results, with an explanation for each topic. To frame this literature review, it is essential to consider the theoretical approaches:

- All the 167 paper abstracts that were analysed apply to semiotics as a field or are linked to the bundle of semiotics.
- Not all paper abstracts reflect the specific theoretical approach, learning and teaching approach or method from the point of view of how the research problem is defined.
- Only some of the articles selected in the database can be related to the theoretical approach *per se*.

Fourteen papers relating to multimodality were selected. Through multimodality, it has been explored how educational actors communicate and interact with each other beyond traditional forms of communication such as speech or the written word. From a multimodal perspective, educational actors interact through semiotic means (Sabena, 2018).

Table 1 Comprehensive overview. Theoretical approaches.

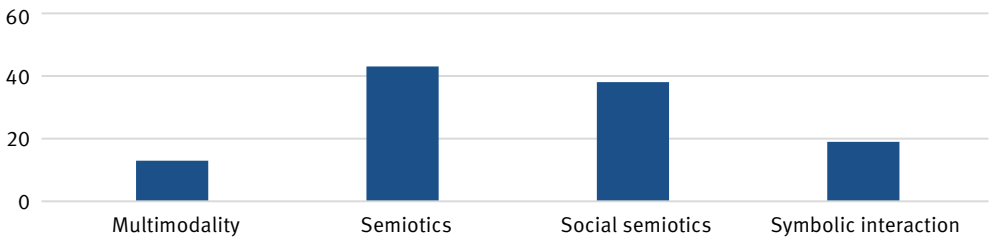


Table 2 Comprehensive overview. Teaching and learning approaches.

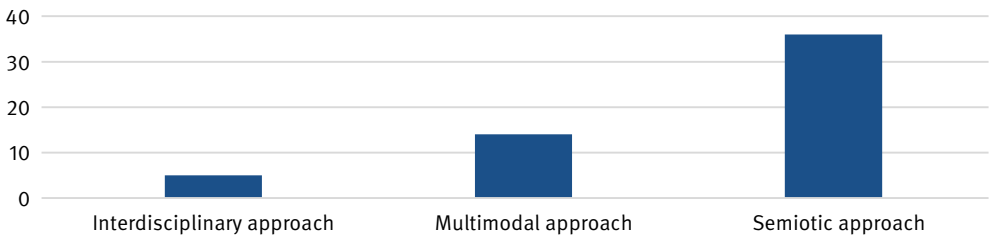
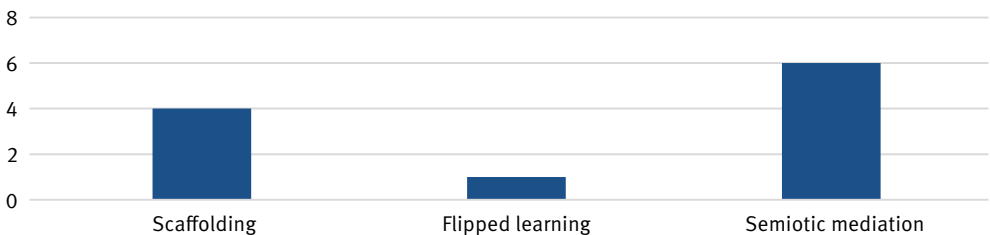


Table 3 Comprehensive overview. Teaching and learning methods.



Semiotic theory, to which 43 articles refer, explains how individuals exploit signs to create meanings in the surrounding environment. Semiotics influences education in theory and practice by showing the role of signs in the development of educational actors' experiences, competencies, and practises (Petrilli, 2016). Semiotics as a theoretical approach requires a more detailed explanation of the sub-theory/directive.

The social semiotic theoretical approach, to which 38 articles refer, is concerned with all forms of social meaning-making practices – visual, verbal or audial. Social semiotics develops an unexplored area of research – the issue of the modal relation of meanings (Olteanu, 2021).

Symbolic interaction is a theoretical approach (mainly in sociology) that aims to explain how individuals interact with society by focusing on symbols that mediate the meaning of certain practices. Symbolic interaction explores meanings that arise from interactions in a social setting. Symbolic interaction research addresses the question of the symbols and semantic concepts that arise from interactions between individuals (Aksan et al., 2009), which are inevitable in educational processes. Symbolic interaction theory is relevant to 19 of the selected papers.

Teachers are expected to use a variety of teaching approaches in the classroom that involve well-designed one-to-one learning activities, teamwork, and whole-class teaching. An essential component is evaluation of the overall level of engaged educational actors and the feedback provided between them to orient the future steps of the process.

Five articles were relevant to discussing the interdisciplinary approach, including multidisciplinary educational actors cooperating with a shared aim to set objectives and decide and divide resources and roles. Interdisciplinarity as an integral didactical approach joins curriculum content and competencies across transversal dimensions (Sicherl-Kafol & Denac, 2010).

A multimodal approach was attributed to 14 articles aiming to improve comprehension and memorisation by involving and combining multiple senses in the curriculum. By incorporating these modalities, learners can learn in multiple ways (Kress et al., 2014).

The semiotic approach was relevant to 36 papers addressing the constructs of learning, constitutes and causes of the learning. In semiotics, learning is a process of interpretive inquiry. Educational processes are hermeneutic actions (Olteanu & Stables 2018).

Although learning and teaching methods are subject-specific such as topics for literary analysis, there are few of them in the abstracts of articles selected from the Web of Science database.

In the research context, scaffolding is frequently referred to as synonymous with support for learners to develop a new concept or competence (Muhonen et al., 2016). Scaffolding as a learning and teaching method is referred to in 4 papers.

One article refers to flipped learning. Flipped learning is a method that supports learners by prioritising active learning through lectures and presentations that can be reviewed outside the class. The flipped classroom is a teaching strategy that involves learning using ICT (Information and communications technology). In complement to

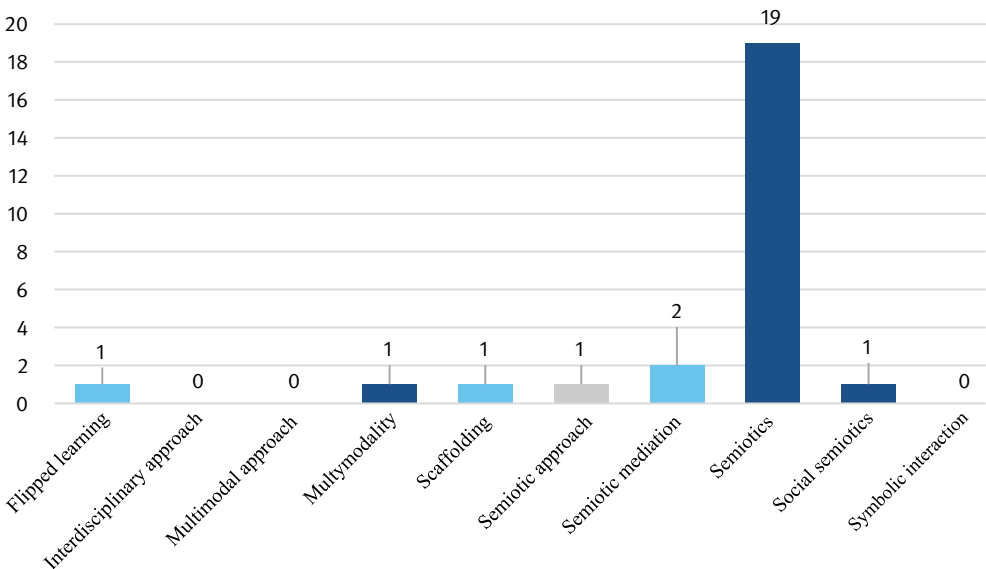
the flipped classroom method, learning activities are also integral to developing team-based competencies and skills to be accountable (Sojayapan, 2020).

Semiotic mediation as the method was found in 6 papers. Semiotic mediation involves an affected assessment of the object. *Semiotic strategies* are approaches that people use to mediate, construe and process unfamiliar signs. Mediated action reflects conceptually how educational actors exchange with artefacts, prior understandings, peers, and cultural environments, simultaneously affecting and modifying their cultural surroundings and practice (Wells, 1999). Looking upon the educational institution as a social construct in which practices constantly clash, the mediation of semiotics is continuously present, even if it is not named.

After analysing the abstracts, 18 articles were selected from the initial 167 articles. Two were rejected as irrelevant, and eight articles were added to the set of articles based on the nodes strategy. Twenty-two papers relate to social sciences, and 4 to humanities. Table 4 shows the relevance of the 26 articles in the previously mentioned categories (theoretical approaches, teaching and learning approaches, and teaching and learning methods) that were selected for further analysis.

A comprehensive review of the 26 selected papers indicates that theoretical approaches dominate. In the final phase of the literature review, all selected papers were reviewed for discussion.

Table 4 Comprehensive overview of selected papers.



Note. Reflection of overview columns colour in table:

- Theoretical approaches
- Teaching and learning approaches
- Teaching and learning methods

Authors believe that from perspective of a semiotic analysis there are important differences in how to view processes, including educational processes. All living beings are capable of meaning-making, but not all living beings are conscious of it (Konderak, 2021). Hans Belting in his essay “Bild und Kult: Eine Geschichte des Bildes vor dem Zeitalter der Kunst” (“Image and Cult: A History of the Image before the Age of Art”) suggests that art history declared anything to be art, including everything that falls within its field. Similarly, from a semiotic perspective, everything can be seen as a sign, so it can be analysed. Subjective experience is projected onto the objects of experience – concepts and meanings (Stankovic et al., 2009). As the educational actor is able to link two phenomena – the act of expression and its content – the ability to justify previously learned signs is developed. Elements of culture and education (and any experience) can be classified as semiotic constructs. Teachers and learners support their meaning-making processes by developing relationships with these elements (Stankovic et al., 2009) during teaching and learning processes.

Discussion

From the selected studies, it is not possible to clearly define or distinguish the spheres of semiotic influence. Semiotics in education science applies not only to theoretical but also to practical approaches that focus on the meaning articulation instead of the meanings themselves. The main aim is to reveal the meaning-making mechanisms (Batu, 2012). Hence these mechanisms are revealed in educational methods and approaches.

In education, semiotics is present in learning, memory, and knowledge, and is shaped by resources, competencies, access and support. (Campbell et al., 2020). These factors impact the cognitive abilities of the learners. Most of all – knowledge stimulates new knowledge acquisition. On the other hand, the teacher does not just add or change content. The teacher is also a social actor who interacts with learners through direct action (Jovanovic, 2019). Both the student and the teacher are involved in a mutual learning process. While the student learns from the teacher, the teacher learns too – this is what makes educational communication work (Olteanu et al., 2016), increasing the learner’s and the teacher’s cognitive abilities, which leads towards competence of iconic intelligence, memory improvement, adaptability, semiotic literacy and other competences that might be crucial for the development of educated future generations.

Looking at the modern curriculum, it is clear that it has constantly been changing and, therefore, forever contemporary. Changes in society and cultural practices shape the way educational actors understand the world and the meaning they give to different aspects of it. It challenges conventional views and beliefs, generating new paradigms particular to each cultural context. As an outcome, interpretations are exposed to transformation and can take on different connotations during given periods (Marchenko et al., 2022).

Contemporary developments in digital representation technologies provide a broad spectrum of options for teachers and learners to operate within, but there are always limited to predefined boundaries (Leone, 2020). It gives them the experience of using

a more comprehensive semiotic vocabulary to discover the meanings of science in their education process (Areljung et al., 2021), exchange and share these meanings. From a historical perspective, meaning-making circulation is moving at an extraordinary pace, not only in educational discourse but in general. What horizons and potentials it brings for education have made it easier than ever for educational actors to access a wide range of resources. With that, the range of subjects that can be given meaning has broadened. There are two different views among teachers on how to take advantage of semiotics mediation in education. One is that contemporary culture symbolises dissipation and a retreat from traditional values. On the other hand, some educators believe that contemporary culture and communication emphasise the links between contemporary developments such as consumption, global integration, communication technologies and cultural and political diversity (Kuru, 2012).

The relations between an object and its representation have been crucial in linking reality and representation. The object refers to material entities, while its representation is its expression (Ozlem, 2014). The portrayal of an item never fully reflects its true nature, and how we construct reality always includes a certain level of subjectivism. Furthermore, how we view objects is affected by cultural and personal factors and practices that shape how we interpret and represent them. The educator's interpretations and explanations may affect learners' meaning-makings and interpretations. By learning to analyse signs and symbols using both applied learning and teaching approaches and methods, learners can become more aware of the underlying meanings of the issues they face in their everyday experiences and question and reflect on these messages more thoughtfully.

Conclusion

Semiotics has been and is used in education to provide a theoretical basis for reading signs and symbols while teaching and learning approaches and methods implement these theories in the educational system. By studying meaning-making, educational actors can learn to recognise the different signs and symbols and interpret the meanings they convey. Theoretical approaches, teaching and learning approaches and methods are interrelated because they jointly address how meanings are constructed, transmitted and received. Research has shown that the competence to evaluate and formulate an opinion on current issues depends on the ability to interpret information. Semiotics can help develop critical thinking skills and cognitive competences, which are essential in the meaning-making process. Thus, the more educational actors analyse from a semiotic perspective, the more they develop cognitive skills that broaden semiotic perspective. The results of this review suggest that the role of semiotics in education should be further explored, with a critical review and narrative research proposed in the next phase.

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GENERATION ALPHA FROM THE PERSPECTIVE OF FACULTY MEMBERS

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ABSTRACT

The article presents the study of the Alpha Generation in higher education. The Alpha Generation, born in 2010 and after, is a generation that actively uses technology that was still in its school years. This study, in which faculty members' perceptions of the Alpha generation that will be university students in the future were investigated, was conducted with the qualitative research method to understand in depth what meaning the faculty members ascribe to the Alpha generation. For this purpose, the interviews were conducted with the faculty members at Çanakkale Onsekiz Mart University. Faculty members expect to be prepared for the new generation of digital and global education, which is changing fast. Learning skills and the ability to apply concepts and understandings affect how we view information differently. Furthermore, technological advancements in higher education play a crucial role in the teaching-learning approaches of the future, so faculty members are also expected to be knowledgeable and experienced about the Alpha Generation's next generation of higher education. Therefore, in the future higher education environment, this research can be important for academics and administrators to get the opinions of faculty members on the Alpha generation and to anticipate the opportunities and potential problems. Furthermore, this research has tried to explain the faculty members as the next group of university students, considering the learning styles preferred by the Alpha generation, their perceptions and expectations about education. Finally, this research is illustrated with recommendations on how universities can be transformed to provide a better learning experience aligned with the thoughts, perceptions and expectations of faculty members for Generation Alpha students.

Keywords: Higher Education, Generations, Alpha Generations, Faculty Members, Qualitative Research

Introduction

The impact of technology on education is getting more common. Technology has been changing at a rapid pace in higher education. Education has been essential in developing societies and individuals throughout history. Therefore, raising individuals who keep up with the developments worldwide is necessary. As the social structure and needs change, institutions also undergo a series of changes parallel with this change.

Universities at the top of the education system are closer to the change process (Arslan, 2019). Therefore, higher education institutions need an education model that closely follows the developments and constantly updates itself. Alpha generation as university students will be the newest challenge for academics. Accordingly, higher education institutions are created to meet social needs. Universities, with their functions of producing and disseminating knowledge, both direct the social transformation and are also affected by the social transformation. Therefore, the role and scope of the university, a historical and social institution, have changed within each era's social and economic conditions (Sahin & Alkan, 2016). Technological advances will be crucial in future teaching-learning models in universities, and the next higher-education generation will be embedded with this. Generation Alpha will be very different from traditional university students. In this sense, the Alpha generation will prefer technology-related professions and demonstrate digital leadership, meeting all their education from digital devices. Therefore, it is understood that these generations do not like face-to-face communication (Demirel, 2021). Generation Alpha is surrounded by technology and gaming. They are the first generation exposed to an advanced technological environment (Taylor & Hattingh, 2019).

It is challenging to define a standard generation for every society. Because the experiences of each country in specific periods are different and there are different social structures within the country, consistent results cannot be obtained in these studies. However, this situation may be different for the Alpha generation. Because for the Alpha generation, the physical boundaries of the world have almost disappeared. Even in different parts of the world, they can watch the same movie, listen to the same music and follow the same world agenda. Therefore, unlike previous generations, more consistent predictions can be made to define the Alpha generation (McCrimble & Fell, 2020).

It is an essential first step to defining the term generation. According to Oxford Dictionary (2023), all people were born about the same time. Traditionally, a generation has been described as the average interval between parents' birth and their offspring. This biological definition has placed a generation for millennia at around 20–25 years (McCrimble & Wolfinger, 2010). One of the basic facts is that it is possible to progress and make a distance in social life with the experience and knowledge that one generation will pass on to the next generation. It is stated that the changes of the generations are the forces acting in a specific process (Comte, 1974). In the following years, researcher Karl Mannheim (Mannheim, 1998) conducted comprehensive and systematic research on generations. In his study, Mannheim defined generations as people who share everyday habits and cultures and share these values. Understanding the characteristics of generations is essential in explaining the period's living conditions. However, generational characteristics help understand what age group individuals may need or their problems (Howe & Strauss, 2009). Sandeen defined (2008) generations; as born on specific dates to certain historical events. In addition, they are people who have witnessed or been affected by them and have similar lives or problems due to the conditions of the age at which they were born. The same generations differ from others in terms of living, perception, education, interest and life-related problems.

Technological innovation, a hallmark of academic research, may change how universities teach and students learn (Glenn, 2008). In the 21st-century, technology is a widespread phenomenon in universities. Several factors affecting the generation gap between faculty members and students in lectures are shared, such as characteristics of 21st-century learners, academicians' perceptions of technology, and student's ability to use technology independently. In addition, recognizing generational differences; will provide convenience to people in personal, organizational and social relations.

According to Demirel (2021), traditional education methods are not equipped to meet the intellectual, social and emotional needs of this new student group due to the characteristics of the Alpha generation. Teachers who lack technological knowledge are thought to have severe problems with the Alpha generation. Since the Alpha generation is accustomed to high-speed learning, making random web connections, and processing visual and dynamic information, more online game-based learning will suit them.

There are few studies on the Alpha generation, which has not yet entered higher education. Therefore, this research has foresight about the Alpha generation in higher education. Furthermore, based on such a point of view, this study aims to examine what kind of perceptions X Generation and Y Generation academicians have about the characteristics of the Alpha generation who will be university students in the future and what kind of perception and view they have about their interactions with the Alpha Generation.

Generations in Higher Education

Higher education is considered one of the most promising institutions in terms of the global competitive environment of the 21st century (Arslan, 2019). Because of digital transformation, modern higher education institutions use virtual learning environments for the distance learning processes of students. Virtual environments like this bring new perspectives to teaching styles. Through these methods, which are used by crossing physical borders, remote areas can be accessed, and various educational opportunities are created for those who cannot benefit from these opportunities (Sezgin & Karabacak, 2020). Higher education institutions' culture needs to be changed to prepare for the arrival of Generation Alpha students (He & Wei, 2021). Higher education will most likely involve technology-integrated learning programs and options, far more career-engaging and career-preparation events, and inadequate skill development training and programs in future. The focus will shift from 'transfer of knowledge' to co-creation of knowledge, optimizing the skillset of the Generation Alpha student and their unique acceptance and understanding of technology advances (Ziatdinov & Cilliers, 2021). When the studies on generations are examined, five generations are defined. Although authors have no consensus about the same periods for each generation, these five generations are often described in the literature. Examining and identifying each generation's clear and understandable characteristics and differences is meaningful, making future studies more valuable. The four current generations are the Silent Generation (1925–1945), also known as the Traditionalists; Baby Boomers (1946–1964); Generation

X or Generation X (1965–1981); and Millennials (1982–1999). The latter are Net Gen, Gen Y, Generation Me, Gen Net and Digital Natives. A generation is typically defined as being born within a specific birth year range (Schullery, 2013). On the other hand, McCrindle & Wolfinger (2014) defined these generations as baby boomers (born between 1946 and 1964); Generation X (born between 1965 and 1977); millennials (born between 1978 and 1992); Generation Z (those born between 1993 and 2009), and more recently, Generation Alpha. According to Howe and Strauss (2009), a generation change occurs almost every 20 years.

Baby Boomers (1946–1964); The Explosion Generation, also known as the Baby Boomers Generation (BB), includes people born between 1946 and 1964, and the members of this generation today are between the ages of 54 and 72, with more than 1 billion babies born in the population explosion that occurred just after the Second World War. Because of this, they are called the *Baby Boomers* generation (Mücevher & Erdem, 2018). This generation is considered adaptive, readily accepting and adjusting to changes due to professional life (Ramadlani & Wibisono, 2017). They work for a long time in one place. To work for a living is a perspective of their understanding of work (Beytekin & Dogan, 2019).

Generation X; X refers to a group that feels excluded from society and enters the labor force only to find that their older brothers and sisters have filled all the positions (Tapscott, 2009). This generation is a very aggressive communicator; they are very strongly media-oriented. The Y or Net-generation follows them. Their number is almost as high as the baby boom generation. Their members are highly efficient in study and work (Kolnhofer-Derecskei et al., 2017).

Generation Y; The Y generation grew up with computer and arcade games, was introduced to mobile phones in adolescence, developed social aspects, adopted flexibility in the work environment and working hours, cared about self-expression rather than a career, took an active role in decision-making (Howe & Strauss, 2009). Generation Y has the characteristics of the generation in which the difference between generations is felt the most. Because they like to be independent, they are fond of their freedom and are different in their business life (Seymen, 2017). Generation Y was born after 1982 and has lived through three historical eras, which could well be distinguished in politics. In our opinion, however, the IT revolution, open borders, globalization and the changes in the education system and attitude have had a much more significant impact on this generation than the political and historical structure (Kolnhofer-Derecskei et al., 2017). Generation Z is self-reliant, contented, fits the team spirit and likes social service activities. They are more interested in actions than the prior generation and Generation Z (Beytekin & Dogan, 2019). The birth of the Z generation has been in the digital world with smartphones, videos, the internet and visual technology. With these features, it differs from other generations, and the current technology is not new to them. This generation is quite advanced in technology and successfully uses programs and tools. They can be much more productive with advanced software and usage programs, and the effectiveness of social media alone will not be enough for them. In general, they have

pragmatic and realistic (utilitarian-utilitarian) features. They are more cautious about taking risks than previous generations (Seymen, 2017).

Generation Alpha is a generation born in the period 2010–2025. No generation is more at ease with online, collaborative technologies than today's young people, digital natives, who have grown up in an immersive computing environment. Where a notebook and pen may have formed the tool kit of prior generations, today's students come to class armed with smartphones, laptops and iPods (Glenn, 2008). Especially for Alphas born after 2010, graphic designs, videos, augmented reality and simulations must focus on a subject and draw their attention to an area. As in other generations, education with the teacher's narration and imagination is impossible for this generation (Turk, 2017). For this reason, they are seen as a completely different generation from their predecessors. On the other hand, this generation, who has not yet entered working life, must receive the proper education to succeed (Demirel, 2021).

Many researchers investigated to understand the characteristics of the Alpha generation. In this study, we present the ethnographic research on the Alpha Generation conducted by Barkowitz (2016), which showed us the characteristics of the Alpha Generation in detail. These characteristics are the followings:

- They want to own everything themselves; they do not like sharing.
- They are incredibly active. However, they do not make noise. Mainly during their 0–6 month period, they were observed to be silent.
- They do not hesitate to share their experience with the world. Therefore, privacy is not necessary for them.
- They do not like rules. They do not even know the rules.
- They are free from all kinds of restrictions and borders.
- They are aware of the importance of healthy nutrition. They especially prefer milk, cheese and foods containing vitamins.
- They have almost no religious beliefs.
- They are very interested in wearable devices.
- They do not like excessive consumption. They like to use their parents' clothes, things, jewelry, etc.
- They are spoiled mainly by their X and Y-generation parents.
- Their X and Y-generation parents influence them.
- They have an entrepreneurial spirit due to their technology accessibility.
- They are self-sufficient. Even though they communicate via social media, they always prefer to be alone.
- They prefer to shop online.
- They rarely make physical contact with people when communicating.
- They are capable of overcoming significant challenges. In addition, they have a high level of competence.
- They can repeat the things they enjoy many times, like watching the same movies and listening to the same music.
- They do not do two tasks at the same time.

- They care about environmental and social problems.
- They live in the moment. They do not think about the future or the past.
- They want everything right away.
- The studies' results investigating alpha-generation characteristics between 2014–2020 showed that Alpha-generation individuals always feel free to express themselves, do not like limitations and restrictions and refuse traditional power (Barkowitz, 2016; Furia, 2015; Jha, 2020; McCrindle & Fell, 2020). Alpha generation is believed to be an essential contributor to the modern world with their ability to critical thinking, problem-solving, decision-making, creativity and flexibility (Furia, 2015).

Methodology

A qualitative research technique was used in this study. This is because qualitative research is preferred for systematically examining the meanings arising from the experiences of the people who are researched or planned to be conducted. Sampling in qualitative research aims to obtain a specific phenomenon or event that clarifies and deepens a phenomenon. Therefore, all attention is focused on finding the sample suitable for collecting information about the subject's processes. In other words, rather than the power of representation, the subject of the research interest is considered (Patton, 2009). Therefore, a purposive sampling method was followed in the study. Accordingly, the interviews were conducted with the faculty members at Çanakkale 18 Mart University. In addition, this study, which was carried out to determine the views of academicians about the examination of the Alpha generation, who will be the future university students, was carried out as a phenomenology, one of the qualitative research method designs. Creswell (2007) stated that interviews can be conducted face-to-face, one-on-one, and over the Internet via telephone or email. In this context, half of the data was collected face-to-face and half via e-mail.

Study Group of the Research

The study group of this research consists of X and Y-generation academicians at a state university. One of the sampling methods for the study group of this research criterion sampling was determined using the method. The criterion sampling method is based on the understanding of studying situations that meet a set of predetermined criteria (Yıldırım & Şimşek, 2018). In this study, participants who completed the requirements of X and Y generations of the academician and participated in the survey voluntarily were selected as criteria. Ten academicians from Çanakkale Onsekiz Mart University participated in the research. For the participants not to be deciphered, code names such as P1, P2...P10 were used instead of the names of the participants. Faculty members are representatives of the Y and X generations.

Data Collection and Process

Data collection was carried out with a semi-structured interview form, one of the qualitative data collection tools. Open-ended questions directed to the participants of the research are as follows:

1. Is there a need to change the training methods for the alpha generation?
2. Are there training on generations at your university? Or would you like it to be?
3. What are your thoughts on Alpha Generation student characteristics?
4. How should Alpha Generation's perceptions of university students regarding work, communication and learning orientation be?

In line with the purpose of the study, the study was carried out with faculty members. Before the application, permission was obtained from the Graduate Education Institute Ethics Committee Scientific, Research Ethics Committee of Çanakkale Onsekiz Mart University. Interview questions were prepared within the scope of the study. First, a literature review was determined, and the researchers created an interview form. After the document was created, the interview form was finalized by consulting a field expert experienced in qualitative research. In the interview form, explanations such as the purpose of the research and the purpose of using the data were included. The study was carried out with 10 participants who wanted to participate voluntarily. Before the interviews, a pilot study was conducted with one of the volunteer participants. Since the questions were determined to be easy to understand and answer, no changes were made to the questions after the pilot interview. However, typographical errors in the data collection form were noticed, necessary corrections were made, and the interview form was finalized.

Analysis of Data

Research data were analyzed with descriptive analysis techniques. According to Yıldırım & Şimşek (2018), the data obtained in the descriptive analysis are summarized and interpreted according to the previously determined themes. After the data collection process, the data were read several times to check the accuracy of the obtained data. Finally, the texts obtained in terms of the validity and reliability of the study were proven to the interviewed academicians, and the study's findings were presented. At the same time, the participants' opinions were deemed necessary.

Findings

Opinions on the question of whether there is a need to change the training methods for the Alpha generation

Academicians stated there is a need to change the education methods regarding this question. It is necessary for efficient knowledge transfer by the student's learning styles. Participant P1 stated that; *education methods should be updated for the Alpha generation, who will be university students shortly. Academics should remember that this generation is the demographic group most closely intertwined with technology among the generations that have come so far.* Participants recognized that the Alpha generation quickly

understands how to use these devices. It has been stated that applying a legal education to this group of students is challenging. The Alpha generation cannot easily imagine life without technological tools. In addition, technology is essential for the Alpha generation.

Is there a generational education at your university? Answers to “Or would you like it to happen.”

The academicians participating in the study stated that they did not receive any training on generations in general. In addition, generational awareness of academicians will provide a more efficient and healthy communication environment between academicians and students at the university. In addition, participant P5 stated that *the university should give training and seminars related to generations to the university stakeholders. They said they would participate voluntarily if the educational institution provided such training.* The statements reflect that academics generally draw attention to understanding the characteristics of generations and receiving education regarding appropriate education and training planning at the university.

What do you think about Alpha Generation student characteristics of academics?

According to the views of academics about the Alpha generation, it has been stated that the education life of this generation will be based entirely on technology. This is because the Alpha generation, accustomed to doing most of their work in the digital environment, educates in this environment. Moreover, since they are an entrepreneurial generation, they will actively participate in many different sectors. In addition, participant P7 stated, *The rapid distraction of Alpha children, who grew up among machines that easily access information and understand what to do with simple commands by touching digital surfaces and become individuals who resist their responsibilities in the future. For this reason, university environments should offer them physical and mental activities and the opportunity to have a pleasant time. This generation, who has all the world's knowledge, gets used to this convenience.* The views highlight the need for changes for Alpha generations adequacy between methodologies and technological resources linked to a perspective that understands the universities' processes of change and the requirements that result from it.

What should the Alpha Generation's perceptions of university students regarding work, communication and learning orientation be?

All academics stated that the interactive classes of universities do not meet their needs even for Generation Z. Universities need to prepare for Generation Alpha. So now there must be new digital-type class models. This means that universities must prepare to provide an optimal learning environment for Generation Alpha students by incorporating new technology and learning to use it using best practices. Generation Alpha students emphasize problem-solving and prefer gamification in education. Ed-tech comes naturally to them, and they need it to maintain high student engagement. In addition, participant P9 stated that *Alpha Generation is even more individual than Generation Z. Therefore, it is necessary to have information about individualism when communicating*

with this generation. In this sense, the statements reflect that; when they come to the university education period, the academics stated that the class content should be highly personalized and adjusted to the pace of each student as much as possible. This challenges the academic to maintain classroom cohesion and organize group activities.

Conclusion, Discussion, and Recommendations

This research aimed to investigate the awareness and readiness of academicians for Alpha Generation as university students. Within the scope of the research, they agree that academicians have general knowledge about the Alpha generation but that an educational environment should be created according to the characteristics of this generation. Academicians stated that changes in study methods and seminars on generation education were needed. Moreover, academicians who participated in the research showed their willingness to have informative meetings or events on the Alpha generation as the new generation may need innovative ways of teaching due to their characteristics and abilities shaped by technological habits. Generational awareness of academicians will provide a more efficient and healthy communication environment between academicians and Generation Alpha students at universities. As the evolution of the Alpha Generation is followed, more is learned about its future impact on the university setting. Prensky (2001), stated that the Alpha generation has high-speed learning, making random connections, processing visual and dynamic information and learning through game-based activities.

Other research findings show that Generation Alpha is characterized as digital native students. Alpha generation education life is based entirely on technology. In addition, Generation Alpha is known to be the largest population of all generations. According to McCrindle Wolfinger's research predictions 2024, Generation Alpha will be the largest generation globally, with several two billion (McCrindle & Wolfinger, 2014). Therefore, it can be said that preparations similar to organizing informative meetings about Alpha Generation brainstorming on the possible changes in education style are necessary. Therefore, due to the findings, most of the interactive classes of universities do not meet their needs even for Generation Z when the education needs change for digital-type classes. Therefore, universities must prepare to provide an optimal learning environment for Generation Alpha students by incorporating new technology and learning to use it using best practices (Turk, 2017).

Apaydin and Kaya (2020) claimed that the distinctive characteristics of the Alpha generation included limited social communication due to their dependence on technology, their tendency to work individually rather than teamwork, and their exhibition of leadership behaviors rather than being collaborative.

Higher education will likely involve technology-integrated learning programs and options, far more career-engaging and career-preparation events, and inadequate skill development training and programs (Ziatdinov & Cilliers, 2021). Universities should meet Generation Alpha's needs in interactive and digital-type class models. Alpha

Generation is known to be more individual than other generations, so it is necessary to have information about individualism. However, when they come to the university education period, the class content should be highly personalized and adjusted to the pace of each student as much as possible. Universities should prepare to provide an optimal learning environment for Generation Alpha students by incorporating new technology and learning to use it using best practices. It is recommended that higher education should consider the different study abilities of the Alpha generation. Moreover, higher education should organize workshops and events based on digital activities. It is recommended that higher education should consider the different study abilities of the Alpha generation. In addition, higher education should organize workshops and events based on digital activities for academicians.

Furthermore, the authors of this research would like to emphasize that the results obtained in this study cannot be generalized. However, insights from this study can be used to develop questionnaires in future research contexts. Finally, although only a limited number of participants are consulted, generational studies are universal and therefore recommended to researchers, administrators and educators.

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MATURE-AGE STUDENT'S OPPORTUNITIES AS A MATTER OF SOCIAL INCLUSION IN THE HIGHER EDUCATION

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ABSTRACT

Digital revolution, pandemics, market-orientation, and massification in higher education, as well as globalization – a worldwide challenge in economics, politics, societal structures, and health systems – completely changes the “*age landscape*” in universities. Over the last 20 years, universities around the world have seen an increase in the number of non-traditional or mature-age students and are facing complex and challenging problems. In the literature these “non-traditional” in terms of age students are called mature-age students (by some scholars also second chancers, independent students, adult learners). Social inclusion is a highly complex concept, including variables such as class, ethnicity, gender, age, subject of study, location etc. In this article, we will focus specifically on the age of students as a variable of social inclusion. The article is motivated by the aim to find out what are the challenges faced by mature-age students in the context of social inclusion to ensure equal opportunities. Purposive sampling is being used, participants with “intensive” experience – 4 master-level students in the age from 40 to 49 from two Universities in Latvia and one University of United States of America. Individual, semi structured, in-depth interviews as a data collection method is being used. Narrative analysis has been chosen as an extension of the interpretive approach within the social sciences. The study concludes that the most significant group of challenges related to the age of students, both in Latvia and in the US, are socio-emotional challenges. Three out of four respondents have experienced emotions such as “feeling like old people, pressure, uncomfortable, rusty, behind”. The inclusion of mature-age students should be on the university agenda, alongside other social equity issues in higher education.

Keywords: *adult students, higher education, lifelong learning, mature-age students, non-traditional students, social inclusion.*

Introduction

The rapid and increasing changes and instability in the economy, finances, demography and virtually every other sector, since the digital revolution, Covid-19, climate change are setting the world agenda, require new and unconventional solutions. Politicians and

business are looking in the direction of education, demanding change and reform. Since the end of the last century, lifelong learning has been talked about intensively and at all levels. This includes formal, non-formal and informal learning processes. Meanwhile, people have realized for some time that education once acquired may not be enough in life, and formal education institutions at higher education level are increasingly being filled by students who are long past their twenties. In the sources and literature these “non-traditional” in terms of age students are called mature-age students, second chancers, independent students, adult learners (Heagney & Benson, 2017). Justice & Dornan (2001) refer to traditional-age students as those aged 18–23, and nontraditional-age students as those aged 24–64, nevertheless age limits varies in different nations. Some authors pointed out the age threshold for mature students is 25 years (Šestanović & Siddiqui, 2021).

As noted by Richard James (James, 2012): “Nontraditional students (..) require more academic support and other forms of support once enrolled. But this is what is required if serious inroads are to be made into the present participation imbalances” (p. 102).

According to the Šestanović & Siddiqui (2021) there is no agreed definition of the term “mature student” in literature – a mature student is a complex and contested term used differently according to researchers’ specific objectives. The most common practice is using age as one of the distinguishing criteria, as well mature students being characterized as needing to overcome difficulties, and barriers when they transition to higher education. Sometimes students over the age of 21 are considered mature students, but the age limits vary in different nations. For example, in Portugal, it is 23 years old, and in Spain 25 (Fragoso et al., 2013), in the Irish context, a mature student is defined as being 24 years or more in the year of entry or re-entry to an approved course (Ryan et al., 2019). Some authors pointed out the age threshold for mature students is 25 years (Šestanović & Siddiqui, 2021). McCune and co-authors (2010) divided three age groups: “traditional” age students (those aged under 21 at the start of their course), younger “mature” students (aged 21–30) and older “mature” students (aged 31 or over) (McCune et al., 2010). Learners aged over 50 years are sometimes referred to as “Third Age” learners (Smith, n.d.). In the regard of this research, all the students interviewed were aged 40 and over.

David Watson (2012) argues that the social inclusion equation “is highly complex, with variables including class, ethnicity, gender, age, subject of study and location” (p.vii). In this article, we will focus specifically on the age of students as a variable of social inclusion.

There is evidence for increasing number of mature-age students around the globe. OECD data shows, that in 2020 nine per cent of all master level students of Latvian higher education system was in age 40 and over, which is increase in 2.2 per cent in comparison with 2010, furthermore the increase is more express in males’ students’ numbers (Table 1). In United States almost 1/5 of total master or equivalent level students are older than 40 years, nevertheless there is a small decline in 2020, which could be explain with pandemic influence, which is in line in findings in literature – during pandemics in some countries number of female student decrease as females are primary care person in families (Sorella, 2022).

Table 1 Master or equivalent level students aged 40+ in Latvia and United States

% of students/ Year	2010		2020	
	Latvia	United States	Latvia	United States
40 + of total	6.5%	19.1%	8.7%	18.8%
of male	3.7%	16.3%	6.8%	16.7%
of female	7.9%	20.8%	10%	20%

Source: OESCD (<https://www.oecd.org/>)

On the other hand, studies from the last century already show that more and more non-traditional-age students are entering higher education (Richardson & King, 1998) since the mid-1970s. Such data leads one to wonder why universities have not targeted the mature age group as students with different needs, even 50 years later. It is stressed that mature students are “more diverse than younger students in their motivations, needs, expectations and experiences of higher education” (Richardson & King, 1998, 66) and that one should beware of treating them as a single homogeneous group.

In Surrey, South-East of England, a pedagogical innovation project, the “Transitional Programme”, was implemented which aimed to address the problem that mature-age students deciding to re-enter education, were at risk of being deprived of hope and harmed in their trust in education (Farini, Scollan, 2021). The authors analyze the role of educational leadership in higher education to restore hope and trust to mature-age students and reveal these categories as essential factors for decision-making and social inclusion in complex, unfamiliar and therefore uncertain environments.

As noted by number of authors (Chapman, 2013; Pozdnyakova & Pozdnyakov, 2017; Saddler & Sundin, 2019; Šestanovic & Siddiqui, 2021) mature-age students face different types of challenges once enrolled, which higher education institutions shall not ignore. Therefore, the aim of this research is to find out how mature-age students experience the study process from an equal opportunity’s perspective, comparing the situation in Latvia and the United States. The framework within which we intend to study mature-age students in the formal education system, is social inclusion. We will use the United Nations definition to conceptualize this concept: “Social inclusion is the process by which efforts are made to ensure equal opportunities – that everyone, regardless of their background, can achieve their full potential in life. Such efforts include policies and actions that promote equal access to (public) services as well as enable citizen’s participation in the decision-making processes that affect their lives” (United Nations , n.d.) (*authors underlining*). To summarize the above, the research question of this paper is: what are the challenges faced by mature-age students in the context of social inclusion to ensure equal opportunities.

Methodology

Narrative analysis as an extension of the interpretive approach within the social sciences is being used. Referring to John Dewey’s work on the deep interconnection between experience, education and life, some narrative scholars argue that narrative

Table 2 The social profile of the research participants

	Respondent 1	Respondent 2	Respondent 3	Respondent 4
Age	49	41	45	40
Gender	Female	Female	Male	Female
Marital status	Married	Married	Single	Single
Nationality	Latvian	Latvian	American	American
University	University of Latvia, Latvia	Liepaja University, Latvia	University of Buffalo, NY, US	University of Buffalo, NY, US
Year of the current studies	1	1	1	3
Study program	Management psychology	Writing studies	English for Speakers of Other Languages (ESOL)	Sustainable Engineering
Years since last acad. studies	19	17	5	7
Working status	working	working	not working	not working

methodology is particularly suited to educational research: “In the most general sense, when one asks what it means to study education, the answer is to study experience” (Clandinin & Connelly, 1998, p. 154).

Narrative analysis is characterized by its methodological nature as focusing on how people experience their lives, how people talk about their lives (Case & Light, 2011; Esin, et al., 2014). Narrative analysis using interviews as a method of data extraction assumes a constructionist approach (knowledge and reality are constructed in conversations with others), so the position of both the interviewee and the interviewer is important in the construction of knowledge. It is noted that the aim of narrative analysis is to understand as fully as possible the constructive elements of story. “Narrative researchers who take a constructionist approach pay attention to the ‘positioning’ of two kinds of subjects – the tellers and the listeners, their personal, social, cultural and political worlds, and how these worlds come together and interact within the narrative process” (Esin, et al., 2014, p.205). Given authors own experience as a mature-age student, we found this aspect essential in the choice of methodology, as it allows us to take the position of an active researcher in the research process.

For the data collection purposive sampling is being used, to collect data from mature age students ($n = 4$) on the master level in the age of 40 to 49. Two of respondents are from different universities in Latvia (Liepaja University and University of Latvia, both female) and two respondents from one university in the United States (University at Buffalo, New York, the male and the female). The social profile of the participants is shown in Table 2.

During the time period of January 2023 four semi structured individual interviews were conducted and recorded, using online communication platform Microsoft Teams. To find out mature-age student’s opportunities in higher education, each interview was started with an open-ended question: what are the challenges you face as a mature-age student in the context of social inclusion? Before the interview the concepts of “mature-age students” and “social inclusion” were conceptualized for the respondents.

Results

Previous studies have tended to show that there are several types of challenges and barriers faced by mature age students. We clustered the findings of authors (Chapman, 2013; Pozdnyakova & Pozdnyakov, 2017; Saddler & Sundin, 2019; Šestanovic & Siddiqui, 2021) into the five main groups of challenges – financial obligations, challenges caused by a lack of learning skills, lack of support, difficulties to balance work and life and as well social emotional challenges during the studies (Figure 1).

Šestanović & Siddiqui (2021) mentioned financial obligations (associated with education and family responsibilities) as the most concerning issue for many students. The analysis of the interviews in our research only partially confirmed this finding, with one respondent mentioning that he would have to look for a job in the next semester, but that this would be difficult due to the heavy study load. Both Latvian respondents, unlike the US respondents, work alongside their studies and even saw the advantages of studying at this age precisely because of the financial stability they have gained due to their age:

“This is probably even a better and easier time than when I first studied, because I had [young] children then. (...) Also financially. It’s much easier for me to pay now than it was then. (...) We were young, it was nineties. This is the time when the children have left the family and you are financially stable enough.

(Respondent 1)

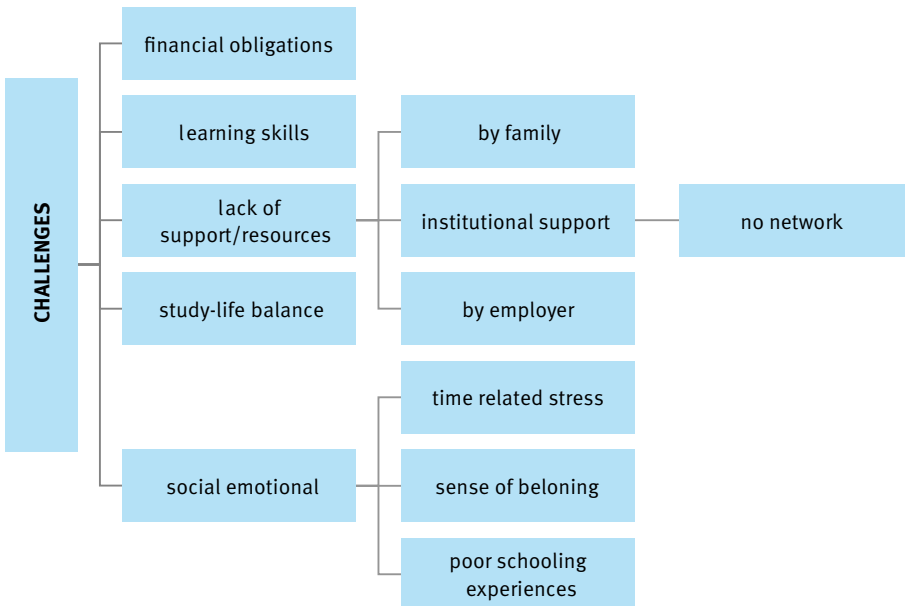


Figure 1 Challenges faced by mature-age students

Note. Based on Chapman, 2013; Pozdnyakova & Pozdnyakov, 2017; Saddler & Sundin, 2019; Šestanovic & Siddiqui, 2021.

“I am in the budget, but I could also pay. It wouldn’t be a problem for me. Well, I was ready to pay.. for studies.” (Respondent 2)

“I took out some student loans but mostly out of pocket. I don’t have scholarships or grants for this.” (Respondent 4)

However, we have to consider the significant difference in tuition fees between Latvian and US universities.

Pozdnyakova & Pozdnyakov (2017) in their article emphasize feeling of anxiety, concerns regarding the education process and learning results in adult learners, loss of learning skills, lack of experience in distance or remote education, financial costs of education, lack of support by the family or by the employer, sense of hopelessness and irrelevance of their education. Owing to their already busy lives, mature students often experience barriers to returning to education that are not encountered by traditional, younger students; most students had no formal tools to manage part-time work, study and social activities; instead, students would focus on either work or study leading to time pressures and time-related stress (Šestanović & Siddiqui, 2021). Mature students can struggle to access much-needed resources, support, essential services and flexible study options like library or support office working hours also extra-curricular activities are often where the mature student misses out. In general, study environment is more constructed for traditional students.

Besides the challenges described by number of authors above, we also found a new category, which we named – challenges related to curriculum. This category emerged from the analysis of respondents’ interviews and is related to the content (like coding, physics, math) requirements (like homework’s, English skills) and form (like discussions, independent work) of the study program:

“I certainly can’t speak in a foreign language and write good papers in a foreign language, but for understanding is enough. Maybe I will need someone to help me write an English summary (...)” (Respondent 1)

“I also think (...) in discussions and independent work I was a bit scared before I started studying and so on... of course there are subjects that I feel..., but it purely depends on the subject where other course mates are more knowledgeable” (Respondent 1)

“(..) classes like calculus and physics. They kind of had the advantage of having that knowledge fresh in their minds, so it was easier for them to do well in those classes.” (Respondent 4)

“(..) with like computer coding and just excel and things like that. I do feel a bit behind in that regard.” (Respondent 4)

“But the fear, it was just (...) whether I would be able to find the time, whether it wouldn’t be too difficult. Would I be able to cope with all the writing? Actually, I had also thought beforehand that I wouldn’t do any more academic studies, but rather some courses, seminars, where there was no homework.” (Respondent 1)

Study-life balance for mature students has been one of the most challenging issues in higher education and lack of support from family or employers escalates it even more. Šestanović & Siddiqui mentioned that “making the transition to college or university often entails sacrifices in other areas of life – social activities, family time and free leisure time, while studying only had a minor impact on job performance. Thus, while students are likely to sacrifice all other areas of life, job security takes priority, even during study time” (Šestanović & Siddiqui, 2021, p.114).

The results of our study confirmed study-life balance as significant challenge. One of the respondents mentioned weekends as challenge for studying and another one – an inequality she sees as a lack of free time because of duties connected to her family life:

“(..) Well, I also thought for a very long time whether to go (...) to study and that was the one where I was most scared of the fact that there was [lectures] every Saturday, Sunday, Friday and then I thought – no, not to enjoy a single Friday, Saturday in my life for two years. Well, like no, it’s too crazy” (Respondent 1)

“The library is open until 6 or some days until 7, so for me it’s a challenge to manage time (...) I have kids and I have other things and then I think oh my God, how unequal I am with them [younger students]... and then sometimes I feel bad about it (...) I really feel the difference.” (Respondent 2)

Both US respondents are single, with no kids, non-working, which probably explains, why the topic of study-life balance did not appear in their interviews.

In contrast to conclusion of Šestanović & Siddiqui (2021) who identify financial obligations as the main group of challenges, analyses of interviews with respondents in this study show that mature-age students are most affected by **socio-emotional** challenges. As well, several interview episodes confirmed age as a cause of these challenges. These include – feeling like old people among young students, feeling pressure to make wrong decision with the choice of study program, or just feel uncomfortable about the reaction of younger students:

“(..)just being an old man when I end up finishing this degree and like applying to jobs and just being kind of (...) to be starting something new” (Respondent 3)

“I feel pressure because of my age that I only have so many chances and that I don’t want to waste time by making the wrong choice and have to again make another change in the future” (Respondent 3)

“(..)I said I’m in my 40s (...)I didn’t give an exact number. The other guy was the youngest of the three of us. He looked like when you see one of those cartoons where you know the cat or the dog, like their eyes are bulging out of their head and his head spins around. He got like a little closer to the camera and his face was contorting, and I was like, oh my God!” (Respondent 3)

“(..) those feelings, how you feel as a student (...) it was really hard for me to get into all of that. Well, not that I had resistance, but it has been almost 20 years [after studies] (...). I also calculated when I was studying for the last time and then I realized that I’m quite old already” (Respondent 2)

In addition to the above, emotional factors such as feeling rusty, behind, having trouble making friends came up in the interviews:

“(..)I feel a huge difference in it due to age and not even age, but probably some social obligations or status [due to] acquired with age. The difference is huge.”
 (Respondent 2)

“I’m very rusty as a student (..) I’ve forgotten how... what it is to be a student.”
 (Respondent 3)

“Feeling behind in life (..) some of those younger students were already in their third year or about to graduate, and I had just started.”
 (Respondent 4)

“I really have trouble making friends because I’m kind of outgoing in general, but the maturity level is definitely different between the younger friends that I made and myself.”
 (Respondent 4)

Based on the interview data, some new, very significant aspects can be added to the social-emotional group of challenges – like age related pressure, fear and lack of self-conscious (Figure 2). The choice in favour of engaging in higher education at a mature age may also be based on the nature of emotions at the time of choice and the ability to overcome the fearful emotions mentioned by respondents. Bad emotions cause anxiety, which, in turn, interferes with learning- if learners feel unsafe and anxious, they are not likely to be able to focus attention on academics (Woolfolk, 2021). For adult students, this can lead to a loss of interest in their studies.

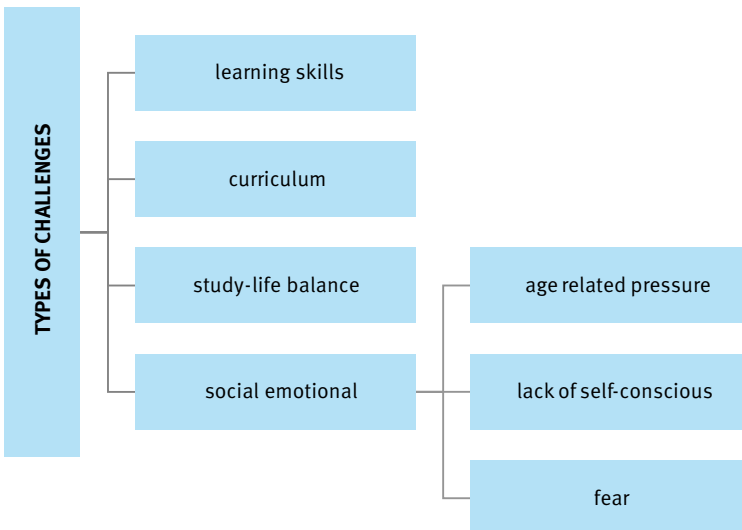


Figure 2 Challenges faced by mature-age students (updated)

Patricia A. Gouthro (2019) argues, that within the field of adult education, there have been multiple debates in recent decades about the need to consider individual learning experiences and issues of inclusion and diversity. Given that adults are participants in higher education, this debate also applies to the higher education sector.

Summarising the interview data, the respondent's quote illustrates the importance of didactics in adult pedagogy:

"I just feel like an adult that has come to (..) classroom and it's just like learning new stuff" (Respondent 4)

This quote focuses on the pedagogical process in higher education institutions. Although pedagogical science in Latvia distinguishes between adult education (Nacionālā enciklopēdija, 02.27.2022; in Latvian *pieaugušo izglītība*) and university pedagogy (Nacionālā enciklopēdija, 04.07.2022; in Latvian *augstskolas pedagoģija*), classifying both as sub-disciplines of pedagogical science, the authors of this article have observed in their experience that didactics, or the theory of teaching and learning, is used little or not at all in the teaching process at universities. The poor didactic skills of university teachers and their negative impact on the quality of higher education are also confirmed by Cathy N. Davidson (2022) in her evaluation of the higher education system in the United States. There is a strong case for higher education institutions to seriously rethink the system of training academics. They should not only be experts and/or researchers in their field, but also familiar with adult teaching and learning theories and methods.

Conclusions

The analysis of the interviews suggests that mature-age students face challenges in the context of social inclusion, and that the nature of these challenges is similar in Latvia and the United States. The only significant difference between the two countries and in the context of the previous studies summarized in this paper is in the challenge category "financial obligations". In particular, respondents from Latvian universities do not see their financial situation as a potential obstacle to their studies but, on the contrary, as an advantage gained in maturity along with financial stability. However, it is important to stress that the Latvian interviewees, unlike those in the United States, are working students. US' respondents justified their dedication to studying solely on the basis of a heavy study load, although interviews with Latvian respondents also indicated difficulties in combining studies with work because of the study load.

The most significant group of challenges related to the age of students is socio-emotional challenges. Three out of four respondents have experienced emotions such as "feeling like old people, pressure, uncomfortable, rusty, behind". These emotions respectively trigger strong feelings such as fear and lack of self-consciousness, which in turn can lead to dropping out of studies or choosing not to engage in higher education at all at a mature age.

The general mood of mature-age students during their studies can be described as "feeling like an adult". This is a strong and at the same time natural state of feeling for

people at a mature age, which universities should consider when planning the content and organization of study courses. These feelings are based both on the previous experience of a mature person, on adult life and all its elements, including work and family life, but also on the lack of experience of the life and study process of a modern student, if studies are resumed after a long break or for the first time at a mature age, especially in Latvia, where the study process has continued to change in the 30 years since Latvia regained its independence.

Since lifelong learning has become a necessity, higher education around the world also needs to be made more accessible to all age groups. As emotions are present in any learning process, universities must help to make them a facilitator of movement towards learning by targeting inclusion strategies to reduce negative emotions associated with the learning process and to bring students of all ages closer together.

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INVESTIGATING STUDENTS' PERCEPTION OF A MULTICULTURAL AND DEMOCRATIC UNIVERSITY AND ITS VALUES

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ABSTRACT

The increasing importance of multiculturalism in education has been caused by numerous challenges – social, economic as well as political that modern universities encounter. Therefore, the values of democracy – openness, freedom of thinking, tolerance, equality, and inclusion are crucial. The research conducted at Riga Technical University (RTU) scrutinizes the current situation regarding the existing students' attitudes. The research aimed to investigate students' perceptions of a multicultural and democratic university and its values. One hundred and five students of RTU both foreign and local ones participated in the research. There were ten statements included in the questionnaire. They can be split into three groups: 1) values of democracy at the university; 2) intercultural communication as a challenge; 3) the role of the university (students/ the teaching staff/ administration) to form values of democracy. The main conclusion of the research is as follows – the majority of students – both local and foreign ones consider the values of democracy as present ones at their university. However, rather many students are not certain or even deny that. Students' views on multiculturalism and democracy at university are quite sensitive and can be controversial. This fact is of high importance for universities to be taken into account to promote the democratic processes there.

Keywords: *a multicultural university, democratic values, intercultural communication, multiculturalism, colorblindness, inclusion*

Introduction

There is a lack of research investigating students' perception of a multicultural and democratic university and its its values. Therefore, the purpose of this research was to find out students' views on this issue. RTU consider the view of students very important, take into account their criticism and follow students' recommendations. There are a lot of foreign students at RTU. According to the data of the RTU International Cooperation and Foreign Students Department, the number of students has increased from

230 foreign students in 2011 to 4360 in 2022.¹ It is of high importance for the university to help its students feel included and accepted. Thus, this research aims to investigate how the students of RTU feel there. Do they have any problems with inclusion? Do they belong to our university? The authors of the research believe that the results and conclusions of this research may help to improve the inclusion process of foreign students not only at RTU but could be useful for other universities as well.

The character of this research is more anthropological. There were several aspects analyzed in this research. The most important dealt with the atmosphere at the university. The authors attempted to research if the atmosphere here was inclusive and if the teaching staff/ administration and students were tolerant. Apart from that, it was investigated if there was a freedom of thinking and acceptance of diversity of views. The aspect of intercultural communication was researched as well. Then it was dealt with the survey of teaching/ learning methodology which might help students include in the multicultural classroom as well as with a life-changing experience students could have gone through at university.

The main findings of this research reveal that most students feel included and accepted at university. However, the number of students who have problems with inclusion is still significant. The democratic processes at the university have to be developed. The novelty of this research could be the many-sided character of inclusion. Inclusion at the university may reveal through intercultural communication, atmosphere, and environment as well as teaching/ learning methodology. All these aspects could help the university provide its students with life-changing experiences and promote democratic processes on a larger scale – not only at the university but in the community, society, and country – here in Latvia as well as in other countries the students come from.

Discussion: multiculturalism and its controversial nature

Multiculturalism is a complex notion consisting of various aspects, such as language, human behavior, religion, rituals, norms, artifacts, and others. The complexity of multiculturalism makes an impact on society as well as on education. As a part of society, the University addresses the same questions and the students are in the same social environment.

A multicultural environment could be the success as well the cause of conflicts. The importance of multiculturalism cannot be underestimated, it is acknowledged by politicians, for example, in his inaugural speech in 2009, the president of the United States mentioned that multiculturalism “is a national strength” (Obama, 2009). A year later, German Chancellor Angela Merkel addressed young members of the Christian Democratic Union party and made an announcement, that multiculturalism in Germany “utterly failed” (The Guardian, 2010). These two approaches demonstrate how controversial the issue of multiculturalism is, and how complex it could be reflected.

¹ RTU International Cooperation and Foreign Students Department. *Foreign Student Dynamics*. 01.10.2021.-01.10.2022. , RTU, 2022.

As Dreamson noted, in some Western societies multicultural policies have been politically abolished due to increasing civil and international extremist violence/terrorism and an influx of asylum seekers/refugees that develop tensions and conflicts between ethnicities, religions, and classes (Dreamson, 2022).

Thus, multiculturalism has a controversial nature. It can be associated with feelings of pride, uniqueness, and a rich sense of community and history, while also bringing to mind identity confusion, dual expectations, and value clashes (Crisp, 2010). In other words, an individual who has been exposed to, and has learned more than one culture, is a multicultural person, but only when this individual expresses an attachment to and loyalty to these cultures, can we say that the individual has a multicultural identity (Crisp, 2010). This aspect is especially important for universities because the loyalty of students both foreign and local ones as well as the teaching staff and administration promotes democratic processes there. When a foreign student enters a university there are several questions to be raised: Who are you? How do you fit in society? What is your role in society? Are you accepted in the existing norms? This is closely related to a cultural mismatch between students and their teachers, as well as among group mates. It can be explained by the fact that the average age of tutors in Latvia is 50+, and most of them have not experienced diverse classrooms, mostly those were mono or bilingual, white.

Therefore, according to McGee Banks C. A. & Banks J. A. democratic processes in education should be viewed within the broader concept of equity pedagogy: “We define equity pedagogy as teaching strategies and classroom environments that help students from diverse racial, ethnic and cultural groups attain the knowledge and skills, and attitudes needed to function effectively within and help create perpetuate a just, humane, and democratic society. This definition suggests that it is not sufficient to help students learn to read, write, and compute within the dominant canon without learning also to question its assumptions, paradigms, and hegemonic characteristics. Helping students become reflective and active citizens of a democratic society is the essence of our conception of equity pedagogy” (McGee Banks & Banks, 1995).

To follow democratic processes at universities educators must acquire the skills to work in a multicultural environment and recognize and accept differences as such. There are some main common goals for multicultural education set by Jewell Cooper:

- demonstrate an awareness of competencies related to educating students from culturally diverse backgrounds based on ethnicity (race, language, national origin, and religion), socioeconomic class, gender, age, and the like,
- analyze the “isms” (e.g., racism, sexism, classism, heterosexism, linguicism, ethnocentrism, ageism, and ableism) and their effect on the practice and the institutionalization of schooling,
- describe the legal, historic, and philosophical basis for educating culturally diverse students,
- assess through analysis of readings, videos, case studies, class discussions, and the like educators’ dispositions related to teaching diverse learners and working with their families,

- identify several teaching and learning strategies to accommodate the needs of culturally diverse students,
- analyze and evaluate various culturally responsive teaching practices and environments,
- identify national, state, and local resources available to assist educators in planning and implementing instruction for culturally diverse students (Cooper, 2011).

To use multiculturalism as an opportunity, Dreamson suggests: “In the culturally diverse and interactive world, educators’ and researchers’ role should be to examine and re-examine their assumptions, values, and beliefs informing their perspectives on cultural diversity rather than grapple with the selection of ‘-isms’. In essence, increasing segregation and division within education research develops unnecessary tensions-- which ‘ism’ should be selected, while culturally diverse societies give a semantic account of the concepts--do the ‘-isms’ make our community more harmonized, unified, and equitable?” (Dreamson, 2022).

These goals could be described as long-term goals whereas short-term goals could be – creating an inclusive environment in the classroom and encouraging the students to participate in the group work. To overcome false judgments, Dreamson encourages tutors to apply different techniques, such as cooperative learning and role-playing to engage students in the exchange of ideas, as well as share cultural backgrounds (Dreamson, 2022) Also, teachers and tutors must introduce the concept (or the rules) of a classroom during the first lecture, as abusive or racial comments, and derogatory comments about a student’s political views will not be tolerated. Tutors should not be viewed as abstract entities, as if their only responsibility would be only the subject matter and not the classroom environment (Cooper, 2011).

Cooper and Jewell also introduce foundational understandings about diversity, based on Milner’s five concepts for the development of critical cultural competencies. One of them is colorblindness (Cooper, 2011). Monnica T. Williams published an article in *Psychology Today* (2011), where she describes colorblindness as “ the racial ideology that posits the best way to end discrimination by treating individuals as equally as possible, without regard to race, culture, or ethnicity.” Colorblindness as a notion is a way how to treat all races in an equal way, however, the author highlights the idea that colorblindness does not take into consideration negative racial experiences and ignores people of color, which makes them invisible. As a resolution to this controversy, the author considers using the idea of multiculturalism that includes all the differences among different nations; equity and inclusion are something every nation should strive for.

The aspect of colorblindness is especially important to be taken into account at universities of Latvia, such as RTU, many students from India and Sri Lanka could be sensitive to the issue of race. Colorblindness attitude may disregard the culture and needs of students of color, thus observing reality only from our perception of culture and life experience. In white culture, it is a norm that students are not judged or compared, but it is different in mixed classrooms. To not see color is tantamount to not seeing who students are and the uniqueness of the cultures they bring to school. At a minimum,

readings, discussions, and activities to address the concept of color blindness should be included in any diversity curriculum (Cooper, 2011).

Another aspect is that color blindness and cultural mismatch may lead to unconscious bias. Such biases occur when we unknowingly make judgments or express preferences about a person's talent, capability, etc. based on characteristics that may be irrelevant to such judgment or preferences (e.g., race, class, gender, sexual orientation, (dis)ability status). Over time, such biases can make a workplace more homogenous and, for some, unwelcoming (Leydens, Lucena, 2017).

As Ladson-Billings, G. (1995) states, culturally relevant teaching must be present in the education process, the author defines culturally relevant teaching as such: (a) Students must experience academic success; (b) students must develop and/maintain cultural competence; and (c) students must develop a critical consciousness through which they challenge the status quo of the current social order. In other words, students should be able to support each other collectively and collaborate as much as possible.

Moreover, as an important value, Jewel Cooper points out that educators should understand the difference between empathy and sympathy (Cooper, 2011). As the definition says, empathy is the ability to imagine oneself in another's place and understand the other's feelings, desires, ideas, and actions (Encyclopedia Britannica) and tutors should not feel sympathy or pity toward international students from India or the Ukraine.

Thus, it is vital to build a university environment that is safe, inclusive, and unbiased. Therefore, the university (students/ teaching staff/administration) should raise its competence to operate in a tolerant way and cope with the conflicts caused by multiculturalism.

Methodology

The research aimed to analyze and characterize the inclusion process of RTU students. The students' view on democratic processes at the university was investigated.

For collecting primary data, an original questionnaire based on RTU students' essays was developed. Initially, the students wrote an essay: "*The Values of a Multicultural and Democratic University*". The essay was written in January 2022. The students were informed that their essays will be used to develop the questionnaire for the research. The essays were written by the students who belonged to the student group taught by the authors of this particular research. It was important to recruit a group of students the researchers had cooperated and communicated with during the autumn semester, starting from 1st September 2021 till the end of the semester, January 2022. The main criterion was the trust of students and openness to share their feelings. The researchers believe the students were honest in their opinion.

The next step of the research – questionnaire was developed in February–June 2022. The researchers used content analysis to develop a questionnaire. They chose the most significant and most popular aspects students mentioned in their essays. Thus, there were ten statements on multicultural and democratic universities and their values included in

the questionnaire. They can be split into three groups: 1) values of democracy at the university; 2) intercultural communication as a challenge; 3) the role of the university (students/ the teaching staff/ administration) to form values of democracy.

One hundred and five students of RTU participated in the research. The students were informed that they participated in the research. The population of the research included 47 local students and 58 foreign ones. There were students from the Master's as well as the Bachelor's study programs belonging to different faculties of RTU – Faculty of Architecture, Faculty of E-Learning Technologies and Humanities, Faculty of Computer Science and Information Technology, Faculty of Civil Engineering, Faculty of Mechanical Engineering.

The students filled in the questionnaire at the end of the spring semester, in June 2022. Again the researchers recruited a group of students who had been communicating and cooperating during the spring semester. They believed in the trust and openness of their students. The students were also asked to comment on the questionnaire and share their views. There were not many comments, but the most significant had been included in the article.

The response format was a three-point Licker scale – “agree”, “neither agree nor disagree” and “disagree”. The data were processed using an Excel worksheet.

When analyzing students' responses the main criterion was the identification of students' opinions. What do students think? When the students' view was clarified, the researchers attempted a problem-solving process. What could be the clues on how to solve the inclusion problems? What might be the recommendations for our university to improve the situation there?

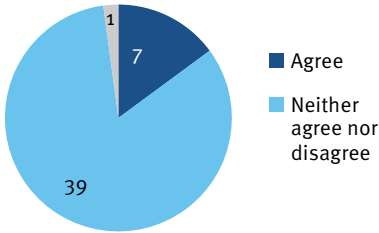
Results

Nowadays tutors and teachers must work in diverse classrooms, and Latvia is not an exception, society has always been divided between Western and Eastern ideals, ways of life, virtues, and values, especially, after the events of 24 February 2022. To help universities manage multicultural and democratic processes there, the research was conducted at RTU. The aim of it was to investigate RTU students' perception of a multicultural and democratic university and its values for mapping their attitudes to multiculturalism and identifying the main barriers to accepting it.

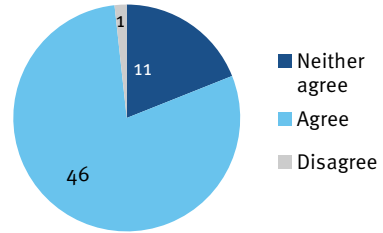
There were several statements in a questionnaire characterizing a multicultural university and its values. The first statement describing a multicultural university dealt with its policy of tolerance. Students had to assess if their university made students to be tolerant, *“Attitude creates attitude. It takes some knowledge and awareness to get rid of the stereotypes and accept differences, and once you try, you adapt”*. The data prove the diversity of views in the groups of local students and foreign students. Most foreigners evaluated the university to make their students tolerant – 46 students out of 58. However, most local students neither agreed nor disagreed with this statement – 39 students out

of 47. It means foreign students consider their university to have a tolerant environment. Whereas local students express more critical views and do not have so strong opinions.

Q1. Our University makes students be more tolerant. Local Students



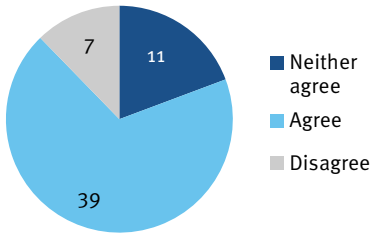
Q1. Our University makes students be more tolerant. Foreign Students



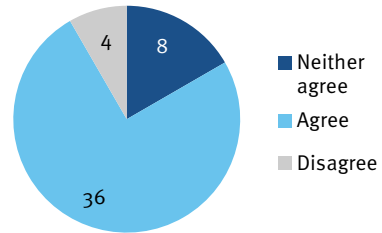
Another aspect describing a multicultural university dealt with its atmosphere. Students expressed their view on its inclusiveness, “*The environment is the beginning of all qualities. Our university includes everyone and has equal requirements and attitudes. So the students would not feel different*”. Both groups of students had quite similar views on the topic. 39 foreign students (out of 57) characterized its university atmosphere as inclusive. And 36 local students (out of 48) had the same view. It can be concluded that the majority of both student groups evaluate the university atmosphere as inclusive. However, there is still room for improvement. There were 11(out of 57) foreigners who neither agreed nor disagreed and 7 who disagreed with this statement. The number of local students who neither agreed nor disagreed with the issue was 8 (out of 48) students, as well as 4 students who disagreed with it.

Students commented on the atmosphere and environment at the university both positively as well as critically: “*It is a great experience learning here, everyone is kind and welcoming, I like the process!*” and “*Hello, just to clarify, I do not disagree with the statements in quotes, I just do not feel that the university makes an effort to promote these values in students or promote socialization between students so that foreign students would feel included. While I have enjoyed most of my lectures and in particular the professors that gave them, the university itself in terms of staff, dormitory, and administration have made me feel utterly alone. If I weren’t for the friends I made here, I would have gone back home maybe three months in. I realize that some of these issues are due to cultural differences, but the attitudes I have encountered from staff members and the university’s complete disregard to take responsibility for their faults (i.e. dormitory, late schedules, and sometimes not having a teacher for a designated course until half of the semester has passed by) have made me feel miserable and alone here, and till now it has been the worst experience of my life. I will continue with my studies, graduate, and hope to never have this type of experience again. Of course, this is just my opinion so please take this with a grain of salt*”. Thus, the last comment stresses on inclusion problem.

Q2. Our university has an inclusive atmosphere
Foreign Students

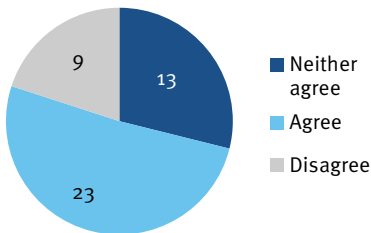


Q2. Our university has an inclusive atmosphere,
Local Students

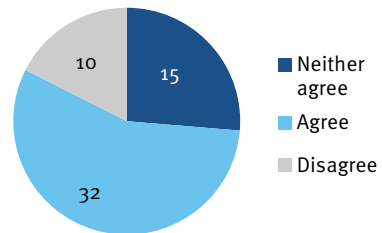


Students also had to evaluate if it was challenging to get used to the multicultural environment of their university, *“It takes a lot of courage to leave our usual home to study elsewhere. You leave your family and friends behind and learn to get to know new and different people”*. Both groups of students tended to agree with the statement – 32 foreign students (out of 57) and 23 local students (out of 45) replied positively. Therefore, the data prove that adaptation to a multicultural environment may cause difficulties and students have to make efforts to survive there.

Q3. Getting used to the multicultural environment of our university is challenging. Local Students

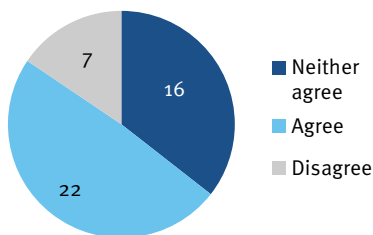


Q3. Getting used to the multicultural environment of our university is challenging. Foreign Students

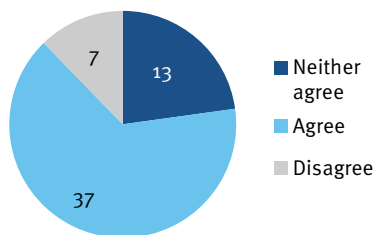


One more aspect assessed by students dealt with difficulties caused by intercultural communication. Students had to give their point if their university made students get out of their comfort zones caused by difficulties of intercultural communication, *“Communication with people from unfamiliar culture and different language may make feel tense, learn to understand and interact”*. Most foreign students agreed with this statement – 37 out of 57 students. There were some local students – 22 (out of 45) who answered positively. The number of students neither agreeing nor disagreeing with the statement was rather high in both groups, especially in the local student group – 16 students (out of 45) and 13 (out of 57) foreign students did not have a strong opinion. An equal number of students from both groups – 7 disagreed with the statement. The data prove that foreign students tend to agree more in comparison with local students that intercultural communication can cause difficulties and could be challenging. Students’ views are also proved by their comments: *“Being in different places with different people diversifies our way of thinking. Because in our comfort zone, there are almost always people who think the same – at least about our values. However, as we get the opportunity to be together with other people, we add more to ourselves intellectually”*.

Q4. Our university makes students get out of their comfort zones caused by difficulties of intercultural communication. Local Students

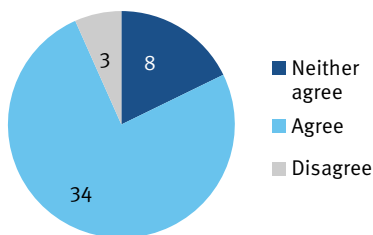


Q4. Our university makes students get out of their comfort zones caused by difficulties of intercultural communication. Foreign Students

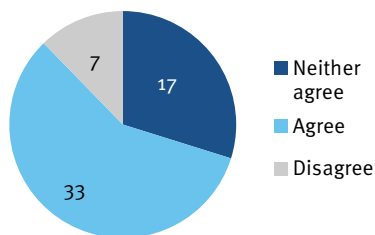


Students also had to value one more aspect of dealing with intercultural communication – if their university emphasized positive communication and cooperation among students, “*There is a highly developed intercultural communication and awareness of everyone there*”. Foreign students expressed a more critical view on this statement – 33 (out of 57) agreed with it, however, the number of the ones who neither agreed nor disagreed with it – 13 (out of 57) in this group was rather high. Local students tended to be more positive with their answers – 34 (out of 45) agreed with and 8 (out of 45) neither agreed nor disagreed with the statement. It means that foreign students are more concerned with the communication and cooperation process at universities facing difficulties there. Despite problems, students’ comments tend to be positive: “*It often leads us to push our limits and do most of the things we think we can’t do. However, even if we do not achieve anything as a result, we improve our problem-solving skills*”.

Q5. Our university puts emphasis on a positive communication and cooperation among students. Local Students

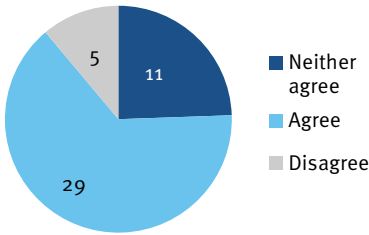


Q5. Our university puts emphasis on a positive communication and cooperation among students. Foreign Students

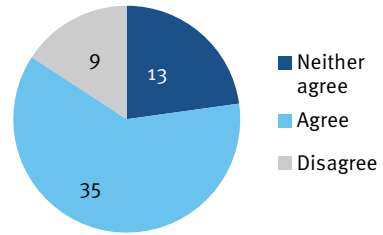


Another aspect assessed by the students dealt with the experience the university could provide their students with: “*Our University provides us with a life-changing experience, You can start thinking in completely different categories and dimensions*”. Foreign students were a bit skeptical about this statement – 35 (out of 57) of them agreed with the statement, 13 (out of 57) neither agreed nor disagreed with it and 9 (out of 57) disagreed. It proves that foreign students are not completely satisfied with the life-changing experience their university can provide to them, and the university has to think over its performance to adapt to the demanding needs of its students.

Q6. Our university provides us with a life-changing experience. Local Student

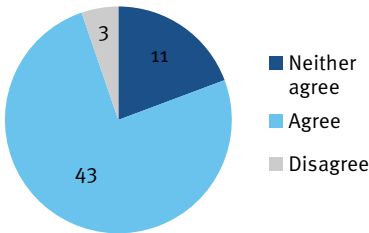


Q6. Our university provides us with a life-changing experience. Foreign Students

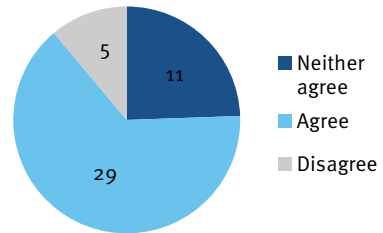


An important aspect of every multicultural university is connected with the democratic processes there. Students evaluated if their university helped students to follow democratic values, “*There is a freedom of thinking and diversity of views there. The teaching staff and students take that choice*”. The majority of both student groups agreed with the statement. There were 43 (out of 57) foreign students and 29 (out of 45) local students who gave a positive answer. Therefore, the data prove that the environment at students’ universities could be characterized as democratic. However, students also comment, “*I think it will vary according to the multicultural university we belong to. Because there are many multicultural universities in the world, but not all of them can adopt the same values. Especially on issues such as freedom of thought or democracy*”. Thus, democratic processes at different universities can also appear differently. It means multiculturalism can also result in success as well as failure.

Q7. Our university helps students to follow democratic values. Foreign Students



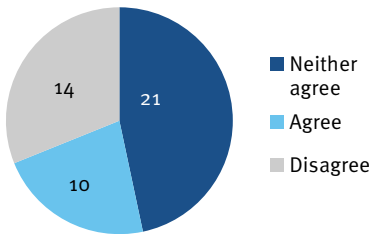
Q7. Our university helps students to follow democratic values. Local Students



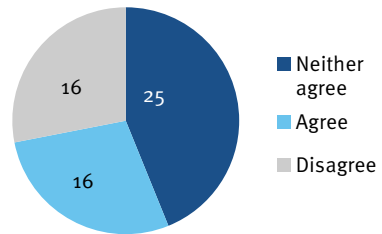
The research also investigated if students’ university made pressure on their views, “*But in Latvia, it seems that teachers often try to put students in a “small box” with only one right view. In a way, the system makes us perfect employees who do everything correctly and accurately. How good it is, it is up to everyone to evaluate it*”. Foreign and local students had quite similar views on this statement. The majority of them – 25 (out of 57) foreign students and 21 (out of 45) local students neither agreed nor disagreed with this statement. The ones who agreed with it had a rather similar number in both groups – 16 (out of 57) foreigners and 10 (out of 45) local students. However, there were quite many students in both groups who disagreed with that statement – 16 (out of 57) foreigners and 14 (out of 45) local ones. The data are also proved by students’ comments: “*I am grateful to those teachers that do not pressure students to have only one specific opinion (that is usually*

the opinion of that teacher) and allow us to expand our views to many things. But still, some teachers want us to work or make our work in a very modest and “small box” way. I truly wish that one day we will be able to have bigger freedom when it comes to that”. Thus, it can be concluded that the standardizing of views still exists. And it may not only reduce creativity and innovation but could promote intolerance at the university. Despite this, there are possibilities to make changes. Students agree on it: “Even though the system is bad, the teachers in the system have the power to change things”.

Q8. Our university makes pressure on students' view. Local Students

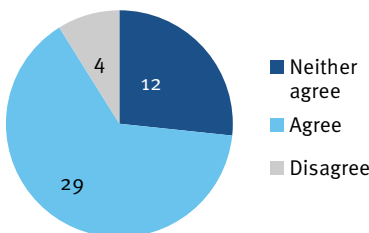


Q8. Our university makes pressure on students' view. Foreign Students

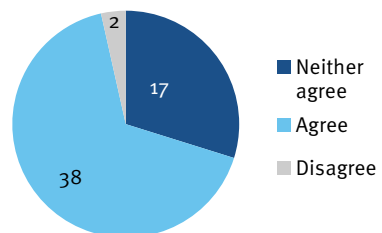


There were some other values and qualities investigated by the research. They dealt with students' independence, responsibility, and self-esteem. Students had to assess if their university raised students' self-esteem, “Most professors give their students independence in their work process. I believe that when training your independence, you can transform into becoming a more independent human being who takes responsibility for his/ her performance. Such persons usually have much higher self-esteem. I consider that independence should be taught from the cradle”. The majority of students answered positively – 38 (out of 57) foreigners and 29 local ones (out of 45) agreed with the statement. The number of students who did not have a strong opinion was quite similar in both groups – 17 (out of 57) foreigners and 12 (out of 45) local ones neither agreed nor disagreed with the statement. The data prove that in spite that the majority of both students' groups evaluated independence, responsibility, and self-esteem as present values and qualities at their university, there were also a considerable amount of students who were not certain about it. Such values and qualities as independence and responsibility may raise students' self-esteem to help them feel more included at university.

Q9. Our university raises students' self-esteem. Local Students

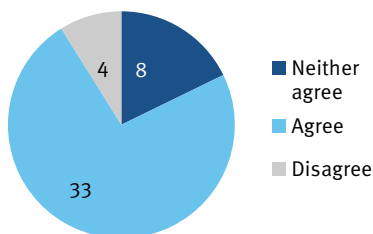


Q9. Our university raises students' self-esteem. Foreign Students

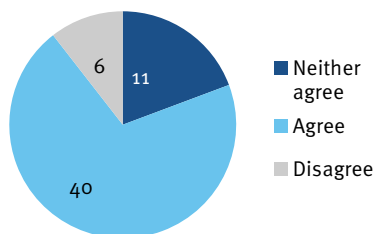


The last aspect investigated dealt with teaching/ learning methodology. Students had to express their views on changes and progress in methods, “*Our University brings changes in teaching/ learning methodology, “There might appear more differences related to students’ culture, background, and broader experiences in a multicultural classroom. Diversity teaches us life skills instead of being taught what to think; to analyze situations, be critical, to use our brains but not just the memory – it is like a set of the real world-surviving skills”.*

Q10. Our university brings changes in teaching/ learning methodology. Local Students



Q10. Our university brings changes in teaching/ learning methodology. Foreign Students



The majority of both student groups had a positive evaluation. There were 44 (out of 58) foreigners and 33 (out of 48) local students who agreed with the statement. It proves that the teachers try to adapt to the diversity in the classroom and keep pace with progressive methods. It also means that diversity can teach real-world-surviving skills and make teaching/ learning methodology more progressive.

Conclusions

1. Majority of both student groups evaluate the environment and atmosphere at the university as tolerant, inclusive, and democratic. However, there are rather many students in both groups who neither agree nor disagree with it. Apart from that, the standardizing of views still exists at universities. It may not only reduce creativity and innovation but could promote intolerance there.
2. Foreign students tend to agree more in comparison with local students that intercultural communication can cause difficulties and could be challenging.
3. Foreign students are not completely satisfied with the life-changing experience their university can provide to them. Thus, the university must think about its performance to adapt to the demanding needs of its students.
4. Most of both student groups evaluate independence, responsibility, and self-esteem as present values and qualities at their university. However, rather many students are not certain about it. Independence and responsibility may raise students’ self-esteem to help them feel more included at university.
5. Teachers try to manage a diverse classroom by progressively developing teaching/ learning methods.

Recommendations

The results of the research show positive tendencies, however, there is still a large room for improvement.

To have a sense of inclusion the educators for diverse classrooms must receive preparation, seminars, and courses within the framework of university or special programs. At RTU such classes and seminars are regularly offered, and tutors may select them according to their availability. As for the students, they should be encouraged to participate in Erasmus programs, to gain more confidence. Apart from that, students should be encouraged to raise their intercultural performance. There is a study course in sociology provided by RTU. The authors of the research recommended including in this course the themes dealing with politology, anthropology, equity, and inclusion.

The author of this article spent the spring semester of 2022 at the University of Buffalo (NY) and experienced an international learning environment where students from Asia, India, Pakistan, and other countries were studying. In community houses, students organized social events, for example, Asian food sampling, and introduced local students to their culture.

The tutors of the University at Buffalo also engaged students to work in groups that were selected by the computer, the final evaluation was based on students' feedback on how each member performed and what was his/ her contribution. Thus, to promote students' equality, they should be engaged in various hands-on activities, like group work of assembling structures so that they experience each, and every member of the group has a role to achieve the result. Such activities, such as building spaghetti bridges, which is an annual contest at RTU bring together students of every nation and contribute to the creation of an inclusive environment.

The University of Buffalo also offered a course DEE 502: Equity and Inclusion in Engineering Education, to address the problems and make a change. During the course, students discussed in seminars such aspects as equity and inclusion, reflect on students' role in eradicating systems of oppression and discuss blackness, intersexuality, meritocracy, and others.

Thus, successful examples of how international students could be included in university as well as in the local community/society/country are vital to follow. University policy is of high importance and can make an impact.

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LATVIAN POLICY FOR HIGHER EDUCATION EXPORT

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ABSTRACT

Attracting international students is carried out by state institutions, higher education institutions and commercial agencies. Therefore, the practice of attraction is considered in the context of the reputation of the state, an added value that has not been reflected in scientific publications on attracting international students. The goal of this research is to present the policy of attracting international students to Latvia in the context of the country's reputation over a period of five years from 2017 to 2022. The research question is to identify changes in the attraction policy. The research method applied involved interviewing representatives of institutions related to attracting international students in 2017 (in person), 2021 and 2022 (remotely). The common goal of the interviews was to clarify the practice of attracting international students of the relevant institution in the context of the country's reputation, cooperation with other institutions involved, institutions' level of involvement, and the division of responsibility. Document analysis was carried out to evaluate the *Agreement on Good Practice of Attracting International Students and Delivering Studies* (published in 2017 and updated in 2022). Latvia's experience in attracting international students will be useful to other countries in the context of reputation. The most important results are related to the promotion of cooperation between the institutions involved, the systematization of procedures, and compliance with high-quality, transparent and ethical principles in the process of attracting international students.

Keywords: *attraction policy, export of higher education, international education, international students, reputation of the state*

Introduction

Latvia is a country in the Baltic region of Northern Europe. Latvia has borders with Estonia, Lithuania, Russia and Belarus. At the beginning of 2020, Latvia had a population of 1,902,000 (Central Statistical Bureau of Latvia, 2020). The Ministry of Education and Science (hereafter, Ministry) is the leading state administration institution in the Republic of Latvia in the field of education and science. The Bologna Process was launched in Latvia on 19 June 1999. At the beginning of the 2021/22 academic year, there were 53 higher education institutions (hereafter, HEIs) in Latvia. Of these, 32 were founded

by the state, 19 were founded by legal entities, and two were branches of foreign HEIs (Overview of Latvian higher education in 2021. Key statistics, 2023).

Almost imperceptibly and without significant state support or strategic documents, the export of higher education in Latvia has become an important sector of the national economy. In recent years, the number of international students studying for a degree or qualification in Latvian HEIs has increased from 9,797 (in 2018) to 10,764 (in 2019), 9,371 (in 2020) and 9,997 (in 2021), constituting 14% of all students. In the 2021/22 academic year, the largest education import regions were South Asia (India: 14.21%), Central Asia (Uzbekistan: 13.11%), and Central Europe (Germany: 12.07%, Ukraine: 7.35%, Sweden: 6.43%). 68% of international students come from countries outside the European Union (Overview of Latvian higher education in 2021. Key statistics, 2023).

Research regarding financial contributions was conducted in the 2015/16 academic year. In 2015/16, international students paid EUR 28 million in tuition fees. In addition to tuition fees and housing costs, international students also have other expenses. For instance, they use transport and telecommunications services and go to restaurants, cafes, bars, and shopping centres. On average, each international student spends EUR 3,696 per year on other expenses. Relatives and friends of students stay in Latvia for an average of four days during one visit, and each guest spends EUR 405 per visit. In total, this generates EUR 6.1 million per year. Every ten international students in Latvia provides 2.7 jobs, creating a total of 1,474 jobs in the 2015/16 academic year. It was estimated that international students spent EUR 73 million in the 2015/16 academic year. When calculating the added value of higher education using four OECD multipliers, the total impact of higher education on the Latvian economy is estimated at EUR 148 million (0.61% of GDP) (Auers & Gubins, 2016).

The main reasons for international students to go to Latvia: European Union member state (indicated by 64%), convenient living, cheap costs (51%) and low tuition fees (38%). 11% of students note that studying in Latvia was recommended by the agents whom the students approached (Auers & Gubins, 2016). It would be valuable to repeat Auers and Gubins' study of the 2015/16 academic year in order to perform a comparison and draw conclusions.

Concept of Reputation

Reputation is playing an increasingly important role today both in the private and public sectors and at the level of destination. Existing literature, nonetheless, has not achieved any uniformly agreed-upon definition for reputation. Dai (2018) conceptualizes reputation by underscoring two types of social processes that are inherent and essential to reputation's social functions: the production of reputation-related information and individual and collective decision-making activities based on reputation. In the pre-digital age, reputation-related information was collected and disseminated through word-of-mouth, gossip, shared memories and community norms. With the aid of modern technologies, such information can be generated with data collected through computer algorithms (Dai, 2018).

Reputation is different from image since reputation is formed over time and is not just about one's perception of something at a given time. Reputation can be both positive and negative. Reputation refers to what an organization looks like in the performance of its duties, not as others would like to see it (Argenti & Druckenmiller, 2004). The reputation of the destination has primarily been viewed in the context of tourism rather than education in previous scientific theories (Darwish & Burns, 2019; Darwish, 2021; Wang et al., 2021).

The host government should focus on building a positive cognitive image of the country to attract students (Hendriana et al., 2021; Oliveira & Soares, 2016). Hosting international students is employed as a diplomatic tool, a vital means of increasing international recognition, to improve the international image and reputation of the national higher education system (Pan, 2013). Improving HEIs' pools of resources, students, academic staff and financial resources are crucial elements of implementing an internationalization process (Bradford et al., 2017).

The authors use the term "reputation of the state" in this research as this study does not assess the reputation of HEIs individually but in an aggregated format at the state level. By attracting potential students, the state builds a reputation.

Activities to attract international students

There are a number of studies that have highlighted various activities used to attract international students (Belcher, 1987; Bolsmann & Miller, 2008; Gao & Liu, 2020; Haugen, 2013; James & Derrick, 2020; Jokila, 2019; Jokila et al., 2019; Onk & Joseph, 2017). The process of attracting students includes setting requirements, selecting and implementing, concluding a study contract, and integrating them into an HEI (Bolsmann & Miller, 2008).

Prospective students have the perception that higher education quality is offered in countries with a higher reputation. Prospective students tend to choose the state first and only then the educational institution (Briggs, 2006; Cubillo et al., 2006; Mazzarol & Soutar, 2002; Srikatanyoo & Gnoth, 2002). These insights indicate that the reputation of the state plays an important role in attracting the most outstanding students.

The promotion of campus resources, open doors, HEI visits, participation in international fairs, online web advertising, use of alums, and word-of-mouth advertising have been highlighted as the most popular attraction activities (Constantinides & Stagno, 2011; Oliveira & Soares, 2016; Onk & Joseph, 2017; Ozturgut, 2013). Hemsley-Brown (2012) has also identified reputation, future career opportunities, quality of studies, location, family influence, and advertisement of the HEI as important factors. In research by other authors, the reputation of the programme, professors and academic staff are emphasized as important aspects of attraction (Chankseliani & Hessel, 2016; Cubillo et al., 2006; Cudmore, 2005; Hemsley-Brown, 2012; Oliveira & Soares, 2016).

. Is it that countries and institutions with worse/less well-known reputations are more reliant on websites, social media and other online platforms. (Constantinides & Stagno,

2011; Lažetić, 2019; Lomer et al., 2016). Teng et al. (2015) observed how students obtain information about studies abroad on online platforms such as microblogs (Twitter and Weibo), social networking sites (Facebook), photo and video sharing sites (Instagram and YouTube) and forums. TikTok has also become more and more popular, and the use of TikTok by universities is inevitable (Berdiieva & Goroshko, 2021). The research confirmed that online peer feedback played an important role in shaping students' perceptions (Teng et al., 2015). The findings of Quijada et al. (2021) suggest that although Instagram does not seem to be decisive in the choice of university, it can help universities gain an online presence and a brand image, precipitating and consolidating students' decisions. In contrast to conventional website marketing, social network communities like Facebook, Twitter, YouTube and LinkedIn rely on user-generated content to attract and retain users (Fagerstrøm & Ghinea, 2013).

The most important factor related to a good environment are technological/educational factors in and around HEI campuses: availability of computers, quality of library equipment, availability of quiet space (i.e. classrooms), and availability of self-study space (Cubillo et al., 2006; Cudmore, 2005). Additional marketing elements are particularly relevant to the higher education sector, one of which is premiums – complementary offerings such as accommodation on a campus near the HEI (Ivy, 2008).

In China, HEIs authorized to attract international students developed English study materials as a product of attraction (bilingual programmes, bilingual textbooks, bilingual teaching materials) (Huang, 2006). Scholarships are mentioned as a relatively important factor (Onk & Joseph, 2017; Sheng-Kai, 2015; Aras & Mohammed, 2018).

In Oliveira and Soares' research, the university ranking is a determining factor; however, they admit that students' choice is mostly influenced by the reputation of a certain researcher or a specific scientific area, regardless of the overall position of the institution in international rankings (Oliveira & Soares, 2016). Other researchers have found that the rankings are not the factor that dominates the attraction of international students (Asaad et al., 2014; James-MacEachern, 2018; Marginson & van der Wende, 2007).

The involvement of commercial agents in attracting international students is very common (see, e.g., Coffey & Perry, 2013; Chankseliani & Hessel, 2016; Huang et al., 2016; Pii-Tuulia & Jussi, 2019). Many of the risks involved are related to the limited ability of education providers to control the behaviour of their agents. Negative practices mentioned in the literature include misinformation provision, a lack of quality, financial fraud, and manipulation of the application process (Gao & Liu, 2020; Pii-Tuulia & Jussi, 2018, 2019; Huang et al., 2016; Teng et al., 2015). Pii-Tuulia and Jussi (2019) concluded that it should be assumed that no monitoring tool can fully disclose the true behaviour of agents.

Some countries have established agreements between policy-makers, education providers and commercial agents in the context of reputation. In Denmark, there exists the *Code of Conduct: Guidelines for Offering Danish Higher Education Programmes to International Students*, and in the Netherlands, there is the *Code of Conduct for International Students in Dutch Higher Education* for education providers. All HEIs in Denmark

have agreed to a set of ethical guidelines for the attraction, admission and education of international students (Code of Conduct: Guidelines for Offering Danish Higher Education Programmes to International Students, 2015). Several countries' agreements are oriented towards commercial agents, such as New Zealand's *Statement of Principles for the Ethical Recruitment of International Students by Education Agents and Consultants* and Australia's *Australian International Education and Training: Agent Code of Ethics*.

It can be concluded that attraction activities vary from country to country, but there are also standard features, the most commonly used of which are information websites, social media accounts and campus resources.

Methodology

The empirical study was developed by descriptive analysis and consists of qualitative scientific research methods (interviews). The goal of the research is to present the policy of attracting international students in Latvia in the context of the country's reputation over a period of five years. The research aims to determine what changes have occurred over the five-year period (2017 to 2021) in the context of attracting international students.

In the first stage of the study, interviews were carried out with representatives of institutions related to attracting international students in 2017 (in person) and in 2021 and 2022 (remotely). In total, 11 respondents were interviewed: one representative from the Ministry of Education and Science in matters of internationalization, one representative from the Academic Information Centre in partnership with Studyinlatvia.eu, three experts from the State Education Development Agency on state scholarships, the chairman of the Higher Education Export Association, four heads of international departments at HEIs, and one commercial agent. The common goal of the interviews was to clarify the practice of attracting international students of the relevant institution in the context of the country's reputation, cooperation with other institutions involved, institutions' level of involvement and the division of responsibility. Respondents were informed that their confidentiality would be respected and that the results would only be available in aggregated form. The interviews were conducted in Latvian and then transcribed. Each transcript was sent to the respondents to confirm that their opinions were accurate. After receiving their clarifications and approval, the content analysis of the interviews was carried out. The analysis involved 1) breaking down data into thematic codes, 2) drawing related codes into categories, and 3) moving towards conceptualizing meaning, i.e., exploring thematic relationships in response to the research question (Galletta & Cross, 2013).

In the second stage, document analysis was carried out to evaluate the *Agreement on Good Practice of Attracting International Students and Delivering Studies* (hereafter, *Agreement*), first published in 2017 and updated in 2022. According to Bowen (2009), documents can serve a variety of purposes as part of a research undertaking and provide a means of tracking change and development. Where various drafts of a particular document are accessible, the researcher can compare them to identify the changes. It

is necessary to determine the authenticity, credibility, accuracy and representativeness of the selected documents. The analytic procedure of documents entails finding, skimming (superficial examination), selecting, appraising (making sense of), and synthesizing the data contained in the documents. This process combines elements of content analysis and thematic analysis. Thematic analysis is a form of pattern recognition within the data, with emerging themes becoming the categories for analysis. The reviewer takes a closer look at the selected data and performs coding and category construction. Content analysis is the process of organizing information into categories related to the central research questions (Bowen, 2009).

The latest version of the *Agreement* is available on the Ministry’s official website; the previous version is only available by contacting the Ministry (it is no longer available on the official website). The Ministry is the institution responsible for updating documents, if necessary. While the latest version of the document is being developed, the current version of the document remains on the official website for public viewing; accordingly, this document is considered representative. Documentary evidence is combined with interview data to minimize bias and ensure credibility.

Results

Table 1 provides a summary of the Latvian public administration organizations involved in attracting international students ranked in order from the most used activity to the least used (the rankings are derived from the interviews). Each activity is marked with an *X* if it is used in Latvia to attract international students and *N/A* if it is not.

Table 1 Activities to attract international students to Latvia

Institution/ Recruitment activity	Very commonly used				Moderately used				Rarely used			
	Official website	Social networking sites, microblogs	Students as ambassadors	Scholarships	Commercial agents	International fairs	Open doors, campus and HEI visits	Academic staff	On-site selection	Bilingual study programmes	Agreement between the parties involved on good practice	Part-time job opportunities
Ministry of Education and Science	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	N/A
Study in Latvia	X	X	N/A	N/A	N/A	X	N/A	N/A	N/A	N/A	N/A	N/A
State Education Development Agency	X	N/A	X	X	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Higher education institutions	X	X	X	N/A	X	X	X	N/A	X	N/A	N/A	X

As can be concluded from Table 1, the most popular attraction activities in Latvia are using social networking sites, microblogs, official websites, international fairs and students as ambassadors. Among HEIs, using open doors and commercial agents are popular activities. The Ministry's attraction policy is mostly aimed at fair communication and enhancing Latvia's good reputation among foreign stakeholders.

The *Agreement* was drawn up in 2017. When signing the *Agreement*, the HEI undertakes to comply with the criteria and principles included therein, promoting good practice in attracting international students and safeguarding the study process. The *Agreement* largely defines education export policy and reputation guidelines. The *Agreement* also stipulates that an HEI must observe integrity and ethical principles in any marketing activity and advertising for attracting international students, providing only true and clear information. In turn, HEIs are provided with opportunities to participate in organized educational export promotion events, including foreign visits, exhibitions and marketing events and acquisition of external markets at the state's expense. The *Agreement* was revised in 2022 and signed by the Higher Education Export Association, which unites 15 of Latvia's largest HEIs. The changes included in the updated version are reflected in Table 2.

It can be seen that the requirements are stricter and more detailed than before, presenting many challenges for universities with regard to how to organize their work. Despite this, 15 universities have signed the updated *Agreement*. Unlike the original version, which pertained only to universities, responsibilities for the Ministry of Foreign Affairs and *Study in Latvia* are also included, which is a positive outcome. Latvia does not have a separate document on reputation, but the *Agreement* largely defines the education export policy and reputation guidelines.

Study in Latvia is a public national body in charge of promoting Latvia's higher education to international students. Its website, www.studyinlatvia.lv, is an official information resource that provides essential information about higher education in Latvia, a database of study programmes and practical information about student life in Latvia for current and prospective international students (Study in Latvia. 2021). Although there is no single definition or strategy explaining the principles of reputation in Latvia as a whole, *Study in Latvia* adheres to honest and transparent communication at all levels as a guiding principle. Table 3 shows the changes in *Study in Latvia's* attraction practices from 2009 to 2021.

It follows from the results of Table 3 that in 2017, the study programme was not as important for students as the tuition fees, admission conditions, and the documents required to arrive in the country. However, the statistics for the most frequently viewed sections of studyinlatvia.lv in 2020 indicate that students are primarily interested in the offers of studies in Latvia rather than opportunities to enter and stay in Latvia, which is positive. In 2021, there was further encouraging news because the section "About Latvia" was also being viewed quite actively, which increases confidence that students are getting to know about Latvian culture and customs responsibly. In 2020, the website studyinlatvia.lv had 50,000 unique visitors, 25% more than in 2019.

Table 2 Comparison between the 2017 Agreement and the 2022 Agreement

2017	2022
1. Number of signatories to the Agreement	
12	15
2. Internationalization strategy	
Not required	Internationalization strategy or working plan for attracting international students to the HEI is required
3. Student application is not considered further	
3.1. Academic success	
The lowest passing grade in one of the profiling study courses	The lowest passing grade in one of the profiling study courses and the average grade in the previous education level is less than 60% of the maximum
3.2. Foreign language skills (according to study programme)	
An internationally recognized certificate is required, or the HEI organizes a foreign language test. (Level is not mentioned.)	B2 level
3.3. Motivation for studies	
Not required	Applicants from the third country must be interviewed in a digital environment
4. Commercial agents	
Not required	HEIs must develop criteria for the selection of agents
Not required	HEIs must publish information with cooperating agents on their website
5. Learning the Latvian language	
HEIs should consider the possibility of offering a course	HEIs must provide the opportunity to learn the Latvian language at least at A2 level
6. Engagement of the Ministry of Foreign Affairs	
Not stated	Ministry of Foreign Affairs examines visas on a priority basis within 15 calendar days
Not stated	Ministry of Foreign Affairs will work on expanding the network of visa centres of external service providers in regions that are important to the HEIs that have signed the <i>Agreement</i>
Not stated	HEIs will receive information on visa refusal statistics in an aggregated form
7. The university must inform the relevant authorities if a student from a third country does not attend the university	
“Regularly or long-term”	“For 14 days continuously”
8. Application fee ceiling	
Not mentioned	The fee set by the HEI for examining study applications cannot exceed EUR 250

Table 3 Changes in Study in Latvia practice from 2009 to 2021

	From 2009 to 2018	From 2019 until now
Administration	Academic Information Centre	State Education Development Agency
Direction of activity	In the interests of HEIs	National level
Official website	Studyinlatvia.eu	Studyinlatvia.lv
Criteria for the study programme to be popularized	1) The study programme is implemented in an EU language; 2) the study programme is accredited for a maximum term of up to six years; and 3) full-time international students have already studied on the study programme	The current three points remain valid, and a fourth has been added: the HEI must have signed the <i>Agreement on Good Practice</i>
Activities	Participation in foreign exhibitions, meetings with embassies and commercial agencies	Target markets, priority study directions, admission campaigns and other marketing activities in target markets, digital ambassador programme
Exhibitions	The exhibitions were more coordinated with HEIs	Participation in B2B exhibitions, representing Latvia at the national level and promoting Latvia's image, as well as in student selection exhibitions according to the nationally determined target markets
Most frequently viewed website sections	As of 2017: 1) HEI study fees, 2) necessary documents (for arriving in Latvia), and 3) study programmes	As of 2020: 1) study programmes, 2) admission, 3) universities, 4) tuition fees, and 5) study programme database. The section on visas and residence permits is only the 12th most viewed
Work opportunities emphasized	No	Yes

In 2020, *Study in Latvia's* Instagram profile also increased its audience by more than 50%, and the total number of questions it received from users on social networks increased threefold in a year. The number of unique users from Latvia shows a positive tendency to increase as well, which indicates that the site is also useful for local residents, local institutions and international students already studying in Latvia.

At first, *Study in Latvia* worked more in the interests of HEIs, but now the trend is set for national-level participation in B2B exhibitions, representing Latvia at the national level and promoting Latvia's image. So far, the exhibitions visited have been more coordinated with universities (student recruitment exhibitions).

Work opportunities have not been highlighted as a section so far in order not to stimulate interest in job opportunities in Latvia unnecessarily in the context of third-country nationals, as historical experience has negatively shown that students' primary motivation has often been work rather than studies. In 2021, the website contains only basic information about work opportunities during studies.

Latvia offers scholarships in accordance with bilateral agreements on cooperation in education and science concluded between the Latvian government and other countries. Citizens from countries that have signed an agreement with Latvia or offer scholarships to Latvian citizens (State Education Development Agency Republic of Latvia, 2021) can apply for Latvian state scholarships. The purpose of granting Latvian state scholarships to international students is not only for Latvia to fulfil its obligations in the context of intergovernmental agreements but also to promote Latvia as a study destination. The goal for students is to act as ambassadors, in which guise they will talk about Latvia and create a good image of it in the context of its reputation. Table 4 shows the changes in the procedure for granting Latvian state scholarships to foreigners from 2017 to 2020.

It can be concluded that since 2017, many processes have been made more logical and easier for both students and HEIs, such as the digitalization of documents and the facilitation of residence permits after graduation. As Table 4 shows, the categories of scholarships and the number of scholarships granted have increased in almost all categories, which is positive. Overall, the authors conclude that concerns about international students regarding various risks, such as illegal immigration and illegal employment, were allayed between 2017 and 2021. This indicates the ability to balance the export of education with reputational issues.

The procedure for awarding scholarships is still controversial. For example, no more than 10% of the scholarship funding available for a given year may be allocated to students from one country. It is fair for students from all countries to receive equal opportunities to receive scholarships, although it is possible that the students who show the highest results may all be from the same country.

Table 4 Overview of Latvian state scholarships

	In 2017	In 2021
Administration	State Education Development Agency	
Direction of activity	Latvian state scholarships	
Types of scholarships	1) for international students, 2) for researchers and teaching staff for studies, and 3) for research and participation in summer schools at Latvian HEIs	
Type of document processing	Paper printouts	Digitalized documents
Applications received for scholarships for studies and research	316	391
Scholarships awarded for studies	86	102
Research scholarships awarded	25	24
Scholarships awarded for the organization of summer schools for HEIs	6	8
Scholarship-funded participants in summer schools	60	80

The Latvian commercial agency representative revealed that the source of the agency's profit is student fees and commissions from the HEI for each student enrolled. In order to ensure a high-quality selection of candidates, the commercial agency in Latvia verifies the student's language use and skills using digital means of communication. The relatively smooth circulation of documents on the side of state institutions is mentioned as a positive, but the slow operation of HEIs with student contracts and documents was highlighted as a more negative example that HEIs often use as an excuse for a lack of capacity.

Table 5 outlines interview responses from the heads of international departments at HEIs in the context of the institution's international student engagement policy. Each representative rated each category on a 3-point scale from very important (VI) to least important (LI).

Heads no. 1, 2 and 4 indicate that tactics should be developed in relation to parents of the students, not students as consumers. In Central Asia, the role of parents of the students is clearly expressed both during the application process and at the decision-making stage. Additional pre-existing costs are important for parents – cost of living, home life, etc. Parents care about the possibility for their children of staying in the country and working in it after their graduation. All heads indicate that it is often necessary to consider Latvia through a historical prism because Latvia was also among the Soviet states, although Uzbekistan and Kazakhstan are very different from Latvia today. Head no. 3 explains the tendency is for parents from Germany to come to Latvia with students before signing the contract to make sure of the HEI, its environment and its student accommodation. In this respect, EU citizens benefit from the fact that they can easily enter and stay in the country; there is no need for residence permits.

Table 5 HEIs' policies on attracting international students

HEI representative interviewed / recruitment tactic	Communication dedicated to parents	Potential visits for international students to HEI in Latvia	Visiting potential students' secondary schools	Historical relatedness	Inclusion of regional, cultural features in communication, advertising	Participation in international educational exhibitions	Social media networks	Cooperation with commercial agents
Chairman of Higher Education Export Association / head of international department of private HEI (1)	VI	LI	LI	VI	VI	VI	VI	I
Head of state university international department (2)	I	LI	LI	VI	VI	VI	VI	I
Head of state university international department (3)	I	VI	I	VI	VI	VI	VI	LI
Head of state university international department (4)	I	LI	LI	VI	VI	VI	VI	I

VI – very important; I – important; LI – least important

Visits to foreign schools do not work because students are still immature at that time, and many are not motivated to attend informative lectures on studies abroad. Latvia cannot attract students from countries that do not have a representation of the Embassy of Latvia. It is also very expensive for students to complete documents if they need to go to another country where is Latvian embassy. The Ministry of Foreign Affairs has committed to work on this aspect from 2022, which is a positive innovation. Other disadvantages include tuition fees, which are relatively high in Latvia, considering that in many European countries, higher education is free of charge or available for a symbolic fee, even for students from outside the EU and EEA; however, the cost of living in Latvia is low. All four HEI representatives interviewed believe there is no need for excessive student inflow, as neither their infrastructure nor capacity allows for the admission of large numbers of students, nor are there adequate infrastructure and support measures.

This is inconsistent from a reputational perspective. In this context, HEIs need to monitor student attendance, but it is up to the HEI how student attendance is monitored. Currently, the Immigration Law is being promoted to stipulate that if an international student does not attend an HEI for two weeks and their whereabouts are unknown or unreachable, the HEI must inform the Border Guard and exclude the student from the student register. Some HEIs are conscientious about quality, yet others are more carefree. Interviews to test candidates' English have not been conducted in good faith in all HEIs either. Some HEIs rely on an English language test done by a commercial agent, some of which prepare students by letting them know questions. In the interviews, our experts pointed out that it is important for HEIs to cooperate only with honest and high-quality agents, regularly checking their activities and conducting surveys with students on their experience with agents.

It can be concluded that careful and regular communication with international students is necessary to eliminate various misunderstandings. It is vital for institutions to cooperate, decide how to facilitate processes, make them smoother and reduce bureaucratic burdens both at the institutional level and at the student level while at the same time emphasizing the formation of the country's reputation.

Discussion

Around 2009, Latvian HEIs began to see potential in education export, with the largest HEIs merging in 2011 to form an association that would address the issues of easier entry and residence of international students in Latvia. At the national level, the export of education began to be evaluated and noticed only in 2014 when the Ministry created the official website studyinlatvia.eu with permanent staff. In those years, there was no national-level strategy for education export, internationalization or reputation.

The Ministry does not consider education as an export but as an aspect of internationalization, paying special attention to educational quality and the state's reputation. Therefore, at the end of 2017, the Ministry called for the signing of the *Agreement* by all parties involved in attracting international students.

Attraction activities vary from country to country, but there are also standard features in the case of Latvia, such as the most commonly used search tools by students – information websites, social media accounts and campus resources (Constantinides & Stagno, 2011; Oliveira & Soares, 2016; Onk & Joseph, 2017). Evaluating the results of the study, the authors have to agree with Constantinides and Stagno (2011), Lažetić (2019) and Lomer et al. (2016) that websites, social media and other online platforms can be considered to be particularly targeted at countries and institutions that do not have a well-known reputation and only develop it.

Various practices related to commercial agents are reflected in studies by Gao and Liu (2020), Pii-Tuulia and Jussi (2018, 2019), Huang et al. (2016), and Teng et al. (2015). Leading countries in the export of education, such as Australia, New Zealand, Denmark and the Netherlands, have stricter requirements in this respect than Latvia. In Latvia, HEIs are solely responsible for the performance of commercial agents.

In response to the research question regarding the changes that have occurred over a five-year period from 2017 to 2022, the following must be listed: listening to partners and agreeing on proportionality of responsibility, cooperation between the institutions involved, systematization of procedures, digitization of documents, and compliance with high-quality, transparent and ethical principles in the process of attracting international students.

Further research should be conducted through large-scale surveys of international students to find out students' satisfaction with the admission process, the most frequently used marketing channels, and the nature of their cooperation with commercial agents. These results should be linked to Latvia's attraction policy. These would provide useful results in making sure that Latvia's reputation is promoted at the highest level.

Conclusions

- During the years under study, there was no national-level strategy for education export, internationalization and reputation, but the new version of the *Agreement* defines the education export policy and reputation guidelines much more specifically. However, the authors would encourage public authorities to indicate the desired reputation in the guidelines and in which direction it is aimed while explaining the importance of a good reputation.
- Besides the *Agreement*, a unified strategy at the national level has not been determined. Such a strategy or work plan is required from HEIs.
- In 2017, HEIs complained that the responsibilities of taking care of high-quality selection, admission, attraction and studies are only assigned to HEIs, while no responsibilities are assigned to supporting institutions. In the new version of the *Agreement* (2021), responsibilities and support have been assigned to other involved parties. This new version includes obligations not only for the HEIs but also for the Ministry, which can be evaluated very positively as this was one of the HEIs' biggest wishes.

- The requirements are stricter and more detailed than before, which presents many challenges for HEIs with regard to how to organize their work. Stricter requirements have been put forward regarding commercial agents, although they are only mediated through HEIs.
- Latvian state scholarships for studies and summer schools should be preserved, as they create a positive image of the country and attract the most outstanding students. They are also a good attraction factor in the perception of all students.
- HEIs have different study programmes, admission requirements, language offers, and target markets. Each HEI will attract international students differently in a way that is effective in a particular HEI. In terms of attracting international students, HEIs do not compete with each other in Latvia because there are differentiated markets and study programmes, including in the language of instruction, and thus students split up.

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SCIENCE STUDENTS: WOULD I LIKE TO BE A STEM TEACHER?

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ABSTRACT

Teaching is an increasingly important profession that contributes to the sustainable social and economic development of societies by providing quality education and promoting the development of pupils, while teacher shortages are the most widespread problem in Europe and worldwide. The role of the STEM (science, technology, engineering, and mathematics) teacher is to facilitate the application of science, mathematics, technical and engineering knowledge to solve everyday or societal problems, making the learning of science, technology, engineering and mathematics more meaningful. Fewer and fewer students choose to become teachers. This situation is particularly problematic in science education, so the aim of the study was to find out the views of students in science faculties on the choice of science teaching as a career. In order to achieve this goal, the research question was put forward: what factors determine the choice of science students to become/not to become a science teacher?

Using the *QuestionPro* e-platform, 285 students of Bachelor and Master degree programmes at the Faculties of Biology, Chemistry and Physics, Mathematics and Optometry of the University of Latvia were surveyed in 2022.

The results showed that there was no difference in the opinions of students from different science faculties. The main factors that would determine the choice of a teaching profession were the teacher's working environment, the student's personal views and professional qualifications. The most common socio-economic perceptions mentioned were the low prestige of the teaching profession, the workload of teachers with no fixed hours and inadequate salaries. Students appreciated the role of the teacher in developing young people's interest in studying science. Thus students, few of whom have worked as a teacher alongside their studies, have a fairly good idea about the work of the science teacher.

Keywords: *personal factors, professional factors, science students, STEM, teacher profession, working environment.*

Introduction

Over the last 20–25 years, interest in STEM education has grown in most European countries, as well as elsewhere in the world. It is often seen as an expensive and elitist

education, requiring a high level of resources, with a growing trend towards hands-on work in laboratories and linking the learning process to everyday real-life examples, thus replacing mere memorisation of facts. Moving from abstract facts in textbooks, to action and concrete experience in the laboratory where the science process takes place, is at the heart of successful science learning (Rudolph, 2020). One of the main goals of science education is to make science learning relevant to both the learner and the society in which they live (Stuckey et al., 2013), thus fostering creativity through science learning (Hetherington et al., 2020). However, the problem is getting pupils interested in science. Educators, scientists and policy makers are concerned that too few students choose to study science in depth in their final years of secondary school (Palmer et al., 2017). This raises concerns about STEM learning in schools because the future world of work in which current pupils will be working will change significantly, so we need to consider how to prepare pupils for future career success (Tytler, 2020). Global education initiatives and reforms are focused on increasing the number of pupils acquiring STEM subjects (McDonald, 2016). Understanding how to educate pupils is important in STEM learning (Portz, 2015), so the role of teachers is becoming increasingly important.

European countries are tackling educational, social and economic challenges (Eurydice, 2018), and teachers have a unique place in this process because they have a complex and challenging job, where there is a tension between the public and the personal (UNESCO, 2022). At the same time, as it is acknowledged, the most widespread problem in Europe and the world, is the teacher shortage, which is no longer a myth (Martin & Mulvihill, 2016) but a real and growing problem, perhaps more significant than currently believed (García & Weiss, 2019) and in fact an “educational catastrophe” (Dolenc et al., 2021). Already in 2015, the European Commission identified the challenges of the teacher shortage: teacher shortages in some subjects, in some geographical regions, ageing teachers, high dropout rates in the teaching profession, insufficient numbers of students in teacher education programmes and high dropout rates of students. The pandemic has also affected the number of in-service teachers due to changes in workload and increased stress levels (Darling-Hammond & Hylar 2020; Schleicher, 2020). Teacher shortages, particularly in STEM (science, technology, engineering and mathematics), are a well-known global problem, acknowledged by many (Diekman & Benson-Greenwald, 2018; Kunz et al., 2020; OECD, 2019). More than half of European countries have mentioned this problem (Eurydice, 2018). It is an international problem (OECD, 2019; Perryman & Calvert, 2020), which is also pronounced in Latvia. High proportions of ageing teachers are recorded in Lithuania (50%), Estonia (49%), Bulgaria (48%), Greece (47%) and Latvia (46%) (Katsarova, 2019).

Since 2020, Latvian schools have gradually introduced new curricula and approaches in line with the new standards for primary and general secondary education. Schools can choose subject areas and subjects to be taught at the advanced level in the final years of secondary school. Approximately 70% of the curriculum time is allocated to compulsory subjects, and 30% to elective subjects in line with the pupil’s future career (National Reforms..., 2020). In secondary education, the content is grouped into seven

subject areas, of which STEM is covered in three – science, mathematics and technology. According to a recent study in Latvia (Pētījums par ..., 2021), around 27% of educational institutions, mostly secondary schools and state gymnasia, are implementing the new STEM programmes as of academic year 2019/2020. The choice of STEM subjects is limited by the lack of teachers in this field (45%), as well as inadequate school infrastructure and insufficient material technical facilities (41%). Overall, only 9% of teachers work in a STEM field. The age structure of STEM teachers also differs significantly from that of other teachers. While among other teachers the pre-retirement age group (56–65 years) represents 23% of the total number of educators, STEM teachers in this group represent almost half (40%) of all STEM educators. The share of STEM teachers under 35 years of age is markedly low at just 6%.

Another problem, not yet fully recognised in Latvia, is that many teachers teach STEM subjects after completing relatively short professional development courses. This broadening of their qualifications leaves them less well prepared and unable to provide high quality education in science subjects. Thus, the shortage of teachers is related to a wide range of factors, including birth rates, the number of graduates overall and in each subject, the socio-economic context, curriculum requirements, workload, retention of teachers in the profession, retirement age and changes in retirement age (Ingersoll, 2002; See et al., 2022). These factors may vary from country to country and region to region, and teacher shortages are a complex issue that requires an integrated approach to its solution. In the research conducted, the factors affecting teachers' work are divided into three groups: work environment, personal and professional factors (Figure 1).

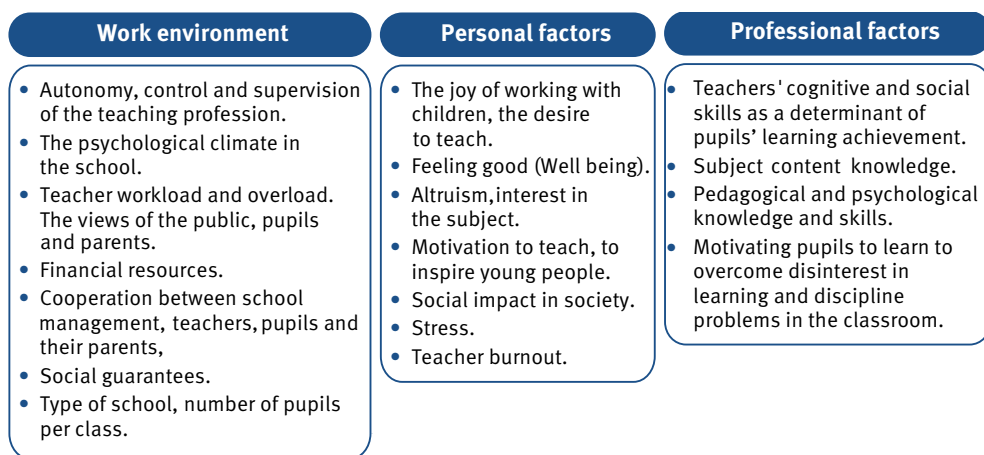


Figure 1 Factors affecting teachers' work

Note. Adapted Aragon, 2016; Barth et al., 2016; Cowan et al., 2016; Dolenc et al., 2021; Geske & Ozola, 2015; Han et al., 2018; Klassen et al., 2022; Kuijpers et al., 2022; Kyriacou & Coulthard, 2000; LIZDA, 2016; OECD, 2020; Richardson et al., 2014; Schutz et al., 2001; Toropova et al., 2021; UNESCO, 2022.

Factors related to the work environment describe teacher job satisfaction. These can be diverse, such as lack of recognition, low remuneration, opportunities for advancement and loss of autonomy (Aragon, 2016). Other researchers, on the other hand, note parameters characterizing the school such as the type of school and the number of pupils per class (Cowan et al., 2016), lack of respect for teachers (Barth et al., 2016), teacher workload, and teacher collaboration (Toropova et al., 2021). Teachers' health status, work motivation and collegial support can also be determinants (Casely-Hayford et al., 2022). In Latvia, teachers' job satisfaction is mostly influenced by "a positive and democratic school culture – teacher relationships, teacher-pupil relationships and teacher-principal relationships" (Geske & Ozola, 2015, p. 206). LIZDA (Latvian Education and Science Employees' Trade Union) research (2016) indicates that the greatest difficulties teachers face in their work are the lack of respect from education policy makers, children's permissiveness, increased media interest in negative events in school life, stress and professional burnout.

Personal factors are mainly related to teachers' perceptions of the teaching profession and their motivation to work in schools, as understanding teachers' attitudes and perceptions of STEM teaching is a key way to improve the effectiveness of STEM teaching (Sellami et al., 2022). Kyriacou and Coulthard's (2000) study of undergraduate students' views of teaching as a career suggests three categories of the most motivating factors: altruistic reasons (desire to benefit the society), intrinsic motivation (interest in the subject and knowledge) and extrinsic incentives (such as remuneration levels). As the current situation in STEM education calls for increasing pupils' interest and motivation to learn science, the teacher is given the role of an inspirer. Motivation to teach pupils can be seen as a multidimensional construct that includes motivational factors (e.g. social influence, positive prior teaching and learning experiences, personal attitudes) and positive/negative perceptions of the teaching profession (Kuijpers et al., 2022).

Professional factors relate to the teacher's performance in the classroom, which can be described by "do my knowledge, skills, and attributes fit with those demanded by the profession?" (Klassen et al., 2022, p. 6) and whether I as a teacher am "flexible in adapting to changes" (Dolenc et al., 2021, p. 4) in the teaching/learning process. It can be considered that successful teaching is based on a multidimensional model of teachers' professional competence, which includes cognitive aspects, teaching skills and motivation to teach (Kunter et al., 2013). Student discipline, disengagement-related barriers and the appropriateness of the instructional resources/materials used in the classroom significantly influence the teacher performance (Sellami et al., 2022). This means that teachers need skills (to explain the subject in a way that pupils understand, to use different teaching/learning methods) and knowledge (subject content, pedagogy and psychology) to achieve the goals of implementing the teaching/learning process and learning objectives they have set.

The teacher shortage is becoming more topical as fewer and fewer students choose to become teachers. This situation is particularly problematic in STEM education, so the aim of the study was to find out the views of science faculty students on the choice

of STEM teaching as a career. To achieve this aim, the research question was set: what factors determine the choice of science students to become or not to become a STEM teacher?

Method

In 2022, 285 Bachelor and Master students from the Faculties of Biology ($N = 108$), Chemistry ($N = 93$), and Physics, Mathematics and Optometry ($N = 84$) at the University of Latvia were surveyed using the *QuestionPro* e-platform, of which 200 were female and 85 were male students. 217 students were at Bachelor level, 66 at Master level and 2 at the level of professional studies.

The questionnaire consisted of two parts: general and conceptual. The general part was a closed-ended questionnaire ($n = 7$), which asked about the student's identity: demographic data, faculty, level of studies, choice of teaching profession and expected salary. In the conceptual part, open/closed questions ($n = 3$) on a 4-point Likert scale (from strongly disagree to strongly agree) were used to elicit students' opinions on the advantages, disadvantages and problems of the teaching profession. Finally, an open-ended question ($n = 1$) was asked to find out the conditions for studying and working as a teacher.

The data were processed using SPSS and AQUAD statistical data processing software. Descriptive statistics, non-parametric Spearman rank correlation test, Kruskal-Wallis test for multiple group comparisons were used to interpret the quantitative data. According to the theoretical background and the questions of the conceptual part, a qualitative data coding system was developed (Figure 2).

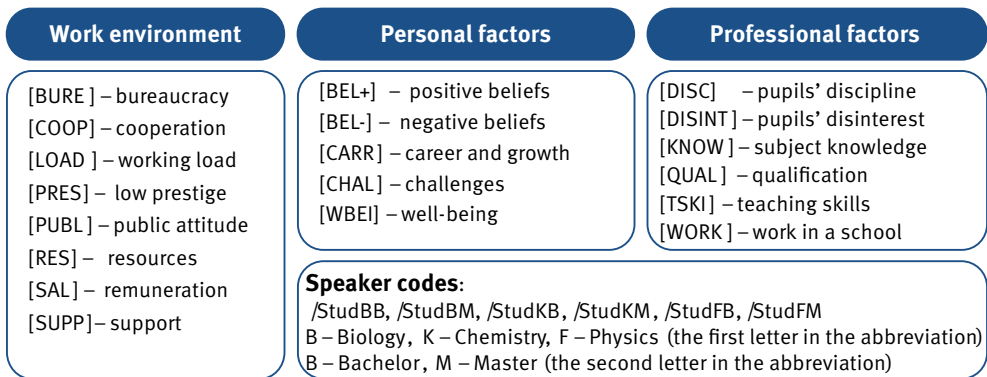


Figure 2 A code system for coding qualitative data

Results

In order to identify the views of science students on their potential choice of a STEM teaching career, the survey asked about the advantages and disadvantages of a teaching career, i.e. a teaching job (TJ) compared to a non-teaching job (NTJ), and what conditions would be conducive to choosing a teaching career.

Description of student identity in the context of career choice

A student's identity is characterised by his/her possible choice to become or not to become a science teacher, his/her views on the expected remuneration in the teaching profession and in his/her chosen specialisation.

As shown in Figure 3, the majority of students (67%) have no major objections to becoming a teacher, and only 17.5% of students are categorically opposed to a career in teaching.

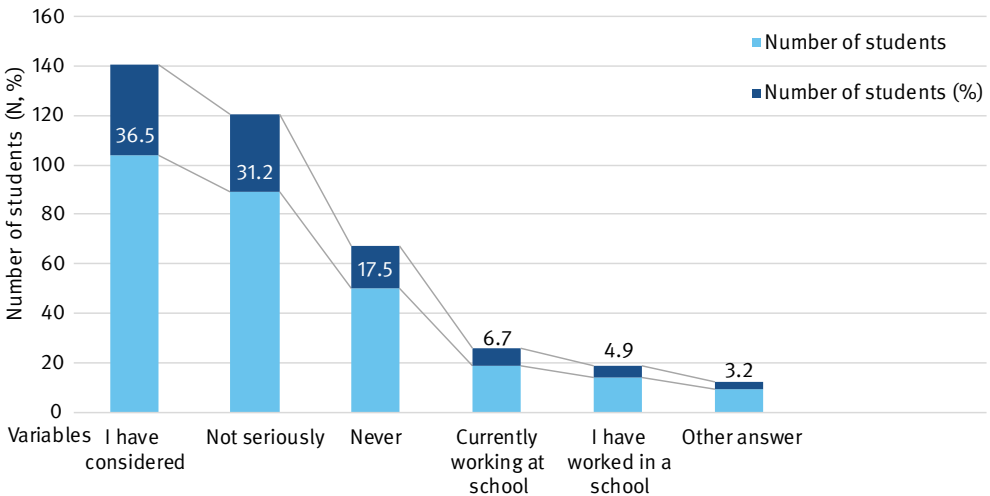


Figure 3 Students' choice of the teaching profession

The Kruskal-Wallis test showed that there were no significant differences between the opinions of Bachelor and Master students from different science faculties. The only difference was in the students' views about the level of remuneration in teaching and non-teaching jobs ($X^2(2, N = 285) = 37.42, p < .001$). The expected salary of a teacher (T) according to the 2022 survey data (monthly average between EUR 1200–1500) is actually the same as their expected salary in the NTJ after obtaining their Bachelor's and Master's qualifications. Students at the Faculty of Physics, Mathematics and Optometry have a different view, mentioning a higher salary (average monthly salary between 1500–1800 EUR).

Strengths and weaknesses of the teaching profession

Students' views on the advantages and disadvantages of the teaching profession are presented in Table 1.

The majority of the surveyed students (over 80%) see the main benefits of teaching as the opportunity to learn public speaking skills, to inspire young people to learn STEM, and to link this with a teacher's ability to teach complex science topics in a simplified way, thus attracting and developing young people's interest in science. The students' consensus is strongly supported by the narrow standard deviation range ($SD = 0.72-0.81$) of the questions. In the open-ended questions, students indicate that teaching requires «*patience, understanding and empathy... the ability to inspire if not interested in science at all*» (/StudFB18), at the same time mentioning that «*the greatest benefit of the teaching profession is the satisfaction that the pupil understands*» (/StudBM225). Accordingly, students consider the opportunity for self-learning and development as less important and with a higher difference ($SD > 0.90$) because they consider teaching as a routine job. Working conditions are mentioned as the main limiting factor for the teaching profession. The most dissatisfactory factors for students (84–93%) are the teacher's salary ($M = 3.74$; $SD = 0.54$), the heavy workload ($M = 3.39$; $SD = 0.82$), and the fact that teaching STEM subjects often does not result in a full workload in one school ($M = 2.69$; $SD = 0.92$). In their answers, students confirm the prevailing public perception of the low prestige of the teaching profession.

Table 1 Strengths and weaknesses of the teaching profession in view of STEM students

Issues	<i>M</i>	<i>SD</i>	<i>Mo</i>
Strengths of the teaching profession			
Q-6.1. Speaking in front of an audience	3.55	.72	4
Q-6.2. The opportunity to teach complex things simply	3.18	.81	3
Q-6.3. Inspire young people	3.38	.79	4
Q-6.4. Long vacation	2.61	1.02	3
Q-6.5. The possibility of continuous self-education	2.94	.93	3
Q-6.6. Opportunities to feel younger in youth work	2.48	1.03	3
Weaknesses of the teaching profession			
Q-7.1. Low prestige of the profession	2.95	.97	3
Q-7.2. Inadequate salaries	3.74	.55	4
Q-7.3. Long working hours	3.39	.82	4
Q-7.4. Routine work	2.75	.96	3
Q-7.5. Difficult to collect the required workload	2.69	.92	3
Q-7.6. Insufficient financial support during studies	3.14	.90	4
Q-7.7. Limited opportunities for growth	3.18	.90	4

/StudBM46. *Given the workload – both physical and psycho-emotional – the remuneration is ridiculous; /StudBM4. Preparation of materials and lessons takes much more time than is allocated for it in the tariff (salary calculation normative documents). If you add to this the preparation of laboratory work and the correction of tests, a part-time job very quickly turns into an unpaid full-time job; /StudBB118. Constant stress; /StudFB8. Losing the ability to separate private life from work, .. you feel burnt out...; /StudBB136. Disrespect of pupils; too much paperwork (bureaucracy), not related to the main function of a teacher – to teach. Especially during the pandemic.*

Teacher's professional profile

The problems anticipated in the teaching/learning process are summarised in Table 2.

The main problems ($M > 3.07$; $SD = 0.77-0.90$; $Mo = 34$) that a new teacher might face at school are: pupils' lack of interest in science subjects, discipline problems in the classroom and bureaucratic demands from the government and school administration. Communication problems with both pupils and their parents, as well as cooperation with other teachers, are also mentioned with less unanimity ($SD > 0.93$; $M > 2.08$). One of the aspects, but less important for all respondents, is the teacher's ability to present the subject in a way that the pupil understands, as well as the insufficiency of teaching materials, which is also commented on, e.g. «*there are teaching materials for mathematics, but there are too many books, too many different ones, the content is written in a way that pupils do not understand. There are no good mathematics books for secondary level*». (/StudFB160).

Table 2 Anticipated difficulties in the teacher's work

Issues	<i>M</i>	<i>SD</i>	<i>Mo</i>
Q-8.1. Communication with pupils	2.50	1.04	3
Q-8.2. Disciplinary problems in the classroom	3.27	.90	4
Q-8.3. Pupils' disinterest in learning	3.41	.79	4
Q-8.4. Cooperation with other teachers	2.08	.94	2
Q-8.5. Cooperation with pupils' parents	2.81	.97	3
Q-8.6. Bureaucratic demands (from government and school administration)	3.07	.87	3
Q-8.7. Insufficient subject knowledge	2.01	1.02	1
Q-8.8. Failure to teach the subject in a way that pupils can understand	2.59	1.03	3
Q-8.9. Insufficient teaching materials	2.39	1.05	3

Key correlations

Spearman's correlation coefficient was used to determine the mutual correlations. As shown in Figure 4, simplified explanation of complex science topics is associated with the likelihood of getting students interested in science ($r(285) = .43, p < .001$) and with teacher's oratorical ability ($r(285) = .30, p < .001$). Classroom discipline problems correlate strongly with pupils' disinterest in the subject ($r(285) = .51, p < .001$) and more weakly with teachers' inability to explain their subject well ($r(285) = .23, p < .001$), which, in turn, correlates strongly with pupils' insufficient knowledge ($r(285) = .53, p < .001$).

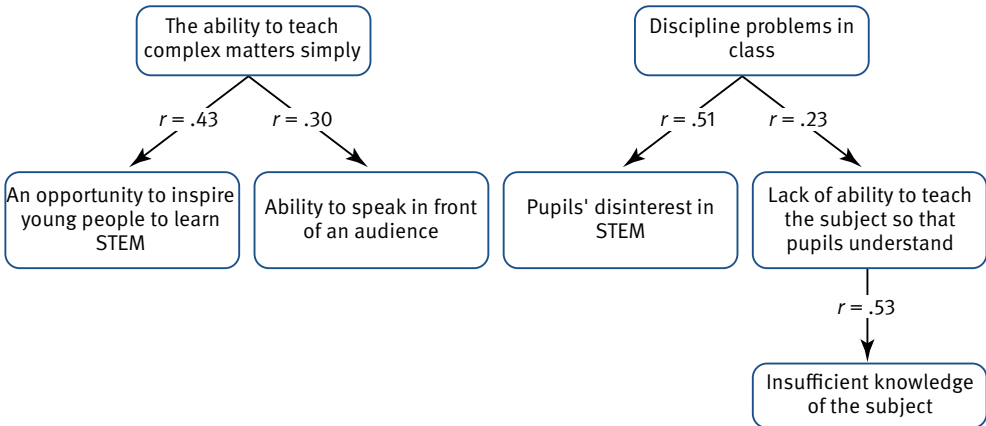


Figure 4 Correlations between attributes of the teaching/learning process included in the survey
Note. Correlation is significant at the 0.01 level (2-tailed)

Conditions for students to choose whether to become a science teacher

Students' responses were coded according to an established coding system, then the frequency of the codes used was calculated and correlations were established.

As shown in Table 3, the highest frequency of codes is observed in the students' answers about the teacher's working environment ($n = 347$), where the most frequent are the teacher's low salary ($n = 163$), high workload ($n = 44$) and negative societal attitudes ($n = 40$). Students believe that a teacher needs «*a decent salary as well as a normal workload so that they do not have to look for jobs in 34 schools; respect for the profession from the community*» (/StudFB53); «*I would start to consider a permanent teaching job if they also paid for hours that are not included in the contract but are actually worked. It takes a lot of time to prepare presentations/lesson plans, especially if you do it for the first time*» (/StudFB113). Insufficient support is also noted, such as psychological and moral support for the new teacher and social guarantees that are not provided, such as «*legal protection of the teacher to prevent the most permissiveness of pupils*» (/StudKB104); «*good salary, good health insurance*» (/StudKM203); «*understanding and supportive school administration so that .. there is both moral and financial support for teachers*» (/StudFB160). Students also mentioned the lack of resources, indicating «*not enough usable teaching materials on Skola2030 site*» (/StudFB263).

Table 3 Frequency of codes in the students' survey

Work environment		Personal factors		Professional factors	
Category	Number (n)	Category	Number (n)	Category	Number (n)
Remuneration	163	Negative beliefs	74	Qualifications	33
Working load	44	Positive beliefs	63	Work in school	19
Public attitude	40	Career/growth	38	Teaching skills	18
Support	35	Challenge	33	Pupils' disinterest	18
Low prestige	21	Well-being	28	Subject knowledge	9
Cooperation*	16			Pupils' discipline	9
Bureaucracy	15				
Resources	13				
Total	347	Total	236	Total	106

Note. *Cooperation with teachers, pupils and parents

Assessing the work environment, students compare teaching in different types of educational institutions – primary, secondary and gymnasias – and would like to «*work in a prestigious educational institution with motivated pupils*» (/StudBB141). The personal factor ($n = 236$) is important for students; it is related to their positive and negative views on teaching and their perceived limited career development, while at the same time pointing to the challenges of the teaching profession. They are «*keen to share their knowledge and try to think of new and attractive ways to attract young people*» (/StudBM7), but to work in a school «*you need to have professional skills and academic knowledge in both the psychological and physical development of children, and pedagogical skills*» (/StudBM55). Also important are the teacher's opportunities for development, «*the possibility of participating in exchange programmes in other schools or other countries*» (/StudFB53) and the geographical location of the workplace, «*few qualified teachers want to work in small rural schools far from the rest of the world. Improving the efficiency of the school network would not only reduce the teacher shortage in numbers, but also increase graduates' willingness to work as teachers*» (/StudFB27).

The number of responses related to professional factors is the smallest ($n = 106$), which could be explained by the fact that students still have little experience in teaching (only 19 work in a school), but at the same time they believe that working in a school requires a teacher's qualification and they know how to obtain it (/StudBB105 «*I am now taking a 72 h course in basic pedagogy, after my bachelor's degree in biology I plan to enrol in a one-year teacher training programme/educational support project «Mācītspēks*»). Students appreciate that not only subject knowledge is important, but also the pedagogical skills to teach the subject to create interest in science in pupils. Not least important, «*a teacher should be able to teach at least two or three subjects at school*» (/StudFB177) and recommends «*it is a pity that there is no longer a science teacher programme. At least science programmes should include a Part C study course in pedagogy, acquiring which students could work in schools.*» (/StudKM181), and «*first a science degree, then a teaching qualification, as a science degree has a wider application and would act as a "safety cushion"*» (/StudFB42).

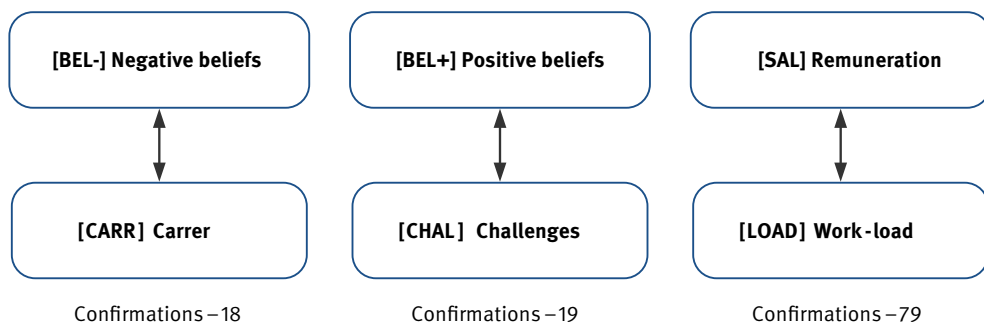


Figure 5 Constructed interrelationships between the factors of choosing the teaching profession
Note. Maximal distance between data-segments: Lines/frames/seconds 3

Based on the fact that the AQUAD software reports the findings by showing the positions within the linked segments (Huber & Gürtler, 2013), linkages (Figure 5) were constructed to clarify the relationships between the coded response segments (Table 3).

The most correlations (79 confirmations) are between the segments [SAL] and [LOAD], which confirms students' views on the inadequacy of the teaching profession in relation to their workload.

/StudBB183. Salaries [SAL] do not match the huge and hard work, taking long hours [LOAD] that teachers have to do on a daily basis; /StudBB8. The profession needs to become more prestigious [PRES] (hence adequately paid [SAL] for people who are the future of the country...), as well as reviewing how to create rest (less homework) for teacher's unpaid overtime by working on correcting pupils' work [LOAD].

Interestingly, there are correlations between [BEL+] and [CHAL], [BEL-] and [CARR], suggesting that if a student is already working in his/her field, he/she has a relatively more negative view of the teaching profession, while a more positive view is related to the student's intrinsic motivation to get young people interested in acquiring science.

/StudFB18. I don't think anything will convince me to work full-time as a [BEL-] teacher. I see myself in a business environment or in research [CARR] because in these environments I can grow and there are many opportunities to learn and develop; /StudKB176. The teaching profession requires a lot of mental strength, patience and communication skills with another generation [BEL+] who have different views and lifestyles. You have to study hard to achieve the desired result of getting young people excited about learning science [CHAL].

Discussion

The choice of a science student to become a STEM teacher or not is determined by a combination of factors. The study analysed these factors in the context of three groups: work environment, personal and professional factors.

Work environment. Even with little or no teaching experience, science students are able to assess the strengths and weaknesses of the teaching profession, recognising that the work environment (remuneration, workload, choice of working in a gymnasium or secondary school, inability to «collect» full-time teaching hours in one school and the lack of support, the lack of teaching resources, bureaucratic requirements and the low prestige of the teaching profession) is not conducive to choosing teaching as a career. Comparatively, Latvian STEM teachers in comprehensive schools (Pētījums par..., 2021) also mention high teacher workload and low public interest in STEM, the lack of modern technical resources and equipment, insufficient preparation of learners, insufficient parental involvement and support for pupils' motivation, as well as insufficient and inadequate availability of teaching materials as inhibiting factors. Class size and school type are influencing factors (OECD, 2014; See et al., 2022). As research shows, teaching/learning effectiveness in science education depends largely on teachers' satisfaction with their working conditions (Casely-Hayford et al., 2022; OECD, 2014; Utemov, 2020; See et al., 2022; Sellami et al., 2022), and quality teaching/learning process is the most important determinant of pupil achievement, yet teachers are still undervalued, underpaid and under-supported by the school administration (Perryman & Calvert, 2020). On the one hand, teaching is a respected profession and requires high qualifications, but on the other hand, teachers work many extra hours in the evenings and on weekends and are underpaid for that (Elfers et al., 2008). Teachers' salaries in preschool, primary and general secondary education are 4–14% lower than the average for non-teaching higher education graduates in OECD countries and other member states. According to the OECD 2017, Latvian teachers' salaries are the lowest among the member states, still among the lowest in Europe, but are projected to increase sequentially (National Reforms..., 2020). It means that most teachers are already paid much more than the minimum salary in Latvia (OECD, 2022, p. 333). The data from the study showed a discrepancy between the teacher's workload and salary, but interestingly, science students believe that higher salaries are also absent in their chosen non-teaching specialities. The higher salaries reported by students of the Faculty of Physics, Mathematics and Optometry show that if a teacher's salary were comparable to that in engineering or technology, it would certainly make students more likely to consider a teaching career (Elfers et al., 2008).

Personal factors. A student's personal beliefs play an important role in the choice of a teaching profession. Only 19 of the surveyed students work in a school, but for the rest, their ideas about teaching may be shaped by their personal experiences of schooling only a few years ago, as well as by the influence of the society, media, their school or family. In the study, this is evidenced by a strong correlation between positive perceptions of teaching in relation to the challenges it presents, as well as students' views on the benefits of being a teacher and the challenges of the teaching profession. It is the pleasure to work with children, the work is interesting and creative. Several students also mentioned career opportunities, the importance of the profession, the opportunity to pass on their knowledge to the next generation, their love for their subject. Such views are in line with the scientific literature that a teacher can inspire pupils to learn and study STEM in

the future if they foster pupils' passion and interest in learning science, thereby developing their understanding of the value of science in the future and encouraging more pupils to learn science at school (Palmer et al., 2017; LIZDA, 2016; Schutz et al., 2001). Interestingly, public speaking skills were identified by students as one of the greatest benefits of being a teacher. In fact, this means that science students do not feel confident about their public speaking skills and consider that they can be improved in the teaching profession. Fear of public speaking is seen to be one of the most common forms of social phobia in the society and also negatively affects the academic performance of university students (Tillfors & Furmark, 2007), as the ability to present one's views and ideas clearly and confidently can help a student to improve academic performance.

Science students also have negative views on the teaching profession, mostly related to experiences that have led them to appreciate the advantages of their specialisation over teaching. To some extent, this is in line with conclusions drawn by Kunz et al. (2020) that STEM students may always have more career options than students in some other fields.

Professional factors. Although science students do not have much teaching experience with pupils, they strongly reflect, based on their personal perceptions of teaching, on the importance of motivating pupils to learn science in order to overcome their disinterest and prevent discipline problems. In this respect, they appreciate the need not only for subject content knowledge but also for pedagogical and psychological skills in order to be able to teach their subject well. One has to agree with Eurydice (2018) that incentives that could attract students to the teaching profession or to a particular subject are rarely used. In this case, the non-categorical refusal of science students to become a teacher (only 17.5% would never choose this profession) is positive. Recommendations are also offered: to complement the science study programmes with pedagogy courses, to continue to prepare STEM teachers in the previous study programme «Science and Information Technology Teacher» offered by science faculties, to acquire 72-hour qualification courses, to study in the one-year “Mācītspēks” programme in a work-based study environment, first specialising in science, then studying pedagogy and, once qualified as a teacher, working part-time in a school or teaching a few hours a week as a hobby, combined with work in their speciality.

Overall, when analysing the conditions that contribute to students' choice to become a teacher, it should be noted that they are to some extent in line with the improvements recommended by the study conducted by the Education and Science Workers' Union (2016) to increase the prestige of the teaching profession: (1) higher financial evaluation of teachers' work; (2) less control and supervision of teachers' work; (3) less workload for teachers; and (4) more social guarantees for teachers. The conditions could be complemented by (5) provision of teaching resources and school infrastructure for laboratory and practical work (Pētījums par..., 2021; Sellami et al., 2022) and (6) personal perceptions of the teaching profession (Kyriacou & Coulthard, 2000; Kuijpers et al., 2022). In order to reduce the shortage of STEM teachers to some extent, the idea of including courses in pedagogy and subject-specific didactics in Bachelor and Master programmes in science should be considered.

Conclusions

The study found out which the main factors are that would influence science students' choice to become or not to become a science teacher.

There are no significant differences in the views of students from different science faculties about the teaching profession. Students are able to assess confidently the strengths and weaknesses of the teaching profession by evaluating the school as a work environment, the teacher's personal perceptions and motivation to work in a school, as well as by identifying the teacher's professional activities.

The main factors for choosing teaching as a profession are the mostly well-known socio-economic perceptions of the low prestige of the teaching profession, the non-fixed hours of the workload and inadequate remuneration associated with the nature of the teaching work environment. In fact, when students evaluate the work environment of a teacher, they compare it with their own non-teaching work, referring to the prestige of the profession, the workload and the remuneration they could receive in this specialty.

A student's personal perceptions of teaching also determine their choice to become a teacher. These are both positive (mostly altruism) and negative (not seeing opportunities for growth, stress and fatigue resulting from the job, burnout). However, it should be noted that it is only through learning and working as a teacher that a teacher's career path becomes clear. It is possible that science students perceive the career development of a teacher as a traditional gradual change of jobs in their chosen specialisation. Yet, in the teaching profession, the development of professional competence through the teacher evaluation process is very important. Surprisingly, the ability to speak in public in front of an audience is seen as a major benefit of choosing teaching as a profession, suggesting that science students do not feel confident about their public speaking skills and demonstrating the need to improve student's academic performance.

The possibility to inspire young people and the ability to teach complex issues in a simple way indicate students' desire to develop young people's interest in STEM subjects, suggesting that students value the role of teachers in inciting young people's interest in science studies. Thus, students, most of whom have not worked in schools, have a reasonably good understanding of the work of a science teacher. Their views on teacher's work are probably also shaped by their personal learning experience at school and influenced by views on the teaching profession in the society, in media and in the family.

Author Note

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CONCEPTUALISING DIGITAL COMPETENCY FOR ICT SPECIALISTS

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ABSTRACT

A competency-based approach to education has become central in discussing and assessing the quality of education. Competency is vital for any individual to cope successfully with challenging tasks in his/her professional, social and private life and achieve the goals set. In order to practically implement the approach in higher education institutions, it is necessary to understand what competencies are required by the labour market and what their structure is, as well as to select or develop models or frameworks for describing these competencies. One of the most relevant competencies in the modern world is digital competence which implies knowledge and skills to use information and communication technology (ICT) to achieve professional, social and personal goals. Although the need for developing digital competence is actual for specialists in any field, the definition of its structure for ICT professionals is mainly ignored. Therefore, it can hinder the development of quality educational programs and prevent graduates from being equipped with the necessary skills and knowledge. This study applies a systematic literature review to answer three research questions concerning the types and structure of digital competence of ICT professionals, the developed models and frameworks of digital and professional competence of ICT specialists, and the representation of digital competence in the existing competence frameworks and models. The research results offer the conceptualisation of digital competence for ICT specialists. It includes transversal digital competence, general professional digital competence, and specific professional digital competence, together with indicating an appropriate framework for each of the competence types mentioned.

Keywords: *competence framework, digital competence, higher education, ICT professionals, systematic literature review*

Introduction

Education at universities is no longer considered as the delivery of academic knowledge from a teacher to a student but as the acquisition of knowledge and skills that are dictated by the needs of the labour market and promote the employability of students and competitive growth, prosperity and innovation-driven development of world

economies. A New Skills Agenda for Europe (European Commission, 2016) has emphasised the need for higher education institutions (HEIs) “to ensure that they equip graduates with relevant and up-to-date skills”. In this context, the concepts of competency and a competency-based approach to education have become central in discussing and assessing the quality of education. Competency is vital for anyone to cope successfully with challenging tasks in his/her professional, social and private life to achieve the goals set. Competency-based education ensures personalised and learner-centred teaching, learning and assessment that allow students to master and demonstrate observable skills to succeed in their future professional and adult life. In order to practically implement the approach in HEIs, it is necessary to understand what competencies are required by the labour market and what their structure is, as well as to select or develop models or frameworks for describing these competencies.

One of the most relevant competencies in the modern world is digital competence which implies knowledge and skills to use ICT to achieve professional, social and private goals. The European Union has set a goal that by 2030, at least 80% of citizens will have basic digital skills (European Commission, 2022). Currently, attempts are being made to define digital competence for citizens in general (Vuorikari et al., 2022), educators (Redecker, 2017), consumers (Brečko & Ferrari, 2016) and others. Although the need for developing digital competence is actual for specialists in any field, the definition of its structure for ICT professionals is mainly ignored. It is likely to be explained by the belief that ICT specialists should possess this competence by default, as various ICT solutions are intensively used in daily professional tasks. However, even without excessive analysis, it can be noted that digital competence of ICT specialists differs both in terms of content and depth from employees in other industries. Specialists in other fields mainly use ICT solutions to perform specific tasks and thus basically act as technology users. Their knowledge and skills remain at the level of the human-computer interface when it is necessary to know how to use a specific ICT tool for a specific task, i.e. run, configure according to the requirements of the task, enter correct data, receive and interpret an output, use the tool safely and ethically, and others. Those working in the field of ICT also use ICT solutions in their daily professional work but more intensively and need in-depth knowledge of the “internal content” of a specific ICT solution (structure, data processing steps, used technologies, and others).

The fact that the digital skills of ICT professionals stand apart from the similar skills of practitioners of other fields is demonstrated by several more general classifications of ICT digital skills. In 2016, the OECD proposed the classification of ICT skills necessary for the digital economy. It includes three levels (OECD, 2016a, 2016b): ICT generic skills, ICT specialists skills and ICT complementary skills. The classification of the International Telecommunication Union offers a categorisation of ICT skills into three levels (Hakizimana, 2021): basic digital skills, intermediate digital skills, and advanced digital skills. In this classification, it is the advanced digital skills that ICT professionals must possess. They include skills such as software development, programming, network and system administration, information systems and network security, database development

and use, artificial intelligence, mobile application development, and many others. The European e-Competence framework defines three levels of e-skills (CEN, 2014a): ICT practitioner skills, e-business skills, and ICT user skills. The skills of ICT practitioners, in this case, are related to “*the abilities required for the research, development, design, strategic planning, management, production, consulting, marketing, sales, integration, installation, administration, maintenance, support and service of ICT systems*” (CEN, 2014a). However, the European e-Competence Framework focuses on ICT practitioners’ and e-business skills. According to the Economic and Social Council of the United Nations, ICT specialists need two types of digital skills (United Nations Economic and Social Council, 2018):

- skills to adapt and creatively use available technologies. They involve adapting software and/or technology to individualised needs and requirements and are required by individuals or businesses who have already acquired basic digital skills. Consequently, individuals or corporate ICT departments understand the basic algorithms and can use online resources to create new functions or develop more suitable applications when needed;
- skills to innovate based on adapted technologies. These include sophisticated programming skills and knowledge of complex algorithms. Creating new technologies is the highest level of digital skills.

Ignoring the digital competence of ICT specialists can hinder the development of quality educational programs. This study aims to conceptualise digital competence for ICT professionals in terms of its types and/or elements and to identify suitable descriptive frameworks and/or models.

The paper is structured as follows. The next section describes the research methodology. After that, the concepts relevant to the research topic are defined. At the end of the paper, research results and discussion points are presented. Finally, the paper ends with the conclusion section.

Methodology

The present study addresses the following research questions:

- What are the possible types and structures of digital competence of ICT professionals?
- What models and frameworks of digital and professional competence of ICT specialists have been developed?
- How is digital competence displayed in existing frameworks and models of digital and professional competence of ICT specialists?

A systematic literature review was used as the primary research method to answer the above questions. It was applied in two stages with the following steps:

- Stage I: Searching scientific databases
 1. Selecting scientific electronic databases. The search was performed in IEEE Xplorer, ACM Digital Library, Scopus, and Web of Science. Web of Science and Scopus are the leading electronic databases of bibliographic information and citation data

of publications across various disciplines. IEEE Xplore Digital Library and ACM Digital Library are electronic platforms for searching and studying publications published by the leading organisations – Institute of Electrical and Electronics Engineers (IEEE) and Association for Computing Machinery (ACM) – and their partners in computer science and electronic engineering.

2. Developing search strings. Based on the topic knowledge of the paper’s authors and considering the research questions defined, it was decided to develop search strings consisting of two parts:
 - Part 1 included one of the following terms: “digital competenc*”, “professional competenc*”, where * replaces multiple characters in a search string and therefore allows for searching, for example, such terms as “digital competence”, “digital competencies” or “digital competency”.
 - Part 2 included one of the following terms: “ICT graduate”, “IT graduate”, “ICT specialist”, “ICT professional”, “ICT practitioner”, “IT specialist”, “IT professional”, “IT practitioner”, “computing”, “computer science”, “information technology”, “computer engineering”, “IT field”, and “ICT field”.
 - Some examples of the used search strings are the following:
 - “digital competenc*” AND “ICT specialist”
 - “professional competenc*” AND “IT field”
 - “digital competenc*” AND “computer science”
 3. Conducting a search in the selected databases and screening paper bibliographic information, title, abstract and keywords by applying inclusion criteria. The following inclusion criteria were defined:
 - a paper is written in English;
 - a paper was published between 2010 and 2022. The year 2010 was chosen as a possible acceleration point for research on digital competence following the release of the first version of the European e-Competence framework and mentioning of this competence in several policy-related documents;
 - a paper addresses higher education in case of educational context considered in it;
 - a paper a) defines professional competence or digital competence of ICT specialists, or b) offers a model/framework for describing ICT specialists’ competencies or curricula, or c) mentions existent models/frameworks for describing ICT specialists’ competencies;
 - an electronic full-text of the paper is available;
 4. Review and analysis of the found information sources.
- Stage II: Performing an additional search in the Google Search engine. Considering that the search in electronic databases provided only a few relevant publications, it was decided to perform an additional search in the Google Search Engine using search strings developed in Stage I. Each paper found was screened by applying the previously defined inclusion criteria. Finally, all of the documents found were reviewed and analysed.

The study was conducted in the autumn of 2022 and winter of 2023. In total, 17 information sources were selected and analysed, among them research papers, governmental documents, technical notes, and publications of professional associations.

Concepts and Definitions

In order to conceptualise the digital competence of ICT specialists, it is first necessary to define the related terms and their use in a digital context. The meaning, possible typology and even the correct spelling of the concept of competencies have been intensively discussed issues for many years (see, for example, (Frezza et al., 2018)) and are beyond the scope of this paper. However, most definitions still define competence in terms of knowledge, skills and attitudes, as the European e-Competence framework does: “*Competence is a demonstrated ability to apply knowledge, skills and attitudes for achieving observable results*” (CEN, 2014a). In the context of computer science, the previously mentioned constituents are made more explicit (Clear et al., 2020):

$$\text{Competency} = [\text{Knowledge} + \text{Skills} + \text{Dispositions} + \text{Task}],$$

where

- knowledge is a factual or “know-what” dimension of the competency,
- skills are a “know-how” dimension of competency referring to the capability and strategy for applying “know-what” to perform a task in context,
- dispositions are a “know-why” (the socio-emotional tendencies, predilections and attitudes) dimension of competency that prescribes a requisite character or quality in task performance,
- task is the construct that frames the skilled application of knowledge and makes dispositions concrete.

The application and manifestation of knowledge, skills and dispositions in the professional activity of an individual call for the concept of professional competence. García et al. (2019) define professional competence as “*The degree of utilisation of knowledge, skills, and the good judgment related to the people’s profession, and in correspondence with all the situations that can be lived in the exercise of professional practice*”. In the context of ICT specialists, it should be noted that one of the world’s largest educational and scientific societies in computer science, ACM, emphasises that professional competence of ICT specialists “*begins with technical knowledge and an awareness of the social context in which they work can be used. Professional competence also requires skills in communication, reflective analysis and recognising and overcoming ethical challenges*” (ACM, 2018). Thus, the proposed definitions allow one to conclude that the concept of professional competence is quite broad. It encompasses all knowledge, skills and attitudes that can be demanded by an occupation and has a multi-component structure.

In general, competencies are classified into two main types. First, technical competencies, also called hard or specific competencies, are directly related to a job or activity made by an individual (Hernandez-Linares et al., 2015). Second, transversal competencies, such as communicative competence, problem solving, creativity, and others,

are necessary for any work, and their essential feature is transferability between fields (Sá & Serpa, 2018). They are also called generic or soft competencies (Hernandez-Linares et al., 2015) and are contrasted with specific competencies (Sicilia, 2009). Therefore, one can conclude that technical and transversal competencies are part of the professional competence of a specialist in any field.

Ferrari (2012) has provided a well-known definition of digital competence: “*Digital competence is the set of knowledge, skills, attitudes (thus including abilities, strategies, values and awareness) that are required when using ICT and digital media to perform tasks; solve problems; communicate; manage information; collaborate; create and share content; and build knowledge effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation, learning, socialising, consuming, and empowerment.*” Thus, digital competence is specifically related to using ICT solutions in contexts like learning, work and social participation (European Commission, Directorate-General for Education, Youth, Sport and Culture, 2019). Furthermore, Calvani et al. (2008) have indicated that digital competence is a multidimensional phenomenon characterised by technological (flexibly exploring new technological contexts), cognitive (access, selection and critical evaluation of information), and ethical (responsibly interacting through ICTs) dimensions and their integration. A systematic review of research about definitions, synonyms and background domains of digital competence is given by (Ilomäki et al., 2016; Spante et al., 2018).

Thus, the professional competence of ICT specialists consists of a set of competencies, and digital competence is only one of them (see Figure 1).

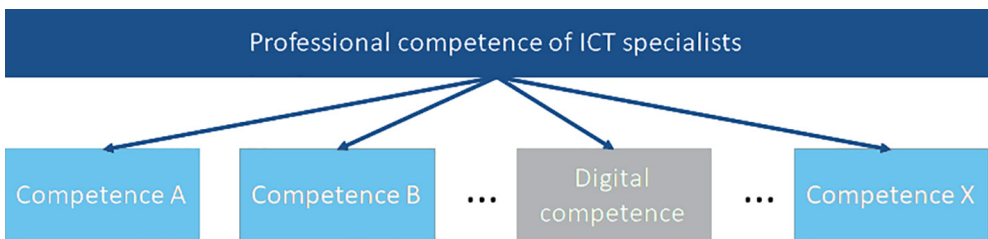


Figure 1 Digital competence as a component of professional competence of ICT professionals

Results

Research question 1: What are the possible types and structures of digital competence of ICT professionals?

During the research, only one information source was found that considered different types of digital competence in the context of ICT specialists. Álvarez-Rodríguez and Vera (2022) have specified both specific and transversal digital competencies adopting their definitions from the Mexican National Accreditation Council in Informatics and Computer Science:

- specific digital competencies are the necessary competencies defined for the specific profile of a specialist in the field of ICT, such as a computing specialist, software engineer, computer science specialist, computer engineer, data engineer, cyber security engineer and Internet of Things engineer;
- transversal digital competencies are the necessary competencies for using ICT as an intermediary between different work participants or as a work management tool, and they include the following competencies, which can be realised with the help of ICT solutions: oral and written communication, information analysis and synthesis, problem approach and solving, solution modelling, autonomous learning, teamwork, decision making, and effective use of ICT tools (including new technologies).

This viewpoint is well aligned with the specificity of the everyday work of ICT specialists. Those who are working in the ICT field use technology both:

- for their direct job duties, such as testing tools for executing software system tests, programming environments for coding, version control systems for tracking changes in software code, and others, and
- for performing supporting tasks such as communication with members of a specific project team, organisation of one's work, and others.
- Thus, specialists in the field of ICT need both specific digital competence, which requires the use of ICT solutions for the work to be performed in the field of ICT, and transversal digital competence, which is related to the use of ICT solutions for supporting tasks.

Research question 2: What models and frameworks of digital and professional competence of ICT specialists have been developed?

In the European Union, transversal digital competence is described by the DigComp framework, version 2.2 of which appeared in 2022. It can be attributed to any field, also the ICT field. The framework is structured in several dimensions (Vuorikari et al., 2022):

- the first dimension consists of five basic components of digital competence: Information literacy and computer literacy; Communication and cooperation; Creation of digital content; Safety; Problem solving;
- in the second dimension, a total of 21 specific competencies are defined, dividing them by the components mentioned above;
- the third dimension specifies skill levels;

- the fourth dimension provides examples of knowledge, skills and attitudes according to each previously defined competence;
- the fifth dimension describes the use cases of competencies.

The analysis of information sources allowed identifying a number of models and frameworks used to describe specific competencies in the ICT field. Certain models are more general and are intended for a broader range of ICT specialists without distinguishing a specific position or role (see Table 1). Other models, on the contrary, focus on competencies specific to a specific ICT position or role (see Table 2). Finally, there are also models that, on the one hand, provide a more general view that applies to ICT professionals in general, but on the other hand, are adaptable to a specific position, role or sub-sector of the ICT field, for example, in the SFIA 8 model, together with a general view, there are available also digital transformation skills view, software engineering competencies, DevOps skills view, big data/data science skills view, information and cyber security skills view, enterprise IT view (The SFIA Foundation, 2021).

Table 1 General competence frameworks for the ICT field

Model or Framework	Published; Current version year	Developer	Country	Structure
European e-Competence Framework (e-CF) (CEN, 2014a)	2008; 2020	European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC).	European Union	Four dimensions: 5 e-Competence areas encompassing 40 e-Competences, 5 e-CF proficiency levels, and examples of knowledge and skills.
Information Technology Competency Model (U.S. Department of Labor, 2021a)	2012; 2021	U.S. Department of Labor, Employment and Training Administration	USA	9 tiers; 1.–3. foundational competencies, 4.–5. industry competencies; 6.–9. specialisation competencies
SFIA 8 model (The SFIA Foundation, 2021)	2000; 2021	SFIA Foundation	United Kingdom	Six knowledge and skill categories, 121 skills, and 495 unique skill-level descriptions.
ESCO (European Skills, Competences, Qualifications and Occupations) (European Commission, n.d.)	2010; 2020	European Commission	European Union	Descriptions of 3008 occupations and 13890 skills.
Skills Framework (SFw) for Infocomm Technology (Government of Singapore, 2022)	2017; 2022	SkillsFuture Singapore (SSG), Workforce Singapore (WSG), Infocomm Media Development Authority (IMDA)	Singapore	Two main components – technical competencies and generic competencies, including competency proficiency levels.

Table 2 Specific competence frameworks for the ICT field

Model or Framework	Published; current version year	Developer	Country	Structure
Enterprise Security Competency Model (U.S. Department of Labor, 2020)	2015; 2020	U.S. Department of Labor, Employment and Training Administration	USA	9 tiers; 1.–3. foundational competencies, 4.–5. industry competencies; 6.–9. specialisation competencies.
Cybersecurity Competency Model (U.S. Department of Labor, 2021b)	2017; 2021	U.S. Department of Labor, Employment and Training Administration	USA	9 tiers; 1.–3. foundational competencies, 4.–5. industry competencies; 6.–9. specialisation competencies.
Unified Competence Gate for Software Professionals (UComGSP) (Assyne et al., 2022)	2022	Assyne, N. Ghanbari, H. & Pulkkinen, M.	Finland, Estonia, Ghana	62 hard competencies, 63 soft competencies, and 25 essential software engineering competencies.
Competency Framework for Software Engineers (Rivera-Ibarra et al., 2010)	2010	Rivera-Ibarra, J.G., Rodríguez-Jacobo, J., Fernández-Zepeda, J. A., & Serrano-Vargas, M. A.	Mexico, USA	Technical competencies–knowledge and use of technology; Social – interpersonal relationships, cooperation and teamwork, handling and solving conflicts; Personal – development in the job environment, personal development, rights and limits.
Software Engineering Competency Model (SWECOM) (IEEE Computer Society, 2014)	2014	IEEE Computer Society	USA	Technical skills (divided into life cycle skill areas and cross-cutting skill areas), cognitive skills, behavioral attributes and skills, requisite knowledge, and related disciplines.
Software engineering body of skills (SWEBOS) (Sedelmaier & Landes, 2015)	2015	Sedelmaier, Y., & Landes, D.	Germany	Content: collaboration, communication, structuring one’s way of working, personal competencies, problem awareness, problem-solving, and additional competencies.
Software Assurance (SwA) Competency Model (Hilburn et al., 2013)	2013	Hilburn, T., Ardis, M., Johnson, G., Kornecki, A. & Mead, N.R.	USA	Knowledge areas and units related to SwA competency, competency levels from 1 to 5, along with a breakdown of individual competencies based on knowledge and skills.

Research question 3: How is digital competence displayed in existing frameworks and models of digital and professional competence of ICT specialists?

The digital competence of ICT specialists is typically not separately distinguished and described in the competence models and frameworks considered in Tables 1 and 2. References to specific technology or activities with specific technologies may appear in the description of particular competencies; for example, in the European e-Competence Framework, they are included in the descriptions of examples of knowledge and skills (CEN, 2014b). In (Rivera-Ibarra et al., 2010), the use of technology is distinguished as a separate group of competencies in competencies related to job functions and includes assessment and selection of ICT tools, as well as their adaptation and use. Such ignoring of digital competence is most likely because the work of ICT specialists mainly involves the intensive use of various technologies for the performance of daily professional tasks and, as a result, the digital competence of ICT specialists, in this case, is closely intertwined with other competences and is therefore considered to be possessed by ICT specialists by default.

Similarly, the Information Technology Competency Model (U.S. Department of Labor, 2021a) defines the competencies required for individuals to excel in information technology, including their knowledge, skills, and abilities. The model is presented as a pyramid with multiple tiers, organised based on the increasing specialisation and specificity of skills required. The pyramid structure does not suggest any hierarchical arrangement of competencies, nor does it imply that the skills at the top are of higher importance than those at the bottom. Each pyramid tier is further divided into blocks that represent specific competency areas. This framework highlights fundamental IT user skills, such as using a computer, communication devices, and related applications to input, retrieve, and communicate information (U.S. Department of Labor, 2021a). This model includes working with tools and technology in the workplace competencies section.

The SFIA 8 model (Hayashiguchi et al., 2022; Raj et al., 2021; The SFIA Foundation, 2021; UNESCO-UNEVOC, n.d.) includes six knowledge and skill categories: strategy and architecture, change and transformation, development and implementation, delivery and operation, people and skills, and relationships and engagement. It includes the development of digital skills and abilities such as data analysis, software engineering, cybersecurity, network management, project management, communication, and collaboration skills. SFIA version 8 has expanded digital competencies, such as digital management and digital transformation, which are essential to promote the development of digital skills and adaptation to the rapidly changing IT industry.

In the field of ICT, ESCO defines ICT-related occupations and skills required for these roles, such as computer use, database and network design and administration, software and applications development and analysis, and more (Sanz et al., 2018; Varbanov & Georgiev, 2018).

The Skills Framework for Infocomm Technology (Government of Singapore, 2022) describes various skills and competencies for working in different ICT sectors, such as software engineering, data analytics, network management, and project management.

The framework consists of several modules, including modules of technical skills and modules of soft skills and behavioural competencies. The job roles' skills and competencies are categorised into two main types: technical skills and competencies, and critical core skills, formerly referred to as generic skills and competencies. The technical skills modules cover various areas relevant to digital competence, such as software development, database management, cloud computing, artificial intelligence, and the Internet of Things. Overall, the Skills Framework for Infocomm Technology supports the development of a highly skilled and adaptable workforce in the digital economy, which is essential for the growth and competitiveness of the ICT industry in Singapore and beyond.

Discussion

According to the analysis made, the digital competence of ICT specialists is divided into:

- professional digital competence, which is related to knowledge, skills and attitudes related to the use of ICT solutions for the work to be carried out in the field of ICT;
- transversal digital competence, which is knowledge, skills and attitudes related to the use of ICT solutions for supporting tasks, such as communication with other employees, work organisation, network etiquette, and others.

Taking into account the fact that there are both general descriptions of professional competence of ICT specialists and specific descriptions of positions and roles, it is possible to claim that professional digital competence is also divided into two types:

- general professional digital competence, which is attributed to any specialist in the field of ICT and provides a set of general knowledge, skills and attitudes regarding the use of technology for professional duties in the field of ICT, for example, knowledge of the internal structure and principles of operation of computers, organisation of computer networks, types of data storage, programming environments, and others;
- specific professional digital competence, which covers skills, knowledge and attitudes required for the specific position/roles in the field of ICT.

The conceptualisation of digital competence for an ICT specialist is reflected in Figure 2. It also specifies an appropriate competence framework for each of the competence groups. The DigComp framework developed in Europe is suitable for describing transversal digital competence. The European e-Competence Framework specifies general professional digital competence. Specific professional digital competence is different for different roles. Figure 2 gives an example of this type of competencies for a cybersecurity specialist.

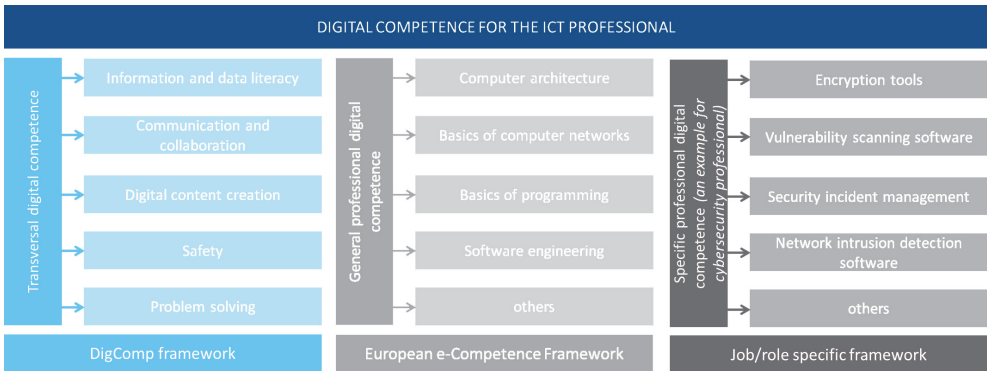


Figure 2 Conceptualisation of digital competence for ICT professionals

Conclusion

Professional competence frameworks and models are essential tools for employers and professionals in the ICT field to ensure they have the skills and knowledge required to succeed in their roles and help guide professional development and educational programs. Nowadays, many frameworks exist. They differ in scope, coverage, structure, and level of detail. Digital competence is a part of the professional competence of ICT professionals. The paper has demonstrated that it is a multifaceted phenomenon as it comprises transversal digital competence, general professional digital competence and specific professional digital competence. All three types of digital competence must be addressed and developed in the study process of ICT professionals in HEIs.

Further research could be directed to validating the proposed conceptualisation of digital competence for ICT professionals by engaging ICT practitioners and enterprises in its evaluation and refinement. Additionally, it would be rational to do an inventory of existent and identify missing frameworks that can be used to describe specific professional digital competence.

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EVALUATION CRITERIA OF MASSIVE OPEN ONLINE COURSES

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ABSTRACT

Over the past decades, distance learning has become an increasingly popular way of acquiring knowledge. It resulted into the emergence of Massive Open Online Courses (MOOCs) that has provided a starting point for their active use in the education system. The recent global pandemic caused by the coronavirus disease has accelerated the development of distance learning, leading to an urgent need to evaluate the effectiveness and impact of MOOCs. Therefore, given that MOOCs are already being actively used as a new model of learning, and their importance in future education has only increased, the aim of the study is to identify optimal evaluation criteria for MOOCs in order to critically assess these courses and affect their quality level. In this paper, the author reviews the theoretical research using content analysis and formulates essential criteria for evaluating MOOCs, which can be used in the future for developing a more comprehensive quality assurance protocol. The criteria include curriculum organisation, teaching quality, methodology, technical aspects, motivation and culture, layout, evaluation, and recognition. The author emphasises the importance of MOOC evaluation and suggests that more practical research could help to determine more precise evaluation criteria for specific courses. Overall, this paper highlights the significance of MOOCs in future education and the need for critical evaluation to ensure their effectiveness in providing high-quality learning experiences for participants.

Keywords: *criteria, distance education, evaluation, Massive Open Online Courses, professional development.*

Introduction

The rapid development of information technologies over the past decades has resulted in the emergence of distance learning, which allows one to acquire knowledge from various fields and educational institutions located in any country. Furthermore, due to biological and social factors, such as the global pandemic of the coronavirus infection COVID-19 in December 2019, the distance learning process began to develop more intensively (Li & Lalani, 2020). An unprecedented pandemic crisis had a noticeable impact on the entire society, including the educational system. The relevance of the paper is justified by the fact that a series of recent events has provided a starting point for

the popularisation of Massive Open Online Courses (MOOCs) worldwide, including author's country of origin Latvia. This learning model is a modern and efficient opportunity for teachers to develop professionally.

According to the author's opinion, MOOCs can be a cost-effective and resource-effective supplement to traditional teacher professional development methods. MOOCs provide an affordable and flexible method for learning new skills, advance a career, and deliver high-quality educational experiences at scale. The adoption of open courses and open educational strategies is considered as a priority by the European Union in order to achieve the goal of universal education and professional development, which will promote competitiveness and growth among different specialists (European Commission, 2013).

A large number of MOOCs have been created by the world's top universities, including Harvard, Stanford, and the Massachusetts Institute of Technology, significantly raising the profile of this field. MOOCs are available on several online platforms, including "edX", "Coursera", and "FutureLearn". Massive Open Online Courses have been heralded as the democratisation of education due to the ability of anyone with a computer to participate in courses offered by these universities and many other academic institutions (Hollands & Tirthali, 2014). This has enabled students to gain knowledge from the top educational establishments, which was previously impossible. Furthermore, MOOCs have the potential to be more engaging than traditional lectures. For instance, they can use interactive multimedia, simulations, and games to engage students, thus increasing their motivation and enthusiasm for learning. Moreover, unlike traditional lectures, which are typically delivered to hundreds of students, MOOCs have no such limit and can potentially face the audience of tens of thousands of students. There are an increasing number of reasons for taking such courses, ranging from university-mandated ones to professional development and self-interested courses (Hew & Cheung, 2014).

Being widely recognised as a new form of online education, MOOCs were first introduced in 2008 and developed into a popular method of learning in 2012. In the next two years MOOCs were recommended for professional development in various fields (Vivian et al., 2014) including additional education of teachers (Koutsodimou & Jimoyiannis, 2015). In Latvia, MOOCs started to become popularised only in the last three years (Roze, 2021; Kultūras informācijas sistēmu centrs, 2021). In order to comprehend how successful, high-quality, understandable, and accessible this model of learning is, it is necessary to conduct a critical evaluation of these courses alongside with the rapidly growing interest in MOOC education.

The research problem is related to the fact that currently little is known about the methods used to assess MOOCs, in addition, the research data is limited, particularly in the context of Latvia. As the field of MOOCs is still relatively new, there is still much research that needs to be done to develop and validate effective evaluation criteria. Peer review and discussion forums are currently the main techniques that are available to give course participants feedback in the majority of MOOCs. This method involves asking participants in the MOOC to review and comment on the assignments of other students. It is also the most affordable strategy because, unlike mixed models, it does not require

hiring a large group of support instructors (Qian et al., 2017). The author of the paper believes that evaluating MOOCs effectively is vital to ensure the delivery of high-quality courses considering their increasing popularity. However, it is also important to consider their low completion rates, which amount to 7–10% according to the recent studies (Fu et al., 2021).

Answering to the research question, this theoretical study examines what the optimal criteria for evaluating the Massive Open Online Courses for professional development of teachers are. Therefore, the aim of the paper is to analyse the evaluation criteria for Massive Open Online Courses and to present the most important ones that should be considered while designing, implementing, and evaluating MOOCs, which will be helpful for teachers, course developers, and education policymakers. It is achieved using content analysis method of theoretical literature on the topic in order to review available criteria used to assess MOOCs. In the future, it will be possible to use this paper in practical research for development of a MOOC evaluation protocol or creating authentic Massive Open Online Courses.

Methodology

The available theoretical literature on MOOC evaluation criteria was examined using a systematic approach in this study. The research involved a content analysis method, which is widely used for systematic, objective, and quantitative analysis and interpretation of communication messages (Krippendorff, 2013).

The sample used in this study consisted of relevant research articles and reports specifically focused on MOOC evaluation criteria. To ensure a comprehensive analysis, the study utilised multiple databases, including PRIMO, Eurostat, IEEE Xplore, and the Google Scholar search engine. The analysis was restricted to articles published between 2013 and 2022 in English and Latvian languages. The keywords used in the search were “MOOC evaluation criteria”, “MOOC assessment”, “MOOC quality”, and “evaluation of MOOCs”.

To identify and extract relevant information, each article was carefully read multiple times. This process allowed for the collection of definitions of MOOC evaluation criteria, evaluation frameworks, and assessment methods used in evaluating MOOCs. The extracted data provided the foundation for the analysis and identification of the eight basic quality assurance criteria for evaluating the effectiveness of MOOCs.

Evaluation criteria for Massive Open Online Courses

The aim of MOOC assessment is to create effective evaluation criteria that identify performance indicators and course characteristics. The author of the paper contends that to achieve this objective, it is necessary to first understand the purpose of the specific MOOC, which aids in determining which aspects of the course must be evaluated and establishing the criteria for measuring its success. Any training programme, including MOOCs, requires structured evaluation to identify weaknesses, examine performance,

and assess outcomes. The data collected is gradually analysed to identify areas for improvement that can enhance the course quality.

Conducting research on various theoretical sources, mainly including “Massive Open Online Courses (MOOC) Evaluation Methods: Protocol for a Systematic Review” by Foley et al. (2019), “Understanding Learners’ Perception of MOOCs Based on Review Data Analysis Using Deep Learning and Sentiment Analysis” by Xieling et al. (2022), “Learner Engagement, Retention and Success: why Size Matters in Massive Open Online Courses (MOOCs)” by Padilla Rodriguez et al. (2019) and “Challenges and Opportunities for Effective Assessments Within a Quality Assurance Framework for MOOCs” by Xiao et al. (2019) has resulted into the identification of eight basic and prevalent quality assurance criteria that can be applied to evaluate the effectiveness of MOOCs. By using these criteria for MOOC evaluation, institutions can ensure that their courses meet high standards of quality, effectiveness, and impact, and that they provide meaningful learning experiences for their students:

- 1) curriculum organisation;
- 2) quality of teaching;
- 3) methodology;
- 4) technical aspects;
- 5) motivation and culture;
- 6) layout;
- 7) evaluation;
- 8) recognition.

Each of the eight basic quality assurance criteria for MOOC evaluation has several subsections that provide additional specificity and detail to help with the evaluation process. These subsections, in author’s opinion, may differ depending on the specific MOOC being evaluated. All of them will be described further below.

Curriculum organisation

MOOC course content organisation can include points such as relevance of materials to the course subject, topicality, provision of different ways of work organisation, and usefulness of courses.

In order to determine the relevance of the curriculum to the course topic, the course vision must be clearly defined. For example, if the objective of the course is to improve teachers’ digital skills, this should be stated so that it is possible to assess whether the MOOC is working towards this vision or not.

MOOC content should be updated to reflect the most recent research findings on the topic. Particularly in the context of today’s changing educational conditions, such as the implementation of teaching reform in schools, the pandemic crisis, and teacher shortages, which all lead to gradual or even rapid changes in the educational process. Checking whether a MOOC course has been accredited by a leading expert, for example, can ensure that the information in it is up to date (Xiao et al., 2019).

In this case, the course's usefulness is defined as an opportunity for MOOC participants to not only broaden their knowledge, but also to apply it in practise in their daily work, thereby facilitating their work routine and keeping up with innovations.

Other sub-points that are important to consider regarding MOOC content are:

- correct description of the MOOC's goals and tasks;
- MOOC week/total student workload;
- clear explanation of the results to be achieved;
- compliance of MOOC learning results with the requirements of the European Qualifications Framework (EQF)/Latvian Qualifications Framework (LQF) and employer's needs;
- determination of the evaluation system: tools, description, evaluation criteria, and scale (Yousef et al., 2014).

In addition to the points mentioned above, the language and style of the MOOC course content should be considered. The language used should be clear, concise, and simple enough for the target audience to understand. It is also critical to ensure that the course content is presented in an engaging and interactive manner in order to keep the learners' interest and attention throughout the course. It is also critical to ensure that all learners, including those with disabilities or learning difficulties, can access the course content. This can be accomplished through the use of captions for videos, accessible fonts and colour schemes, and alternative text for images and other visual elements (Xieling, 2022).

Author of the paper advises considering time frames for tasks and MOOCs in total when organising the course curriculum. The appropriate duration of a full MOOC is a complex issue that depends on a variety of course design and content factors. Depending on the course's objectives and learning outcomes, the length of a MOOC can range from a few hours to several weeks or months. Moreover, Massive Open Online Courses are well-known for adaptability, which allows to accommodate learners' varying schedules and time constraints. The majority of MOOCs offer modules for self-paced learning, enabling learners to finish the course within a flexible timeframe that is most suitable for their individual needs (Breslow et al., 2013).

Several studies have been conducted to determine the optimal length of MOOCs. The most appropriate length of a MOOC according to one of the research projects is approximately three weeks with an average of two to three teaching hours per week (Padilla Rodriguez et al., 2020). According to the study, MOOCs that are too short may not provide enough depth of content, whereas courses that are too long may result in learner fatigue and high dropout rates. Another study published in the *International Review of Research in Open and Distributed Learning* discovered that shorter MOOCs are more likely to be completed by learners (Liyaganunawardena et al., 2013). According to the results of the research, MOOCs that are three weeks in length are more likely to result in higher completion rates.

In general, the appropriate length of a MOOC course is a multifaceted issue that does not have a single, definitive answer. Nonetheless, based on research, it appears that

MOOCs that last for around three weeks and require two to three hours of learning time per week may lead to greater rates of both engagement and completion. However, it is crucial to recognise that this recommendation may differ depending on the unique needs and preferences of individual learners and the subject matter being taught.

Finally, in order to meet nowadays' requirements, MOOC learning content should be modern, meaningful, well-structured and have optimal length. Therefore, curriculum organisation is one of the aspects that is directly related to the formation of teaching quality.

Quality of teaching

Massive Open Online Courses often lack traditional and regular interactions between teachers and students, making the quality of teaching especially important. The quality of teaching in MOOCs encompasses several factors, including teaching competence, theoretical and practical knowledge, learning experience, and communication skills.

To ensure the quality of the material presented, MOOC instructors should be qualified and experienced in the field. Factors such as the instructor's level of education, degree, number of publications, teaching and online education experience, as well as personal qualities that are relevant to teaching MOOCs, for instance, good presentation skills, proficiency in English, and articulation required for video lectures, are all important considerations (Xiao et al., 2019; Yepes-Baldó et al., 2016).

Recent research has emphasised the importance of incorporating social learning and collaboration opportunities into MOOCs in order to improve the learning experience (Padilla Rodriguez et al., 2020). Collaborative activities such as group projects, online discussions, and peer-to-peer assessments can help to foster a sense of community and provide opportunities for learners to share knowledge and feedback with their peers.

Furthermore, latest studies have emphasised the significance of personalised learning in MOOCs (Kizilcec et al., 2017). Personalised learning involves adapting the course content and delivery to individual learners' needs and preferences. This can be achieved by implementing adaptive learning technologies, personalised feedback, and personalised learning paths.

In addition to having the necessary qualifications and experience, a skilled MOOC instructor must be capable of selecting or developing the most appropriate MOOC methodology. This requires a thorough understanding of the course content, as well as the ability to deliver it in a way that engages and motivates learners. In author's opinion, a well-designed MOOC methodology is a significant aspect to improve learning outcomes and ensure that students have a positive learning experience.

Methodology

In the development of Massive Open Online Courses, the methods used are heavily influenced by the target audience, necessitating prior research into the needs, expectations, and age range of potential course participants. The involvement of a diverse group

of individuals with knowledge and experience from various fields, including academics, practitioners, and policymakers, is considered advantageous in the creation of MOOCs (Costello et al., 2018).

A student-centred approach is deemed the most appropriate teaching method in MOOCs, as highlighted by Yepes-Baldó et al. (2016). In addition to that author of the paper highly recommends the integration of social presence. According to Arbaugh and Benbunan-Fich (2007), the sense of a real human presence in digital interactions involves the degree to which individuals in a virtual environment feel connected to each other. The use of such strategies as icebreakers, introductions, and online discussions, can enhance the social presence of students in the course, leading to increased engagement and satisfaction (Nasir, 2020).

When implementing a student-centred approach in MOOCs, it is important to consider several key aspects. These include respecting the diversity of student needs by providing appropriate learning methods, utilizing different ways of implementing the programme, using diverse pedagogical methods according to the circumstances, supporting students and encouraging their independence, ensuring mutual respect between the course participants and the instructor, and establishing an opportunity for students to submit their questions and feedback (ESF project, 2017). Author of the paper believes that the use of online tools can easily facilitate the last aspect, making it crucial for MOOCs to have good technical support.

Technical aspects

In the context of MOOCs, the technical aspect is a critical factor for course success. It encompasses several components, including the user interface, video content, learning and social tools, technical performance, platform connectivity, and accessibility. To ensure the highest quality of learning curriculum, it is essential to only use licensed materials, and if necessary, obtain permission from the author to publish the materials (Miao et al., 2019).

In designing a MOOC, the user interface must be simple, intuitive, and appealing to potential course participants. The interface should be easily accessible from both the web and mobile app. Videos are a particularly effective medium for reflective learning, and their professional creation is recommended. To enhance learner engagement and retention, videos should be short, concise, and unique, with a recommended duration of 5–10 minutes (Yepes-Baldó et al., 2016).

Communication is a vital component of MOOCs, and the use of social media tools or a communication platform is necessary. Social media networks are also useful for MOOC promotion and updates. MOOCs must be compatible with a broad range of operating systems, including Android, Linux, Apple iOS, Microsoft Windows, and other smart devices, such as desktops, tablets, and smartphones. The course should also be accessible both online and offline to ensure all students have equal opportunity for participation (Foley et al., 2019).

In author's opinion, in order to provide high-quality MOOCs, the technical aspects should be carefully considered and regularly updated. While technical performance and connectivity are critical, course providers should also strive to make the courses accessible to all learners. According to Foley et al. (2019), this includes making the platform compatible with assistive technologies for individuals with disabilities and ensuring that the course is available in multiple languages to accommodate learners from diverse linguistic backgrounds.

Prior to release, a MOOC must undergo thorough testing to ensure the technical component is functioning as expected. The course material must be error-free and function without issue, as technical difficulties may lead to reduced motivation to continue learning in the course.

Motivation and culture

In the context of MOOCs, creating a motivating and inclusive learning environment is crucial for encouraging course participation and success. This can involve implementing reward systems, presenting engaging and enjoyable content, and avoiding discrimination based on factors such as origin, race, gender, religion, or beliefs. Additionally, personal or social circumstances should not pose restrictions on MOOC participation. While a lack of prior knowledge or formal education should not be considered a barrier to entry, it is important to note that some MOOCs, such as those designed for teacher professional development, may require certain levels of education or experience (Yepes-Baldó et al., 2016).

In addition, personalised learning has been shown to have a positive effect on learners' motivation and engagement in MOOCs, according to research conducted by Kizilcec et al. (2017). In particular, MOOCs that offer personalised learning paths and adaptive assessments have been found to improve learners' motivation, satisfaction, and achievement.

Collaborative learning, which involves the use of discussion forums, group projects, and other social interaction tools to facilitate learner engagement and knowledge sharing, is another important aspect of motivation. MOOCs that incorporate social interaction, peer assessment, and team-based projects have been shown in studies of Pursel et al. (2016). The results presented higher levels of learning, completion rates, and learner satisfaction. Collaborative learning also allows students to form social networks and gain support from their peers, which is especially beneficial for students who are studying independently.

Finally, to attract and retain potential MOOC participants, it is significant to ensure that the course is presented in an interesting and engaging manner, with an individualised style and easy-to-understand materials. Thus, the evaluation criteria for a MOOC should include these factors as well.

Layout

This criterion includes the course's visual design, effective presentation, a modern course manual, and an individual style. Author of the paper contends that a well-designed layout can help learners navigate the course materials more easily, find relevant information quickly, and enhance their overall learning experience. While developing a layout for the MOOC, the use of clear and consistent headings and subheadings, the organisation of course materials into logical and digestible chunks, and the use of visual aids, such as images, videos, and diagrams, must be considered. A promotional video for the course may be created in order to heighten the interest of potential course participants. Before beginning the course, it is necessary to conduct a survey of the participants to determine their preferences and adjust the MOOC content to the students' needs.

After completing the MOOC, it is critical to solicit feedback from participants in order to determine what can be improved in the future. It is recommended that a feedback form be created for this purpose, which should include:

- overall MOOC impression and satisfaction;
- feedback on teaching practice;
- feedback on types of work;
- feedback on the technical implementation of MOOCs (Yepes-Baldó et al., 2016; Yousef et al., 2014).

Course participants, on the other hand, should be given the opportunity to evaluate not only the MOOC after completion, but also their progress and level of mastery of the material after each course module and after completing the entire course.

Evaluation

In the evaluation of MOOCs, assessing learning progress is a crucial criterion that can be achieved through various online assessment methods, such as peer assessment, self-assessment, and examination. Studies suggest that the use of multiple evaluation methods in MOOCs can enhance the learning experience by making it more engaging and effective for students (Xiao et al., 2019). For instance, peer assessment can promote students' critical thinking and evaluation skills as they provide feedback on their peers' work. Similarly, self-assessment can enhance students' self-awareness and metacognitive skills as they reflect on their learning progress and identify areas for improvement. A self-assessment form can be designed to rate participants' knowledge for each learning objective on a scale of 1 to 10, with "1" indicating poor knowledge and "10" indicating expert-level knowledge. Alternatively, participants can enter "N/S" (Not Stated) if they perceive the learning objective as irrelevant to their field of work (Yepes-Baldó et al., 2016).

Several MOOCs also incorporate benchmarking exercises to evaluate student performance, which may occur at different stages of the course. Benchmarking can be achieved through automated online tutors, feedback from other course participants, automatic scoring, test-type tasks, written comments, verbal comments, or emoticons (Xiao et al., 2019; Yepes-Baldó et al., 2016).

Overall, to ensure the reliability and validity of these assessment methods, the author of the paper recommends establishing clear and specific evaluation criteria and providing adequate training for both students and instructors. By doing so, the evaluation process can be more objective and accurate, and students can receive meaningful feedback to help them improve their learning outcomes.

In conclusion, meeting the above evaluation criteria to a significant extent will impact the recognition and popularisation of MOOCs.

Recognition

Various factors contribute to the success and recognition of MOOCs. As mentioned earlier, accessibility, up-to-date content, and relevance are important criteria. In addition, positive feedback from previous course participants can significantly impact the success of MOOCs, as well as the involvement of prestigious professors (Hew & Cheung, 2014).

Marketing and advertisement are also crucial in the success of MOOCs. A well-designed and targeted advertisement can attract a wide range of potential participants and increase the visibility of the course. In terms of distribution, numerous MOOCs allow users to download course materials and use them offline, which can increase accessibility and convenience for participants (Yousef et al., 2014).

In conclusion, meeting the established criteria for high-quality and effective MOOCs can significantly impact their recognition and success. Factors such as accessibility, up-to-date content, positive feedback, involvement of prestigious professors, effective marketing and advertisement, and convenient distribution methods can contribute to the success of MOOCs in the field of education.

Results

Based on the conducted research on evaluation criteria of Massive Open Online Courses, the main results are:

- A set of evaluation criteria for MOOCs was developed through an extensive literature review. The criteria are divided into eight main categories: curriculum organisation, quality of teaching, methodology, technical aspects, motivation and culture, layout, evaluation, and recognition.
- Overall, the evaluation criteria can be used to provide a comprehensive assessment of MOOC quality, helping institutions and learners make informed decisions about which MOOCs to take and where to invest their time and resources.
- The study also highlights the need for more standardised evaluation criteria across the MOOC industry to improve the comparability of courses, and for institutions to take a more active role in evaluating and improving the quality of the courses they offer.

Conclusions

This review does not provide standardised evaluation criteria, but there are considerations that should be taken into account in each assessment. The author of this paper believes that more practical research could help determine more precise evaluation criteria for specific MOOCs. In general, the author recommends using the following most important criteria in evaluating MOOCs: curriculum organisation, teaching quality, methodology, technical aspects, motivation and culture, layout, evaluation, and recognition. These criteria are discussed in greater depth in the main body of the work.

Given that the study's problem is a limited research data and knowledge about assessing MOOCs, one possible solution could be to conduct more empirical research to develop and test specific evaluation criteria for MOOCs, which could also be adapted to the Latvian context. Another solution is to encourage more collaboration and data sharing among MOOC providers, educators, and researchers in order to improve the quality and consistency of study on MOOCs. Additionally, educators and course designers could be trained and supported to create high-quality MOOCs that meet the diverse needs and preferences of learners.

According to the paper's author, MOOCs have the potential to revolutionise education by making high-quality learning resources accessible to a global audience. However, in order to realise this potential, MOOC providers must focus on delivering high-quality courses that meet the diverse needs and preferences of their learners. High-quality MOOCs require a careful balance of factors, including skilled instructors, effective teaching methodologies, robust technical infrastructure, and an inclusive and motivating learning environment.

This paper also suggests future research directions. One approach would be to investigate how these criteria are related and influence one another. For example, how different assessment approaches affect the methods used in MOOC course development. The author believes that the presented paper can serve as a foundation for a more comprehensive MOOC course quality assurance protocol across multiple platforms.

Author Note

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FACTORS INFLUENCING DIGITAL COMPETENCE OF HIGHER EDUCATION STUDENTS: A SCOPING REVIEW

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ABSTRACT

In today's society, digital competence is becoming increasingly relevant and important for functioning personally and professionally. Twenty-first-century students need competencies to adapt to a new type of individual information and individual-knowledge relationship, therefore, the education system should contemplate new ways for students' development in this so-called information and knowledge society. The purpose of the present scoping review is to provide a comprehensive overview of relevant research regarding factors influencing the digital competence of higher education students. Arksey and O'Malley's five-stage framework underpins the scoping review. Four databases were used to conduct the scoping literature review, including the EBSCOhost, Science Direct, Web of Science and Scopus. The inclusion criteria were peer-reviewed publications written in English from 2016–2022. Initially, 270 articles were found; the full texts of 67 articles were assessed; finally, 23 articles that met the inclusion criteria were included in the present research. This paper reports on three main categories: (1) characteristics of digital competence influencing factors, (2) digital competence measurement instrument, and (3) key findings. The study has identified the influencing factors of digital competence among university and college students, including socio-economic background, motivational belief strategies, attitudes towards ICTs, prior training on ICTs, digital citizenship skills, learning strategies, academic performance, study specialization, form and level. The study provides insights to improve students' digital competence education in universities. Future research should focus on interviewing students and educators to understand their perspectives on factors influencing digital competence.

Keywords: *influencing factors, digital literacy, digital competence, university students, higher education*

Introduction

Modern-day students have been raised in an era of information and communication technologies (ICTs) and exhibit a strong attachment and integration with a plethora of technological devices such as computers, video games, digital music players, video cameras, cell phones, and various other tools that are ubiquitous in the present-day digital era (Kennedy & Fox, 2013).

Students' digital competence plays a vital role in the new learning paradigm (Zhao et al., 2021). Digital competence can be understood as a beneficial component that allows making use of attitudes, knowledge, and processes related to information and communication technologies, through which students acquire skills to facilitate the transfer of knowledge and generate innovation (Iordache et al., 2017; Krumsvik, 2011). As they are the main subjects of education, students should be prepared to use digital competence in their academic life and careers (Radovanović et al., 2015).

Moreover, influenced by the Covid-19 pandemic, innovation has shifted teaching and learning, profoundly affecting learning models and philosophies. As prominent educational participants, students must be equipped with digital competence to face new challenges. However, most students must have the required or more detailed knowledge of digital competence.

Digital competence is becoming a more popular subject of multiple research articles. Digital competence related to the use of ICT is examined and assessed among university students (Arango-Morales et al., 2019; Galindo-Domínguez & Bezanilla 2021; Koyuncuoğlu, 2022; Krelová et al., 2021; Martzoukou et al., 2020; Silva-Quiroz & Morales-Morgado, 2022; Vishnu et al., 2022; Zhao et al., 2021) also at the secondary level (Calvani et al., 2009) or is looking at developing these skills among teachers (Benali et al., 2018; Ghomi & Redecker, 2019; Jiménez-Hernández et al., 2020; Romero-Tena et al., 2021) or another workforce (Murawski & Bick, 2017; Shiferaw et al., 2020) in order to create significant educational environments for future citizens.

At the same time, while this techno-social phenomenon of the digital age has created excessive expectations and assumptions among educators and teachers regarding the level of students' digital competence, there is a lack of information about the factors that contribute to the development of digital competence. In order to be able to purposefully develop students' digital competence, it is necessary to find out what factors influence and produce a higher level of digital competence. This scoping review aims to provide a comprehensive overview of relevant research regarding factors influencing the digital competence of higher education students.

Methodology

A scoping review refers to a process of mapping or summarizing the existing literature to understand the range of the field (Davis et al., 2009). To illustrate the search results of the research and to provide an overview of the inclusion and exclusion criteria, the scoping review method was used, which is based on the framework of Arksey and O'Malley's (2005), which consists of five steps:

- 1) Identifying the research question;
- 2) Identifying relevant studies;
- 3) Study selection;
- 4) Charting the data;
- 5) Collating, summarizing, and reporting the results.

To identify the categories of factors influencing digital competence, thematic analysis outlined by Braun and Clark (2006) was used.

Identifying the Research Question

To conduct a scoping review, the researchers formulated the following research question: What factors influence the level of digital competence among students in higher education?

Inclusion and exclusion criteria

Available publications were searched for in the following databases: the EBSCOhost, Web of Science, Science Direct, and Scopus. Studies were included if they were original English-language research articles, focusing predominantly on primary research studies on factors influencing the digital competence of higher education students. Any studies focused on other components of digital competence or target population were excluded. The detailed inclusion and exclusion criteria are given in Table 1.

The keywords and search terms used were organized as follows: (“digital competence factors”) AND (“students” OR “university”).

Table 1 Inclusion and exclusion criteria

Criteria	Included	Excluded
Time frame	2016–2022	Before 2016 and after 2022
Publication type	Online peer-reviewed articles	Policy documents, books, reports
Focus	Studies with a primary focus on factors Influencing Digital Competence	Articles focusing on other variables
Language	English	Other languages
Target population	Articles focusing on higher education students and digital competence assessment	Articles focusing on pupils, other population (seniors, special needs, adults)

Results

Study selection

The literature identification phase yielded 270 publications from the designated databases. Upon reviewing the abstracts, a substantial number of irrelevant articles, especially those regarding distinct populations, were identified. Subsequently, 42 records were removed, and the titles and abstracts of 228 articles were subjected to screening. Adhering to the predetermined inclusion and exclusion criteria, the abstracts of 67 publications underwent evaluation, resulting in the exclusion of 44 papers. Ultimately, 23 studies met the inclusion criteria. The selection of the workflow for the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) study can be observed in Figure 1.

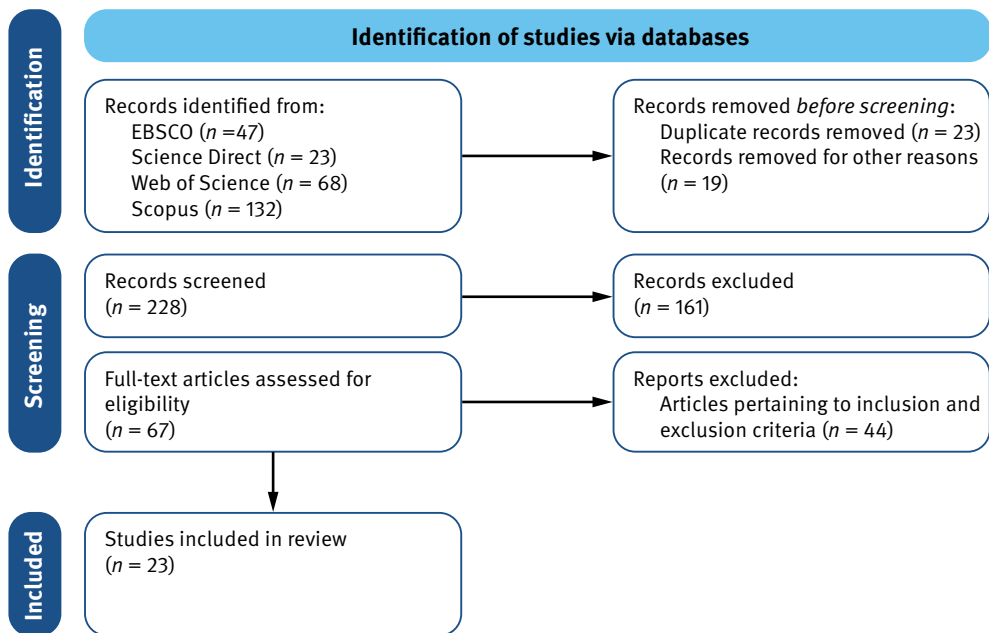


Figure 1 Flowchart depicting the search process for the scoping review in accordance with the PRISMA guidelines

Characteristics of included studies

This section presents an initial overview of the studies. Included studies are summarised according to author(s), year of publication, country, study participants, study design, digital competence assessment instrument, influencing factors characteristics and key findings in Table 2.

This scoping review identified 23 articles from 15 different countries. The majority of the studies were conducted in China and Spain, with five studies each. Two studies were conducted in Chile, and one study each in the United Kingdom, Taiwan, and Malaysia. Out of the 23 studies, 22 employed a quantitative approach, which involved a descriptive, cross-sectional correlational design. The remaining study used a mixed-methods design.

Table 2 Characteristics of included studies

Classification	Number	%
Research design		
Quantitative	22	96%
Mixed-design	1	4%
Location		
Asia (China, India, , Korea, Vietnam)	10	43.5%
Europe (Spain, Czech Republic, Germany, Greece, Turkey, UK, Scotland, Ireland & Greece)	10	43.5%
South America (Chile, Mexico)	3	13%

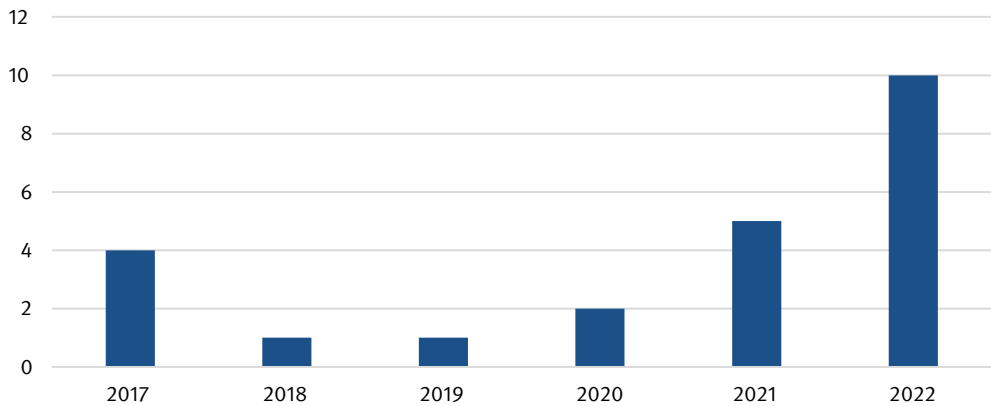


Figure 2. Numbers of articles identified per year

Table 3 Factors influencing digital competence level

Sociodemographic	Individual	Family	Personal factors in learning and learning environment	External
<ul style="list-style-type: none"> • Age • Gender (male) • Higher economic profile • Parents' education level • Urban areas 	<ul style="list-style-type: none"> • Prior training on ICTs • Personal effort to learn ICT • Digital informal learning (DIL); • Personal innovativeness • Technological Self Efficacy • Task Value Beliefs • Goal Orientation • Time management • Success status 	<ul style="list-style-type: none"> • Prior Digital Experience with Family • Parental support 	<ul style="list-style-type: none"> • Study program specialization • Study level • Study form • Students' approaches to learning • Curriculum proposal • Academic performance • Academic self- efficacy • Student autonomy • Teaching role 	<ul style="list-style-type: none"> • Covid19 • Digital citizenship skills

The results show that there has been a significant increase in interest in digital competence and its influencing factors in recent years, as most articles reviewed were conducted between 2020 and 2022 (see Figure 2).

The articles that were included in the selection process are shown in Appendix A, which provide an overview of the studies' design, population, characteristics of digital competence influencing factors and key findings.

The study samples varied in size, with the smallest being 59 participants (Martzoukou et al., 2022) and the largest being 17,301 students (Cabero-Almenara et al., 2022).

This scoping review explores five thematic categories of digital competence influencing factors: sociodemographic factors, individual factors, family factors, personal factors in learning and learning environment, and external factors (see Table 3).

Discussion

This scoping review compiled digital competence influencing factors among higher education students (see Appendix A). One of the most studied factors affecting digital competence is socio-demographic factors such as gender, place of residence, and income. A total of 23 studies were collected in this scoping review, of which 9 investigated the level of digital competence depending on gender. The obtained results show that men self-assess digital competence higher than women; this finding is confirmed by the results of 6 studies (Casillas et al., 2017; Nguyen & Habók, 2022; Prabhu et al., 2022; Vishnu et al., 2022; Wild & Schulze Heuling, 2020; Zhao et al., 2021). However, at the same time, several studies indicate that gender does not have a significant impact on digital competence (He & Chang, 2017; Koyuncuoglu, 2022; Vázquez-Cano et al., 2017).

Regarding the place of residence as a variable affecting digital competence, it should be noted that the digital divide between rural and urban areas still exists. The results of the studies reviewed in this scoping review also show that students who live in the city have a higher self-assessment of digital competence compared to students from rural areas (Silva Quiroz & Morales-Morgado, 2022; Zhao et al., 2021). The authors from the studies above suggested that this difference could be attributed to several factors, including the availability of resources such as access to high-speed internet, computer equipment, and technology-related infrastructure, which are often more limited in rural areas. Additionally, urban students may have greater exposure to digital tools and resources due to their proximity to urban centres where technological advancements are more frequently introduced and utilized.

Also, regarding age as a factor affecting digital competence, the results of the reviewed studies are ambiguous because, for example, within the framework of a study conducted in Spain, it was revealed that younger students show a higher level of digital competence (Cabero-Almenara et al., 2022). On the other hand, in the framework of the research conducted in Germany, on the contrary, older students showed higher levels of digital competence (Wild & Schulze Heuling, 2020).

It must be concluded that currently, there are contradictions as to whether factors such as gender and age affect digital competence because the research results are very different and are based on self-assessment instruments. Therefore, future research should be carried out with objective performance tests.

Another important group of factors affecting digital competence is connected to individual factors, such as prior training on ICTs, personal effort to learn ICT, informal digital learning, technological self-efficacy, task value beliefs, goal orientation, time management and success status.

The results of the included studies reveal that there is an association between previous training in the field of ICT and the subsequent development of the digital competence of students; that is, students who have received previous training showed a higher level of digital competence (Kim et al., 2018; Zhao et al., 2021).

Another crucial factor influencing digital competence was identified by Chinese researchers. They observed a positive correlation between students' digital competence and their engagement in digital non-formal learning. Moreover, students possessing a higher level of digital competence were found to engage with informal digital learning to a greater extent than those with a lower level of digital competence (He & Chang, 2017).

Digital non-formal learning is an informal learning process using digital technologies such as the Internet, learning platforms and mobile apps. It differs from formal learning in that it is not strictly organized and structured but based on individual interests and needs. On the other hand, in a study conducted in Spain, researchers found that students who managed their time more effectively and considered themselves to be more effective in their study process also showed higher levels of digital competence. The authors of the study mentioned above emphasized that persons who have a solid understanding of the use of information and communication technologies for various purposes (performing various tasks, searching for information, solving problems, etc.) are better able to solve tasks and manage their time, thus feeling more efficient and taking less harmful stress (Galindo-Domínguez & Bezanilla, 2021).

In contrast, a study examined the relationship between motivational belief strategies and digital literacy in digital learning among university students in Malaysia. The results showed that task-value beliefs and goal-orientation strategies promote digital literacy. Task value belief strategies encompass interest, utility, and intrinsic value (Pintrich, 1999). Goal orientation strategies are based on mastery, extrinsic, and relative ability orientation, which is vital in acquiring digital literacy (Wolters et al., 1996). This same study found that technological self-efficacy was the second most significant factor in predicting digital competence. There is an opinion that highly self-efficacious students are more adventurous in trying out anything new and put forth more effort, persistence, and perseverance in accomplishing tasks in digital learning (Prior et al., 2016; Shopova, 2014). Another notable finding from the scoping review was that students with exceptional academic performance exhibited more excellent digital competencies than their peers with low or average academic success levels (Koyuncuoglu, 2022).

Family-related factors were identified as the next group of factors affecting digital competence: prior digital experiences with family and parental support. For example, a study in Korea concluded that students' prior experience with digital technology, particularly with family, positively influenced their level of digital competence and attitude toward using digital technologies in college (Kim et al., 2018). Also, Li and colleagues point out that parental support significantly moderates digitalization, digital competence, and educational performance in college students (Li et al., 2022).

Students' digital competence is also affected by personal factors in the learning and learning environment: study program specialization, study level, study form, students' approaches to learning, curriculum proposal, academic performance, academic self-efficacy, student autonomy and teaching role (Arango-Morales et al., 2019; Galindo-Domínguez & Bezanilla, 2021; Koyuncuoglu, 2022; Krelová et al., 2021; Martzoukou et al., 2020; Wild & Schulze Heuling, 2020; Zhao et al., 2021)

Differences in digital competence have also been observed among students who study in study programs of different levels, emphasizing that senior-year students show a higher level of digital competence (Nguyen & Habók, 2022; Vishnu et al., 2022; Wild & Schulze Heuling, 2020; Zhao et al., 2021).

Within the framework of the scoping review, only one of the included studies analyzed the level of digital competence of students depending on the specialization of the study program; that is, in a study conducted by Wang and colleagues (2021), it was discovered that strictly female students from humanities and social sciences disciplines and lower-income families demonstrated the weakest digital competence compared to students from natural sciences and engineering disciplines (Wang et al., 2021).

Similar to the specialization of the study program, the form of study as a factor affecting digital competence is rarely studied. Among the 23 studies reviewed, only one study specifically examined the association between these two variables. The findings from this study revealed no statistically significant differences in the form of study (online versus face-to-face) and its effect on digital competence (Krelová et al., 2021). Therefore, further investigation is needed to understand better the relationship between the form of study and digital competence.

Curriculum proposal was identified as another factor affecting digital competence. A study by Arango-Morales and colleagues (2019) found that curriculum proposal has links with digital competence dimensions such as digital knowledge, network leadership and networked collaborative learning. The association of the teaching role with the curriculum proposal was showing that teaching skills, the use of pedagogical methods, and the professional experience of teachers as facilitators of knowledge support the effective management of the curricular proposal (Arango-Morales et al., 2019).

Research results regarding academic success rate as a factor influencing digital competence are mixed. This relationship was investigated in two of the 23 included studies, and in one case, a study by researcher Koyuncuoglu (2022) found no statistically significant differences. On the other hand, in China, it was proven that students with higher grades had shown better self-perception in all areas of digital competence (Zhao et al., 2021).

Another study revealed that student autonomy could affect the level of digital competence, i.e. students with higher independent learning skills also have a higher level of digital competence (Arango-Morales et al., 2019). The study mentioned above also investigated the role of the teacher in developing digital competence among tourism students and concluded that teaching role components as teaching skills, the use of pedagogical methods, and teachers' professional experience as facilitators of knowledge support the effective management of the curriculum proposal. Therefore, it has proven to have clear objectives and remain at the forefront of tourism education, thus helping students better develop digital competence (Arango-Morales et al., 2019).

Analyzing studies on factors affecting digital competence, such factors as digital civic participation skills and the impact of the Covid-19 pandemic were also identified. A 2021 study conducted in Spain confirmed that the crisis caused by the pandemic had

an impact on students' self-assessment of digital competence. Researchers Romero-Tena and colleagues found that students who did not experience the Covid-19 pandemic showed a higher digital competence self-assessment than those who had to study during the pandemic conditions (Romero-Tena et al., 2021). The effects of isolation, social distancing, and fear of contracting Covid-19 have impacted and potentially altered students' perceptions of their environment and themselves, leading to unfavourable learning outcomes. As education plays a crucial role in acquiring essential digital competencies today, there is a need to reconsider curriculum plans to better adapt to the demands of students' and teachers' digital competence.

On the other hand, the researcher Martzoukou conducted both in 2019 and 2021 in some groups of students, found that the previous daily participation of students as a digital citizen can contribute to several essential skills, such as the ability to identify information in different contexts, students' digital learning, digital abilities completing academic work, information literacy skills and the skills to manage their digital well-being and identity (Martzoukou et al., 2020; Martzoukou et al., 2022).

Limitations

The approach of this scoping review had limitations. First, the selection process, the inclusion, and the exclusion criteria have influenced the outcomes of this scoping review. The exclusion of non-English studies further limits the inclusion of potentially relevant studies. This scoping review did not conduct a quality appraisal of the research included, which may have influenced the interpretation of the research results. In most of the included studies, a correlational design was used, which does not allow for making unambiguous conclusions about causality. Therefore, they identified factors related to digital competence rather than only influencing factors.

Conclusions

Digital technologies have been largely introduced into all fields, including higher education. The current students have grown up surrounded by technology, which reflected in their behaviour and learning culture. This scoping review followed Arksey and O'Malley's methodology and reported results using PRISMA-ScR to provide factors influencing the digital competence of higher education students. This review found that many factors, such as sociodemographic factors, individual and family factors, personal factors in learning and learning environment, and external factors, influence the formation of digital competence. Through the results, students living in a digitally enriched environment at home and at university demonstrate that digital technologies are purposefully used in the study process. To appropriately support students, it is necessary to consider a customized approach based on students' digital experiences, including families, personal traits, attitudes, and efforts, which can nurture different levels of adaptability to digital technologies.

The digital competence influencing factors discovered in the scoping review could be helpful for both universities and education policymakers in developing digital competence assessment tools and supporting the effective development of digital competence in higher education.

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Appendix A

Overview of the articles identified through databases screening

First author, year, country	Study design	Study population	Key findings	Influencing factor	Thematic categories of influencing factors
Arango-Morales et al. (2019) Mexico	quantitative	400 tourism students	Teaching role, the curriculum proposal, and the student autonomy as elements of professional training impact digital competence to creatively develop and use digital knowledge, manage information in support of academic activities, effectively use the media, and promote collaborative learning and leadership in the network.	Teaching role Curriculum proposal Student autonomy	Personal factors in learning and learning environment
Cabero-Almenara et al. (2022), Chile	quantitative	17301 students	Older students self-evaluated themselves as less competent than the younger students. Students who have never repeated a course show better digital skills than those who have. If the students use more than three digital resources in their learning process, their probability of acquiring a high level of digital competence increases to 66%. For the students who had never repeated a course, the levels of education of both mother and father were significant predictors. As for the students who repeated, only the level of education of the father had an influence on the digital skills of the children.	Age Level of education of the Father Level of education of the Mother Repeated an academic year Use of ICT resources	Sociodemographic Personal factors in learning and learning environment
Casillas et al. (2017) Spain	ex post facto research	580 students	The results show that, of these future educators, men score higher than women in ICT knowledge and use, while women score higher in attitude.	Gender (Men)	Sociodemographic
Galindo-Domínguez & Bezanilla (2021) Spain	quantitative	200 students	Students who managed their time better and perceived themselves as more efficient in their work had higher levels of digital competence	Time management Academic self-efficacy	Individual Personal factors in learning and learning environment
He and Chang (2017), China	quantitative	235 students	University students' digital competence has a positive association with students' DIL, while students with higher level of digital competence tend to more get involved in DIL. No significant differences between men and women were found in the study.	Gender Digital informal learning (DIL);	Sociodemographic Personal factors in learning and learning environment

First author, year, country	Study design	Study population	Key findings	Influencing factor	Thematic categories of influencing factors
Jiménez-Cortés et al. (2017), Spain	quantitative	368 female students	Women who used a wider variety of strategies to learn ICT attained more advanced digital skills. Those who learnt intensively and expansively were the ones who reached the highest level of digital competence	Learning strategies	Personal factors in learning and learning environment
Kim et al. (2018), Korea	quantitative	381 university students	Students' prior experience with digital technology, particularly with family, positively predicts the level of digital competence and attitude toward using digital technologies in college. Prior digital experience with personal effort was verified as positively and significantly associated with attitudes toward digital technologies. Students' prior digital experiences positively and indirectly influence student engagement, which are connected to learning outcomes in higher education. College students who live in a digitally enriched environment at home and school are expected to engage in learning and adopt digital technologies effectively.	Prior experience (training) with Digital technology Family influence Personal effort to learn ICT	Family Individual
Koyuncuoglu (2022) Turkey	quantitative	373 students	No significant differences were found in the digital competence and technology competences of the participating university students in general according to their gender. Students with very high success levels were found to have higher digital competencies compared to students with low and medium success levels. Technological competencies of university students increase depending on digital competence.	Gender Success status	Sociodemographic Individual
Krelová et al. (2021) Czech Republic	quantitative	1233 students courses	Students who studied in higher-level programs showed higher digital competence. No statistically significant differences were found regarding the form of studies (online vs face-to-face).	Study level Study form	Personal factors in learning and learning environment

First author, year, country	Study design	Study population	Key findings	Influencing factor	Thematic categories of influencing factors
Li et al. (2022) China	quantitative	low-income college students	Findings exposed that with the 1% increase in digital competencies, sports educational performance will also increase by 0.307%	Parental support	Family
Lilian (2022) Malaysia	quantitative	583 students (19–22 years of age)	The study's findings corroborate a positive and significant relationship between goal orientation, motivational belief strategies, task-value beliefs and digital literacy competency.	Technological Self Efficacy Task Value Beliefs Goal Orientation	Individual
Martzoukou et al. (2020) Scotland, Ireland and Greece	quantitative	61 post-graduate students; 97 undergraduate students	More years of learning and previous experiences as a digital citizen within the everyday life of digital environment indicate a higher level of digital competence.	Year and level of study Digital citizenship skills	Personal factors in learning and learning environment External
Martzoukou et al. (2022) UK	mixed design	59 students	Digital citizenship skills have a positive impact on the development of different technical and higher-level digital competences.	Everyday participation as digital citizen (digital citizenship)	External
Nguyen & Habók (2022) Vietnam	quantitative	1661 students	Male students have a better knowledge of digital literacy than female students. Seniors and sophomores have a better DL knowledge than the two other year groups, and seniors achieved the best results in digital literacy tests compared to the other groups.	Gender (Men) Study level	Sociodemographic Personal factors in learning and learning environment
Niu et al., (2022) China	quantitative	477 university students	The deep and organized approaches to learning were positively associated with digital competence with statistical significance, while the surface approach to learning was negatively related to it.	students' approaches to learning	Personal factors in learning and learning environment
Prabhu et al. (2022) India	quantitative	359 hospitality graduates	Male students had better competence in solving technical problems, identifying needs and technological responses, innovating using technology creatively, and identifying digital competence gaps.	Gender (Men)	Sociodemographic

First author, year, country	Study design	Study population	Key findings	Influencing factor	Thematic categories of influencing factors
Romero-Tena et al., (2021) Spain	quantitative	559 students	Results showed that the group that did not experience the conditions caused by the Covid-19 pandemic showed a higher self-assessment of digital competence than the group of students who had to study during the conditions of the Covid-19 pandemic.	Covid-19	External
Silva-Quiroz & Morales-Morgado, (2022) Chile	quantitative	817 students	The level of digital competence was higher among students of private establishments and those who attend universities located in the central area.	Place of residence (urban area)	Sociodemographic
Vázquez-Cano et al. (2017) Spain	quantitative	923 students	Men had greater perceived competence in digital cartography and online presentations, whereas women preferred to request personal tutorials to resolve doubts about technology and had greater perceived competence in corporate emailing.	Gender	Sociodemographic
Vishnu et al. (2022) India	quantitative	833 students	The mean overall score of digital competence for male students was significantly higher than for female students. Male respondents tended to have higher mean scores in the specific dimensions of digital competence. Post-graduates and doctoral students had a higher mean overall score compared to first-year graduates.	Gender (Men) Study level	Sociodemographic Personal factors in learning and learning environment
Wang et al. (2021) China	quantitative	695 students	Female students from humanities and social sciences and lower-income families demonstrated the weakest digital competence compared to students from nature and engineering disciplines.	Study program specialization Economic profile	Personal factors in learning and learning environment Sociodemographic
Wild& Schulze Heuling (2020) Germany	quantitative	893 students	Students in cooperative higher education institutions had more advanced digital competencies than those in vocational training programmes. Male students showed slightly higher abilities than female ones. Older participants generally had more advanced competences	Study level Gender (Men) Age (older students)	Personal factors in learning and learning environment Sociodemographic

First author, year, country	Study design	Study population	Key findings	Influencing factor	Thematic categories of influencing factors
Zhao et al. (2021) China	quantitative	5164 university students	Men students rated themselves higher than women students in several sections of digital competencies such as information and data literacy, digital content creation and problem solving. Students in with the higher grades have showed better self-perception in all areas of digital competence. Digital competence is perceived to be on average better in students living in urban areas. Students with previous formal training show a higher level of self-perception in terms of digital competence.	Gender (Men) Place of residence (urban area) Academic performance Prior training on ICTs	Sociodemographic factors Personal factors in learning and learning environment Individual

DISTANT HANDS-ON APPROACH IN ICT TEACHING FOR ADULTS

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ABSTRACT

During Covid-19 pandemic ICT industry grew rapidly. This situation led to some positive aspects for teaching. Such technologies as virtual conference and classroom software made distant learning more possible than ever before. Faculty of Education, Psychology and Art of University of Latvia started further education courses in ICT for in-service teachers in June 2022. There were 3 pilot groups with 54 participants in total. A new program was developed according to the new curriculum of ICT subject in schools. Using the previously collected experience of distant teaching during Covid-19 pandemic, it was decided to use *Microsoft Teams*, *Moodle* and open source software to provide courses. Courses consisted of practical usage and teaching methodology of office, programming, media, computer graphics and web site development.

The purpose of this research was to find out the effectiveness of distant learning using the hands-on approach. The analysis of literature presented expectations of good results for adult teaching in subjects not demanding special equipment or laboratories. It was found that it was economy of resources such as time, money and special classrooms.

The target group was in-service teachers with pedagogical experience, learning to become teachers of ICT. Both sides: teachers and participants were warned to use the computer with at least 2 screens and a good quality internet connection. Teaching materials and assessments were placed in the *Moodle* system. Practices and trainings were recorded for later usage and study. Results of participants' questionnaire showed that courses were highly rated. In addition, results of final report assessment were highly rated by teachers. As conclusion, it revealed that distant teaching for adults in the ICT field using hands-on approach has a high value from the viewpoint of participants and teachers and it is useful to provide next courses using the approach described in this research.

Keywords: *adult teaching, distant teaching, hands-on, ICT teaching, educational courses, course planning, ICT education*

Introduction

Social restrictions during Covid-19 pandemic (year 2020 – 2022) raised a new viewpoint on technologies in education. It was not possible to meet people in the classroom

or working place depending on the restriction level in the appropriate field. This brought the society all around the world to a new understanding of Industry 4.0.

Industry 4.0 consists of PLC (Programmable Logic Controllers), IoT (Internet of Things), CPS (Cyber Physical Systems) (Vaidya et al., 2018). The focus point of Industry 4.0 is the paradigm change in information and logistics, which promotes decentralization, individualization and increase of network services (Gabriel & Pessl, 2016). It is different in every sector and type of company that affects the overall planning strategy (Ortt et al., 2020). Such descriptors of system were there before, but social restrictions pushed growth of technology usage rapidly. According to theory of unequal impact (Ortt et al., 2020), education was one of the fields with a big impact of technologies as there was evidence that readiness of technologies is close to serving distant teaching. It is very important to continue working in education even if it is partly available instead of waiting for “better times”.

The purpose of this research was to find out the effectiveness of distant learning ICT (Information and Communication Technology) courses for adults using the hands-on approach.

To reach the purpose, the following tasks were set:

- To analyse literature regarding teaching adults online
- To provide the ICT course for in-service teachers (participants)
- To provide student questionnaire regarding the quality of the course
- To evaluate final assessments of participants.

Hypothesis: a high quality ICT course output is possible working online using the hands-on approach.

A research question: how to organize effective ICT courses for adults?

Theoretical Framework

Since 2017, the competence-based learning “Skola 2030” has been introduced in Latvia (Ministry of Education and Science, 2019). The new curriculum consists of different topics of computer science, covering participants from the first grade instead of the fifth, and placing more focus on programming, design and computer graphics (Regulations Regarding the State Basic Education, 2020). Such an approach led to creating a new course for in-service and becoming ICT teachers focusing on the new trends. Modern learning becomes fragmented, more focused and cheaper, not losing the quality using online platforms (Condruz Bacescu, 2018). Online Learning may maximize university resources and increase university reach and accessibility without decreasing the quality of education; focus on participants’ perception (Ramirez II et al., 2021). According to previous findings on providing similar courses, several pieces of advice were introduced. Both sides: teachers and participants were warned to use the computer with at least two screens and a good quality internet connection. Teaching materials and assessments were placed in the Moodle system. There were three groups of participants in total. Due to time schedule, Group 1 and Group 2 became pilot groups without the possibility to learn

using video recordings. Group 3 became the main group, with a possibility to make time schedule more comfortable and record online videos for individual training. The usage of training videos improve learning outcomes through individual autonomy, competence and experience (Boldisevica & Dislere, 2015). Creating a new program in teaching ICT using ICT Digital Visual Literacy (DVL) appears to be very important because it is double layered: a teaching program for teachers and methodology for further implementation in schools. DVL includes topics as Visual Culture, Art and Design, Vision Science, Computer Graphics and Visualization and Image Economy (Spalter & van Dam, 2008) and they were implemented in new ICT course as well. In other terms, DVL is critical evaluation of visual materials, decision making based on data and ideas and effective visual communication using computers (Ervine, 2016). Value-oriented and positive approach in distance learning is very important; rising high expectations for participants stimulates high performance (Niari et al., 2016). For the presented ICT course, there was an approach to define basic purpose to give a very practical hands-on online opportunity to understand programming and to start programming together with teacher as the most difficult topic, improving skills to use office and computer graphics software, connecting understanding and real practice. Beauchamp & Kennewell (2010) highlights interactivity functions of ICT learning, pointing out access, navigation, engagement, elaboration, monitoring and self-regulation. *Microsoft Excel 365* was used to plan studies and improve collaboration of teachers. *Microsoft Teams* software was used to run online sessions, share online experience and materials, also to improve planning of lectures. Elements of online learner-centred courses are: stratified grouping, learner produced artefacts, problem-based assignments, discussion boards, one-to-one mentoring online, grading comments, video recording (Chernosky et al., 2021). *Moodle* and *Microsoft Teams* were used to make the course learner-centred. Academic support is important as well as emotional and psychological support throughout all the process of study (Fotiadou et al., 2017). There was a possibility to ask any questions during the online sessions and to solve problems together. Personal priorities of digital transformation should be set to pursue own goals (Suleiman et al., 2022). To transform the ICT course, priorities were set to provide maximum lessons using the hands-on approach and implement more upcoming new topics of programming, computer graphics and design, less pointing (but not losing) methodology of teaching applied software.

The course was designed according to Jawaral's (2019) spiral: planning, laying down performance indicators, risk mitigation, prototyping, testing and re-designing, doing process endlessly till eternity. As Group 1 and Group 2 worked synchronously, the first design round was based on previous courses provided by organizers and teachers. The second round was teaching Group 1 and Group 2, the third round: Group 3 and the fourth round will be prepared for future courses after results of this research. The best practices for the online course design: providing a course overview, designing clearly stated, appropriate, and measurable outcomes, support the learning needs of diverse learners, providing accessible online courses, multiple ways to engage learners, designing inclusive instructions, developing a consistent user interface experience (Lewis, 2021).

Empirical studies related to the adoption of existing digital learning platforms and systems in different learning contexts should focus on the evaluation of the integration process (Christopoulos & Sprangers, 2021). Pattern Oriented Software Architecture drives educational technologies: it is the use of GoalsPattern, ProcessPattern and ContentPattern (Chimalakonda & Nori, 2021).

Methodology

The target group of participants was in-service teachers with pedagogical experience, ($n = 54$), with participation of 84.6% female which is close to average rate of European Union (Eurostat, 2022) (see Figure 1). 35% of participants had 20 or more years of pedagogical experience, but 24% of participants had 11 to 20 years of experience. Overall 80 % of participants had 6 or more years of experience. For evaluation, it was a good point to measure the quality of this course from the perspective of experienced experts. The average pedagogical experience differs in groups, but no connection was found between the experience and participants' opinion regarding the course.

The questionnaire with closed and semi-closed answers was used to measure results of providing the course. Focusing on pattern-based measuring, it was possible in the course to divide questions in groups and see some course providing issues if necessary.

Objectives regarding the data collection were met:

- *Microsoft Forms* was used for collecting data as a safe, in-company technical tool
- *Microsoft Excel* was used for data string to integer recalculation
- *IBM SPSS 22* was used for descriptive statistics and T-Test for measuring attitudes towards course between 3 groups
- Group 1 and Group 2 were pilot groups starting courses in one time, without video recording and with technical time planning restrictions

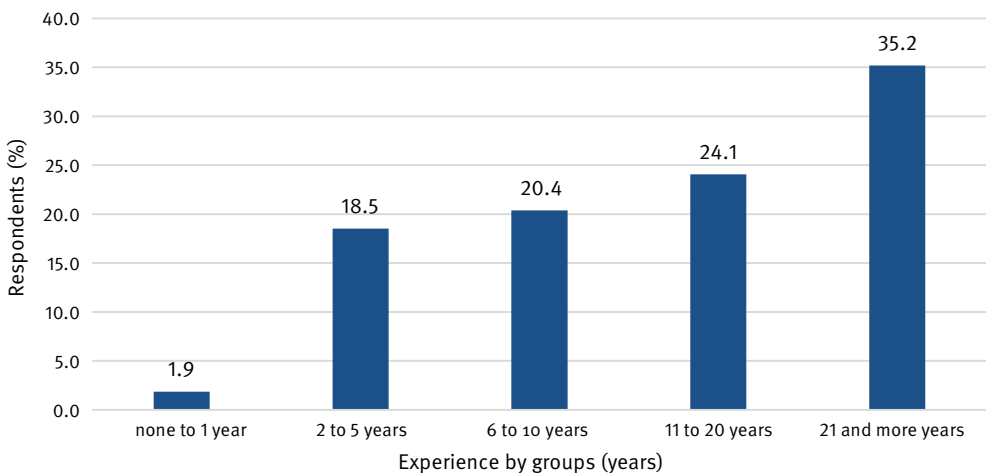


Figure 1 Pedagogical experience of participants ($n = 54$)

Note: there is difference in steps of experience years

Table 1. Criteria to evaluate course results of participants

Task	Topic	Weighted value (% of final mark)
Task1	Development of project calculation, printing and presentation documents	15
Task2	Photo animation development	15
Task3	Developing a simple animation or game	15
Task4	Development and implementation of the website sketch	10
Task5	Program using loops and conditions	10
Task6	Product development with the use of external data source, functions and arrays	15
Final	Final report of the course portfolio made using the applied documentation with an oral presentation – 20%	20

- Group 3 was the main group with no restrictions regarding time planning, video recording etc.
- After Group 1 and Group 2 graduated, the survey data was analysed
- Regarding results, there were changes introduced for the main Group 3
- All data was collected after the graduation of the course
- 4 point Likert scale was used to describe participants' attitudes towards results of the course
- The value of all variables was recorded 1 to 4 points – all categories were highly evaluated by participants
- Evaluation by teachers was according to Table 1, showing division of topics included

Results

According to three-pattern division by Chimalakonda & Nori (2021) questions regarding overall course questions were analysed, separating them from questions regarding the personal performance of teachers. As data show (see Table 2), there was no significant difference between results (comparing each group to group, and Group 1 & 2 to Group 3). Mean value in every answer for every group varies from 3.41 to 3.80. Such a high value means that in participants' opinion the course was provided in a very high quality. Group 3 was slightly more critical towards results of the course. Special focus on the answer "Quality of online lessons": results show that there might be some participants less satisfied with such a form of learning.

There were advice questions regarding further planning of the course (see Figure 2). Open answers of advice from participants were collected, recoded and grouped by topics. Answers of Group 1 & Group 2 were used to prepare Group 3 studies. The most popular advice pertained to time management (5 answers), lesson recording (4 answers), improvement of the topic sequence (3 answers) and less intensive content (3 answers).

Table 2. Student evaluation regarding overall course progress and quality, comparison by each group separately

	Group	Teaching materials	Teaching methods	Quality of online lessons	Usability of knowledge and skills for future	Overall course content	Course management process
1	Mean (total: 3.61)	3.75	3.5	3.4	3.6	3.6	3.8
	<i>n</i>	20	20	20	20	20	20
	Std. Deviation	0.444	0.688	0.598	0.598	0.681	0.523
2	Mean (total: 3.67)	3.76	3.59	3.65	3.69	3.63	3.69
	<i>n</i>	17	17	17	16	16	16
	Std. Deviation	0.437	0.507	0.493	0.602	0.619	0.602
3	Mean (total: 3.50)	3.59	3.41	3.41	3.35	3.47	3.76
	<i>n</i>	17	17	17	17	17	17
	Std. Deviation	0.618	0.618	0.87	0.606	0.514	0.437
Total	Mean (total: 3.59)	3.7	3.5	3.48	3.55	3.57	3.75
	<i>n</i>	54	54	54	53	53	53
	Std. Deviation	0.5	0.607	0.666	0.607	0.605	0.515

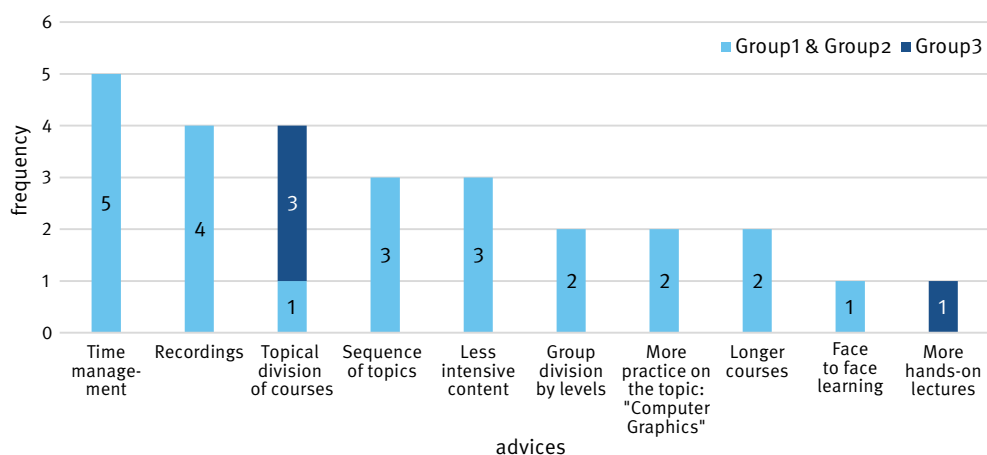


Figure 2 Student open answer advice regarding course management, comparison between pilot groups and main group

Group 1 & Group 2 had 23 pieces of advice (11.5 advice for each group average). There were changes made in planning for Group 3, also video recording for hands-on tasks was introduced. The time planning was less dense, programming topics were sorted by programming language starting from lower levels of education to provide in. As a result, Group 3 had less additional advice (4 pieces of advice), mainly focused on the division of the course topics by the level of education they are delivered. This means that Group 3 was satisfied after introducing changes made after piloting the course. Changes in the course planning and video recording did not impact results of participants' attitude positively (see Figure 2).

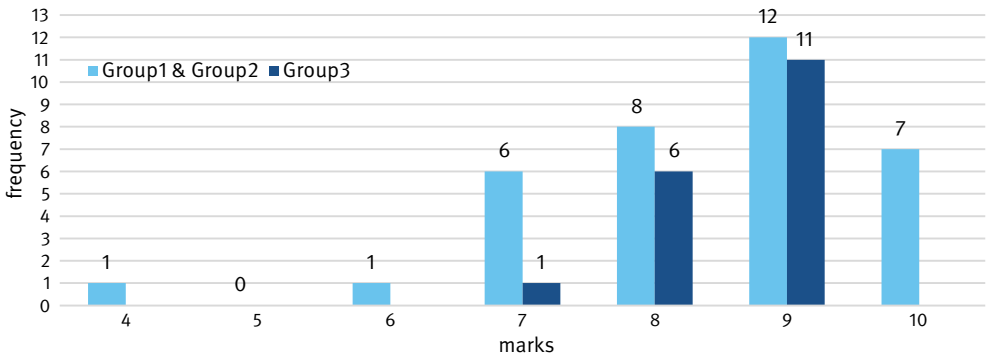


Figure 3 Final marks of participants, passed the exam ($n = 53$), pilot groups compared to main group

At the end of the course, the final exam took place on-line. After the exam, final marks were counted including marks of practical tasks and the examination mark. Final marks were compared between pilot groups and the main group (see Figure 3).

Teachers rated teaching results with an average final mark for Group 1 and Group 2 8.4 from 10 points. Teachers rated teaching results with an average final mark for Group 3 8.56 from 10 points. Group 3 had better average results. Group 3 had less dispersed results, cutting off extremely low and extremely high results. Looking at final results, they also are very good. Much more focus can be made looking at the number of participants who had most of marks: 7 till 10. Still the pilot groups had higher results but more dispersed. The main group was more homogenous, but without excellent results at all. Such results may point to the fact that the evaluation was a little lower from the main group because of harder studies.

Discussion

As the results of questionnaire and evaluation are high, it can be concluded that methods of building this course were succeed from viewpoint of participants and teachers. Theoretical aspects describing course building process and structure, interactive work, quick response and practising were useful and helpful.

Results confirm that up-to-date online platforms and distant learning returns good output if course is planned respecting diversity of participant, Digital Visual Literacy principles, value-oriented and positive approach, hands-on working using appropriate hardware. Course structure must be pattern oriented to use experience and achievements of building similar courses, and to have opportunity to measure results in different courses with similar structure. Course must be evaluated by participants and teachers and updated after every graduation. Content and evaluation must be value and goal oriented.

This research is not analysing the attitude of participants regarding participants' previous experience in teaching ICT, as it is a fact that some teachers attended the course

to improve their knowledge but some came to learn teaching ICT from the “scratch”. In addition, this research did not focus on funding sources of courses, as sources differed for some of groups. As teachers were with a great teaching experience, results are more valuable. From participants’ advice, it is clear that it would be better to separate participants by the level of teaching programming. On the other hand, the teacher never knows which level of education the teacher will work after a few years. Besides, education must be universal covering primary and lower secondary school. Results of this course leads to creating a new course for advanced programming teachers using approach of building present course. Such a step will give an opportunity for basic level teachers to make the next step, as well as an opportunity for experienced teachers to improve their competence using a much more modern approach to methodology of teaching programming in secondary school.

Pattern oriented inner structure and developing process of the course helped to build each topic using common architecture and external approach of building new course will help to create new courses in future, based on patterns, experience and results from course described in this research.

Strengths of this study is experience of teachers to create and provide similar courses. Groups of participants were relatively homogenous: they all were teachers with good ability to learn, evaluate and reflect. Weak point of this study are small number of participants: so overall results of the research might be expected as piloting results and further data must be collected from next groups to improve the course.

This study is limited to ICT subject and participants with basic level of ICT usage.

Conclusions

Theoretical background comes from analysing literature: Industry 4.0 differs on each branch. In education, it took a big share during Covid-19 pandemic (years 2020–2022). Main agents of Industry 4.0 are usable to introduce distant education for adults. ICT education is special because technologies to learn are basically used to provide the course. The course should be student-oriented, planned and improved in a loop. The quality should be measured to improve the management, process and results of the course.

The course was provided to three separate groups, which were divided in pilot and the main group.

A participants’ questionnaire was used to assess the quality of the course. Results of participants’ questionnaire showed that the course was highly rated. In addition, results of the final assessment were highly rated by teachers.

Teachers provided the final assessment of participants. The main Group (Group 3) showed higher rate of final assessment, higher rating for the course management process, produced less advice for future, but rated less higher all other aspects of the course than pilot groups.

The above discussed led to the conclusion that distant teaching for adults in the ICT field using the hands-on approach has high value from the viewpoint of participants

and teachers and it is useful to provide next courses using the approach described in this research. Technical and course providing advice are usable for further courses. The aim set for the research has been reached and the hypothesis “high quality ICT course output is possible working online using the hands-on approach” is confirmed from the side of participants and teachers.

A research question: how to organize effective ICT courses for adults has been answered:

- course should be built according to aim set up at the very beginning of planning,
- workplace needs to be set up before learning for both: participant and teacher for comfortable work environment,
- hands-on practise is very useful in teaching ICT
- quality measurements need to be done for evaluation and improvement of the course
- Time management and topical sequence need to be focused during the course.

Additional background questions might be introduced in questionnaire to get more information about previous experience of participant in ICT usage. Next step of this research is to try to provide similar courses to mixed audience or to prepare new course using principles achieved during this study to measure if method is useful more widely.

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SIMULATED HOSPITAL FOR MEDICAL STUDENTS AS AN ESSENTIAL STEP TOWARDS QUALITY IN CLINICAL WORK AND PATIENT SAFETY

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ABSTRACT

Simulation-based education provides a transition from theory-based learning to the application of knowledge, skills, and attitudes in complex situations in conditions close to real healthcare facilities. In healthcare, a simulation-based learning approach provides the opportunity to learn skills in a safe environment and gain confidence in the students' abilities before working in a real clinical setting. In the academic year 2022/2023, for 2 weeks, the Rīga Stradiņš University (RSU) Medical Education Technology Centre (METC) in cooperation with the Department of Nursing and Midwifery implemented the concept of a simulated hospital to provide 114 international 3rd year students of the study programme "Medicine" with pre-clinical practice in a simulated environment in the fields of internal diseases and surgery. A simulated hospital is a concept in which the hospital environment is reproduced in the premises of the METC, encompassing 2 hospital wards, 6 patient rooms, 2 nursing stations, 2 medication rooms, a laboratory, and examination locations, as well as using 8 patient manikin and 38 simulated patients. Students provided a self-assessment of 64 skills (technical and non-technical) before and after pre-clinical practice using a scale from 1–5. Data were collected electronically and analyzed using IBM SPSS and compared statistically before and after the teaching intervention. Students demonstrated improvement in self-assessment of performance of all 64 skills. Students indicate that they not only learned new knowledge and skills, but also strengthened existing knowledge and skills. Students answer that they feel better prepared to work in a real clinical environment. One of the conclusions is that pre-clinical practice should be an integral part of the study process before working in a real clinical environment. that pre-clinical practice should be an integral part of the study process before working in a real clinical environment.

Keywords: *Clinical Skills, Higher Education, Medical Education, Self-assessment, Simulation-based Education, Simulated Hospital, Skills Monitoring*

Introduction

According to the research conducted by the market research company “Kantar” on the reputation of Latvian universities, Rīga Stradiņš University (RSU) has been recognised as a reputation leader for several years in a row (2017–2023), among higher education institutions in Latvia (Kantar), providing high-quality study process in more than 60 study programmes in the fields of healthcare and social sciences. The number of students at RSU exceeds 10,000, of which 27% are international students. Leading learning and teaching approach at RSU is student-centred and various initiatives are implemented and supported to ensure that academic staff acquire diverse learning and teaching strategies. The RSU Centre for Educational Growth holds a central role in developing the pedagogical competencies of the academic staff. The focus of the study process on the institutional level is on students’ learning needs, achievable learning outcomes and the development of students’ professionalism and personality, which is also supported by the student-academic staff ratio (14 to 1).

Simulation-based learning and teaching as one of the priorities of the RSU study process is mainly developed at the Medical Education Technology Centre (hereinafter – METC). The METC is the only simulation centre in Latvia and the largest in the Baltics. The METC aims to create and maintain a culture of simulation-based medical education (SBME) to ensure high-quality and safe skills training, professional competence development for healthcare and medical students and professionals. By offering modern simulation resources within a simulated learning environment, individuals are presented with a valuable opportunity to acquire the necessary knowledge, skills, and professional attitude required for the advancement of research and innovation in the domain of simulation-based medical education (Jain et al., 2023).

Simulation-based medical education

Simulation is an integral part of healthcare education in the 21st century. The authors of the study are in line with the definition that simulation-based medical education is “a technique that creates a situation or environment to allow persons to experience a representation of a real healthcare event for the purpose of practice, learning, evaluation, testing, or to gain an understanding of systems or human actions” (Lioce (Ed.), et al., 2020, p. 21). Whether it is separate skills training or complex patient care task management in teams, simulation gives learners a chance to learn in a safe environment where their own health risks related to giving care are limited and no harm is possible for the patient. Using high-fidelity simulation, educators have the capability to replicate a variety of patient scenarios, allowing students to enhance their nursing skills – cognitive, motor, and critical thinking skills – in a setting that poses no risk to patients (Hayden et al., 2014).

A simulation comprises three stages: prebriefing, situation and debriefing (Contributor, 2022).

Mentors, at the beginning of placement, start establishing a “Fiction Agreement” that allows students to take time to discern which things and situations are real and which are not, preparing students to immerse in a scenario (Rudolph et al., 2014).

Simulation is the bridge between the classroom and real-life situations at healthcare facilities.

Concept of a simulated hospital

Frequently, skills are instructed in isolation, and students are examined throughout diverse courses as discrete anatomical segments or physiological systems. Real hospitals and clinical environments are fast-moving, constantly changing, filled with heavy patient workloads and they often lack insufficient mentor support. (Kol et al., 2021). A simulated hospital approach impedes a student’s ability to reason in a holistic manner, envision projective scenarios in the hospital environment, contemplate workflow strategies, appreciate the significance of effective communication, navigate multidisciplinary team dynamics, and effectively manage a diverse patient population. Higher education equips students with the necessary tools to provide the utmost care for patients, both during clinical placements and in their future workplaces. Amidst the COVID-19 pandemic, a novel idea was conceived at RSU METC to integrate a simulated hospital into the study curriculum, thereby serving as a preclinical practice component of the Medicine study programme. The fundamental concept of simulated hospitals revolves around immersing students in an authentic clinical environment to facilitate deep learning, ensuring their readiness for safe practice. Evidence gathered from international research has indicated that simulated hospitals and health services have a positive impact on student satisfaction and confidence levels, while also augmenting clinicians’ perceptions of the students’ work readiness (Parker, Grech, 2018).

With the aim of validating and refining students’ technical and non-technical clinical skills as both are crucial when performing clinical work (Flin et al., 2008; “Healthcare Simulation at a Glance,” 2019), an intensive, realistic, and immersive simulated hospital learning experience was arranged and integrated into the placement of medical students at RSU. The METC was transformed into a simulated clinical environment that assimilates simulated patients (hereinafter – patients), manikins, and simulation scenarios, supported by mentors and fully operational facilities authentic to a real hospital setting.

Simulated patients, or standardized patients, are individuals trained to portray patient histories, along with their emotional and physical states, for educational purposes (Nestel, 2014).

For a two-week period, regular task training rooms and hallways of the building were modified into two hospital wards. Each ward had a nursing station, three patient rooms, a medication/supply room, a dedicated area to bring and collect patients for radiology examination or surgery and a laboratory sample pick-up point. Each day students took care of four patient manikins and seven patients in each ward. In total, 38 patients with 27 different patient stories were incorporated into the simulated hospital. Patient stories were created in a way to provide students with internal medicine and surgical patient cases and to cover skills needed to be learned in the preclinical placement.

In consideration of the fact that this is the first time for students to experience a hospital setting in a learning context, the aim was to create narratives that are not borderlines, such as patients who are angry and potentially dangerous, or where patients would like to hug and keep their healthcare providers closer than needed.

Each patient had their own unique story and each one of them had a different emotional state – some were confused, scared, worried and almost ready to cry, and some were careless and lacked the understanding of their needs. Each patient's story was linked to specific skills that students needed to acquire while caring for the patient. The patient story was designed to address the complex needs of students, helping them develop new skills and improve existing ones. Each patient had their individual anamnesis, their own level of complicit in care, attached cannula, drainage bags, wounds, makeup to simulate bruises to support their story and make it possible for students to learn in the hospital-like environment.

The simulated hospital was organized in three shifts – morning, day and afternoon for 10 days. Patient rooms, medication/supply rooms, and the nursing station were designed to resemble a hospital down to the smallest detail. Manikin patients had vital signs monitors and there were frequent changes in them, for patients it was possible to check their weight and height as well as vital signs using manual tonometers and pulse oximeters. Medication could be administered via the required route. Task trainers, in conjunction with patients, and specially designed trainers were utilized to make the experience as authentic as possible. The same applies to bodily fluids and patient feeding. It was possible to collect urine and faeces samples, to feed patients via gastrostomy and nasogastric tubes. A wheelchair or a stretcher was used to transfer a patient to the examination or operating room. Every vial, ampule, and pill bottle was labelled with a specific medication name. Students had to match these with the names listed in the patients' documentation. All medications were simulated and safe to be injected in task trainers, pills were candies, and it was safe for patients to take them as prescribed.

As in a real hospital, the students had to attend not only to the patients, but also needed to organize logistics at the ward. Students were asked to fill in the clinical documentation to learn its importance and observe how time-consuming it might be. The primary document for managing patient tasks was the doctor's appointment log. This log outlined the tasks that students were required to perform with patients, including monitoring vital signs, taking blood samples, inserting or removing nasogastric tubes, positioning patients, and providing oral cavity care. To manage laboratory sample collection students needed to ensure the laboratory samples were taken correctly as required in the laboratory form and brought to the specific area dedicated for sample pick up. Results for vital signs were recorded in the early warning score tool. Essentially, every task performed with the patient needed to be documented. The acquisition of non-technical skills presents a formidable challenge, and frequently insufficient emphasis is placed on their instruction within the domain of healthcare education (Flin et al., 2008). During the simulated hospital, students had an opportunity to train the technical skills mentioned before and non-technical skills like time management, patient and care

task prioritising, communication with the patient and among team members. Communication training, which includes speaking with and listening to patients, involves complex skills. Studies have shown that communication is not adequately taught during undergraduate healthcare studies (Wershofen et al., 2016). Delegating tasks and dividing them was also a part of teamwork skills and various patient cases ensured students also practiced their problem-solving skills.

At the simulated hospital mentor availability gave more advantages to the students compared to the real hospitals where mentors must carry out their mentor roles while taking care of patients and managing the ward. Mentors were nurses with clinical experience and experience in mentoring students in a clinical environment.

When deciding what tools to use, setting up an IV line, preparing medication, going through patient documentation, students faced situations where they did not see an answer and could not manage the task, they were able to ask a mentor. Mentors lead students in the direction of correct answers or actions. From the start, it was decided that mentors would first try to use extra questions for guidance and give a chance for students to find the answer on their own. If guiding questions did not work, an answer was provided. In situations where it was necessary, mentors guided students step by step showed examples, and did the task together with students. Mistakes were not tallied. When they occurred, they were perceived as valuable learning opportunities, prompting reflection on how to prevent similar errors in the future and reducing the chance of other students making the same mistakes. A patient safety learning system was used to report and afterward analyze errors that happened. Students were given the chance to give feedback about anything going on directly to the mentors while working. A debrief was held each day after the simulated hospital and during that students were invited to share their feedback, either positive or critical.

Skills monitoring in the study process

According to the Skills Monitoring Concept developed at RSU, the acquisition of skills during the study process is levelled according to 3 learning and teaching strategies. In theory-based learning, skills are acquired at level A, which means student gains theoretical knowledge about the skill, its purpose, and its application. In simulation-based learning skills are acquired at level B in two sublevels – B1 level, where the student learns practical performance of skill in a simulated environment and B2, where the student performs skill in a specific context in a simulated environment, for example using simulation scenario. In the final stage – within the framework of work-based learning, the student performs the skill in a real work environment at C1 and C2 levels. At the C1 level, the student performs the skill in a real work environment under the supervision of a mentor. At the C2 level, the student applies the skill independently in a real work environment under the responsibility of the mentor (Slavinska et al., 2021).

Based on the skills monitoring concept, a skills list for the simulated hospital was created – previously acquired skills at A and B1 levels were integrated into the simulated hospital for B2 level training according to the study course description. Students were

able to learn and practice 11 non-technical skills and 53 technical skills during their 10-day practice.

Aim

The objective of this research is to compare students' self-assessment of skill performance before and after participating in the simulated hospital.

Methodology

The METC has acquired experience in the implementation of 3 simulated hospitals. The first simulated hospital was implemented as a pilot project in January 2022. During this simulated hospital, the students' opinions on clinical practice in a simulated environment and the necessary improvements were evaluated at the end of the pilot project. The second hospital was implemented in April 2022. Within this simulated hospital, a research methodology was developed and tested to obtain students' self-assessment of the level of skill acquisition before and after the hospital.

This study was carried out in the third simulated hospital, which was conducted for two weeks in January 2023 to provide 114 international students in their 3rd year of the study programme "Medicine" with pre-clinical practice in a simulated environment in the fields of internal diseases and surgery. The self-perception of students' benefits was determined using electronic self-assessment questionnaires before and after the simulated hospital. The first questionnaire was filled in on the first day of the simulated hospital during instruction (on-site), and the second one – on the last day of the simulated hospital during debrief (on-site). In total, there were 101 respondents to the questionnaire before the simulated hospital and 66 to the questionnaire after it.

The approach to developing content for the simulated hospital is based on the principle of selecting authentic clinical scenarios. For both the internal medicine and surgical disease profiles, the primary criterion for patient illness selection was that these conditions are frequent in the population. Learners are likely to encounter similar patients in the clinical setting during practical classes, internships, and work.

The criteria for the selection and inclusion of clinical scenarios and skills in the simulated hospital curriculum are frequency of occurrence – prevalence in a real clinical setting and relevance to the list of skills in the study course. In a real clinical setting, patients with similar diagnoses receive different therapies depending on their condition and needs. Therefore, the simulated hospital was also built on a similar principle, where each patient's story corresponds to a specific skill that the students will be able to perform every day.

The distribution-allocation principle for clinical scenarios and skills to be learned/practised is randomisation in the first phase of learning and diversification in the second phase. Thus, providing Intentional persistence skills training. As there were two types of patients – manikins and patients – the available skill set differed accordingly. In the case of manikins, many skills were associated with patient feeding, bed sore prevention,

urinary tract procedures and skills related to patient hygiene. While, in the case of the patient, it was more challenging in the field of communication, patient education. To diversify skills students learned they rotated through different hospital episodes and each day cared for other patients. It was important to change the patients not only in the field of skill management but as well for communication differences between various types of patients.

Data were collected electronically using Microsoft Office online survey creator Forms, and analyzed using IBM SPSS and Microsoft Office Spreadsheet software. The main indicator to measure the changes in self-evaluation was comparing means from both stages (before/after) of the questionnaire.

Limitations

When students are on practical placements, the skills they can perform depend on the patient's situation and the care plans that need to be executed. Additionally, the patient's willingness to let a student practice a particular skill on them also plays a role. A similar approach was used in a simulated hospital where clinical skill availability for managing it was dependent on the patient's case (story). Situations where a patient might not allow a student to carry out the task were excluded. It is common that during a real-life practical placement, some students have the opportunity to practice certain skills more often than others. For example, all students will perform hand disinfection, while some will carry out nasogastric tube placement. Blood drawing will be conducted by most students, whereas urinary catheter placement will involve only a few. The availability of the procedure and, consequently, the opportunity to learn a certain skill varies. Therefore, the development of certain skills might not be observed.

Mentors in the simulated hospital were specifically instructed to use the PEARLS debriefing tool (Eppich & Cheng, 2015) after each day in the simulated hospital to encourage and guide the students in their learning process. The mentors were advised to use a direct answer to the question only as a last resort, with all other decisions and actions left to their discretion based on the situation.

Results

The main indicators in the questionnaire consisted of the list of 64 skills, 11 of which were non-technical skills and 53 technical skills. Students subjectively rated their level of each skill using a scale from 1–5, where 1 – I have not learned such skill so far; 2 – I have only theoretical knowledge of this skill; 3 – I am able to perform the skill under the supervision in a simulated environment; 4 – I am able to perform this skill independently in a simulated environment; 5 – I am able to perform the skill independently in a clinical environment. To measure the increase or decrease of skill self-evaluation, the means of responses for each of the skills before and after the simulated hospital were calculated. The response where students answered, "I did not perform this skill – not learned," was not included in common data and means calculation.

Technical and non-technical skills are separated in two data tables for easier observation of changes in self-assessment, and we would additionally like to make it easy to see that it was possible for students to learn and practice not only technical skills but also non-technical skills and a combination of both types of the skills while taking care of the patients.

Students demonstrated improvement in self-assessment of performance of all 64 skills.

Student responses demonstrate perceived growth for each skill practiced at the simulated hospital. Technical skill growth varies from skill to skill (see Table 1) and there is no clear link between procedure groups or organ systems linked to the procedure and skill growth. For example, the medication administration skill group has various skill growth figures, it is also seen frequently that the higher the skill growth, the lower self-assessment of the skill in questioner before placement.

Table 1 Dynamics of technical skills self-evaluation through simulated hospital learning experiences

Statements measured using scale 1–5	Mean – Before	Mean – After	Growth in levels
Calculation of drug delivery rate using the droplet factor formula	1.47	4.02	2.55
Administration of the medications with the butterfly needle	1.63	4.00	2.37
Vital sign documentation using early warning score	2.08	4.25	2.17
Administration of food through a PEG/gastrostomy	2.26	4.09	1.83
Administration of medication through a PEG/gastrostomy	2.04	3.85	1.81
Care of surgical drain, dressing change	1.94	3.66	1.72
Administration of food through a nasogastric tube-bolus method	2.76	4.34	1.58
Venous system connection to the peripheral venous catheter	2.59	4.17	1.58
Administration of eye drip	2.84	4.42	1.57
Preparation of the venous system	2.85	4.42	1.56
Nasal medication administration	2.51	4.08	1.56
Administering medications using (syringe infusion pump) perfusor	2.74	4.29	1.55
Administration of medication through a nasogastric tube	2.66	4.20	1.54
Patient positioning/bedsore prevention	3.03	4.51	1.48
Administration of ear drip	2.44	3.82	1.38
Administration of food through a nasogastric tube-gravity system method	2.44	3.78	1.35
Body care for a patient with care deficiency – diaper change	2.87	4.20	1.33
Administration of oral medication	3.26	4.58	1.33
Moving the patient in bed from point A to B	3.07	4.38	1.32
Weighing the patient	3.21	4.52	1.32
Administration (withdrawal) of medication from the vial	3.17	4.46	1.29
Disconnection of the venous system from the peripheral venous catheter	3.03	4.26	1.23

Statements measured using scale 1–5	Mean – Before	Mean – After	Growth in levels
Moving the patient – from bed to stretchers and vice versa	3.00	4.20	1.20
Changing bed linen for a patient with a care deficit (bedbound/unconscious patient)	2.81	4.00	1.19
Primary wound dressing change	2.58	3.75	1.17
Medication administration (withdrawal) from an ampoule	3.35	4.51	1.16
Moving the patient in a wheelchair from point A to B	3.26	4.38	1.13
Assessment of patient vital signs (TA, SpO ₂ , pulse, respiration, etc.) using a monitor	3.53	4.66	1.13
Emptying wound drainage bag	1.88	3.00	1.12
Taking an MRSA smear from the skin	1.83	2.94	1.11
Peripheral venous catheter insertion	3.17	4.26	1.09
Administration of the medications through the peripheral venous catheter with a syringe	3.31	4.40	1.09
Oral care for patients with self-care deficiency	2.84	3.91	1.07
Manual assessment of patient vital signs (TA, pulse, respiration, etc.)	3.58	4.62	1.03
Administration of low molecular weight heparin s/c with a pre-filled syringe	3.04	4.06	1.02
Inhalation administration with a nebuliser	2.49	3.49	1.01
Change of urine collection bag	2.88	3.88	1.00
Venous blood sample collection	3.51	4.48	0.96
Intramuscular injection	3.44	4.38	0.95
Blood culture collection	3.07	3.94	0.87
Emptying urine collection bag	3.21	3.95	0.75
Evaluation of peripheral venous catheter using VIP scale	3.30	4.00	0.70
Injecting insulin s/c with a pre-filled syringe	3.53	4.23	0.70
Post-mortem care of the patient	1.64	2.31	0.66
Nasogastric tube insertion for gastric decompression	2.22	2.88	0.66
Peripheral catheter removal	3.55	4.18	0.63
Sterile glove gloving and doffing	3.98	4.42	0.44
Nasogastric tube insertion	3.01	3.38	0.37
Perineal care for a female	3.32	3.63	0.31
Nasogastric tube removal	3.09	3.40	0.31
Hair care for a patient with a care deficit	2.78	3.05	0.26
Skin suture removal	2.35	2.49	0.15
Perineal care for a male	3.30	3.43	0.13

Table 2 Dynamics of non-technical skills self-evaluation through simulated hospital learning experiences

Statements measured using a scale 1–5	Mean – Before	Mean – After	Growth in levels
Fall risk assessment using the Morse scale	1.61	4.43	2.82
Bedsore risk assessment of the patient using the Braden scale	1.63	4.25	2.61
Telephone communication to address patient care issues	2.31	4.14	1.83
Communication using SBAR (Situation-Background-Assessment-Recommendation) tool	1.83	3.62	1.78
Assessment of patient pain using the VAS (Visual Analogue Scale)	1.80	3.55	1.75
Identification of the unconscious patient	2.78	4.46	1.68
Patient education	2.95	4.52	1.57
Reducing anxiety in the patient	2.83	4.26	1.43
Recognising a situation where a colleague needs help with care for a patient and providing it	3.17	4.49	1.32
Identification of the conscious patient	3.25	4.52	1.28
Introducing yourself	4.09	4.77	0.68

Regarding the non-technical skills (see Table 2) it is notable that students improved their patient identification skills with a conscious patient (difference between before and after results 1.28) and an unconscious one (1.68). They learned how to educate patients (1.57) and reduce anxiety in the patients (1.43). Students learned the use of various patients' assessment tools such as the visual analogue pain scale (1.75), fall risk assessment-Morse scale (2.81), bedsore risk assessment – Braden scale (2.61) and communication tool SBAR (1.78).

Overall non-technical skills growth was more notable compared to technical skills.

The variance in the rate of skills acquisition could be attributable to multiple factors. In some cases, it might be that specific skills require more training to become mastered, in others the reason might be previous experience with the specific skill. At this point, it is not possible to tell a specific reason why some skill growth was bigger than others.

In addition, in the questionnaire after the simulated hospital students were asked to assess the overall increase in the acquisition and improvement of knowledge and skills in the simulated hospital using a scale: 1 – disagree, 2 – rather disagree, 3 – rather agree, 4 – agree. Students would recommend Placement in Clinical Care in a simulated environment for other students (3.65) (see Table 3). Students responded that they either strengthened or improved existing skills (3.83) and refreshed or improved their existing knowledge in clinical care. All respondents answered that they gained new knowledge (3.77) and skills (3.72). Medical students feel better prepared to work in a real clinical environment after placement (3.70).

Table 3 Students self-evaluated learning benefits from engagement in the simulated hospital

Statements measured using a scale 1–4	Mean
I strengthened/improved the existing skills	3.83
I refreshed/improved my existing knowledge	3.83
I gained new knowledge	3.77
I learned new skills	3.72
I feel better prepared to work in a real clinical environment after placement	3.70
I would recommend Placement in Clinical Care in the simulated environment to other students	3.65

In the third table, the majority of all students responded with “agree”, confirming the need to include the simulated hospital as an independent learning opportunity in the study programme. A possible positive contributing factor to the high results could be the fact that the mentors were available to the students and worked only with the students and not with the patients as is the case in a real clinical setting.

Discussion

Students’ learning experience in the simulated hospital was positive and growth-oriented. These assumptions are supported by the results showing perceived growth for skills. The students’ assessment further supports this that they have not only improved existing knowledge and skills acquired in their study courses and demonstrated in the simulated hospital under conditions close to the work environment. The two-week learning intervention has also resulted in the acquisition of new knowledge and skills, and at a very confident level, which demonstrates the significant impact of the simulated hospital in enhancing the professionalism of future professionals.

For the learning process to be meaningful for the students in the simulated hospital, several prerequisites must be met, which can be divided into two groups: organizational and learning experiences. A great deal of human, time and financial resources must be invested in the organizational preparation of the physical environment of the simulated hospital. From the point of view of meaningful learning experiences, it is also very important to develop high-quality patient scenarios that are appropriate to the students’ skills, so that the learning process takes place within the Zone of Proximal Development (Vygotsky, 1978). Mentors also play an important role in challenging students’ learning by asking prompting questions that encourage students to do inquiry activities – only in exceptional cases specific answers were given or skills demonstrated. A very specific, constructive and growth-oriented feedback loop is very important here. The third but not least important influence for a meaningful learning experience was the discussion with the students, both before the start of each day in the simulated hospital and after the learning intervention. The debriefing sessions were organized in accordance with the PEARLS debriefing tool (Eppich & Cheng, 2015). During these sessions, the discussion encompassed not only the skills that students succeeded or struggled to demonstrate

but also placed significant emphasis on addressing students' emotional experiences in specific situations. This approach aimed to provide support and boost their confidence in showcasing their skills. Several thematic areas outline the following research directions:

- The impact of developing and implementing a unified approach to enhancing and assessing mentor competencies, within a pedagogical collaboration model, on students' learning experiences and academic-clinical achievement.
- A systematic study of the effects of a consistent multi-level summative and formative assessment system, focusing on providing in-depth feedback loops, planned provision of formative assessment stimuli, and detailed standardized criteria and indicator matrices for summative assessment. Validation of a comprehensive (self) assessment framework that aims to purposefully integrate students, mentors, and patients as assessment actors.
- To systematically organize and evaluate the benefits of student peer learning, with the aim of refining this approach and incorporating it as a core component of a holistic learning programme of a simulated hospital.
- To comprehensively evaluate the simulated hospital from the perspective of time efficiency, assuming that the acquisition of study outcomes within the framework of an intensive simulated hospital could occur on a full-scale basis with less time consumption than in separate study courses, and to draw related conclusions about the necessary restructuring of the study process organization within the study programmes.

To evaluate in which clinical thematic areas it is necessary to integrate the simulated hospital as a regular learning component.

Conclusions

Based on the results of the study, the following conclusions are drawn.

- A simulated hospital is a purposeful way to prepare students for work in a real clinical environment and pre-clinical practice in a simulated environment should be integrated into the study process as an integral part of the educational process;
- The simulated hospital allowed students to practice various skills, including non-technical ones, while emphasizing patient safety and learning from errors;
- In students' perception, their non-technical skills performance improved more than their technical skills during the simulated hospital. The authors of the article suggest that the reason for this is that technical skills are taught at the B1 level in advance, while non-technical skills have not been taught and the simulated hospital is a good place to learn them.
- There is no trustful suggestion why the questionnaire after the simulated hospital was answered by fewer students than the questionnaire before, so the risk should be assessed and responsiveness should be improved in the next simulated hospital, as well as it would be necessary to integrate coding system to link pre and post student responses for more in-depth factor analysis.

- While the skills list of the simulated hospital encompasses the skills acquired during the study process, which are potentially valuable in a real work environment, a challenge arises in providing each student with comprehensive skills training. This challenge is influenced by limitations in time and the number of patients available per student.
- For increased student learning benefits, more emphasis should be placed on efficient immediate feedback to avoid inaccurate pathways, significant errors and dead ends to enhance the quality of healthcare, patient safety and the student's evidence-based confidence in his or her competence.

Author's Note

To access the complete set of analyzed data from the simulated hospital, please contact the authors of the article.

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RECORDING ADOLESCENT'S PHYSICAL ACTIVITY USING TRACKING DEVICES AND OBSERVATION OF COGNITIVE ABILITIES

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ABSTRACT

Physical activity is vital important for the holistic development of adolescents, fostering their physical, cognitive, and social health. Measuring daily physical activity is necessary for objective monitoring of the necessary amount of physical activity to maintain health. Various physical activity trackers have been developed to increase an individual's awareness of physical activity throughout the day, but it is important to choose one that precisely measures the performance of various exercises and is easy to use. The aim of the study was to develop methodology and protocols for tracking adolescent's daily physical activities, sleep duration and quality, and assess dynamic of adolescent's motor skills and psychophysiological parameters. A case study to evaluate the correlation of physical and cognitive parameters with screen time dependency in adolescents was carried out. Two adolescent's groups were organized: group with partly supervised physical exercise program and group with fully supervised physical exercise program. The level of physical activities was recorded with Fitbit and Actigraph fitness trackers and mobile applications. Adolescent's motor skills were assessed by using the Bruininks – Oseretsky Bot-2 method, and psychophysiological parameters were assessed using Vienna tests before and after starting complex of physical activities. The results of the research suggested that the developed methodology gave ability to record adolescent's physical and behavioural activity during the 16-weeks physical exercise program and compare it with their self-reported physical activities. Fitbit fitness trackers are more preferable in comparison with Actigraph because it is easier to use it in partly supervised activity conditions, and it is possible to register sleep duration and heart rate changes with Fitbit. Using the developed methodology, and taking into account changes in physical activities, it is possible to assess the dynamic of physical and psychophysiological parameter changes of adolescents.

Keywords: *physical activity, adolescents, tracking devices, physical abilities, cognitive abilities*

Introduction

Physical activity is one of the key prerequisites for a healthy lifestyle, in children and adolescents. It is vital important to the holistic development of young people, fostering their physical, cognitive, and social health. Regular physical activities adapted to the child's individual needs, abilities, health, gender and age have a positive effect on the child's cognitive and physical growth and maturation. Childhood physical activity contributes to better health and well-being in adulthood (Kostecka et al., 2017). Physical activity plays a very important role in instilling healthy lifestyle habits. Studies have presented the benefits of physical activity and the harmful effect of screen-based sedentary behaviors on health in adolescents. It was found that children and adolescents who engage in physical activity every day, spend less than two hours a day in screen-based behaviors, do not use alcohol or other addictive substances, presented a higher likelihood of not having subjective health complaints (Marques et al., 2019). Promoting physical activity during development is a public health priority, and many studies emphasize the benefits of a variety of structured and unstructured activities in preventing non-communicable diseases and promoting health (Colella, Bellantonio, 2019). Daily structured and unstructured motor activities help to promote individual development of personality through balanced cognitive, motor and social development.

Individual healthy behaviour and a healthy lifestyle is related to less subjective somatic and psychological complaints such as headaches, feeling low, being irritated, feeling nervous and having sleeping disorders. The increased prevalence of problematic Internet use and subjective psychological health symptoms were reported by 15–16-year-old girls (Klavina et al., 2021).

Measuring daily physical activity is important to objectively monitor an individual's health. Consumer-based fitness trackers, like the Fitbit, have become popular among a variety of people, especially those who are physical active and interested in healthy behaviors. Activity trackers are developed to increase an individual's awareness about physical activity behavior through the day. Physical activity trackers can potentially stimulate users to increase their physical activity behavior (Kooiman et al., 2015). There is a large heterogeneity between activity tracker models in terms of available data types, the accuracy of recorded data, and how this data can be shared (Henriksen et al., 2021, Germini et al., 2022). It was found that physical activity measures were well correlated between the Fitbit and ActiGraph: 0.85 for moderate-to-vigorous physical activity and 0.94 for steps (all $P < .001$) (Van Blarigan et al., 2017). As researchers continue to improve commercially available physical activity trackers, the accuracy of these trackers' for physical activity registration needs to be evaluated.

It is found that a person's physical fitness and state of being influence his psychophysiological parameters (Podrigalo et al., 2019). Physical activity has not only been associated with increased physical and mental health, but also with beneficial effects on various cognitive and brain functions. Physical activity, especially physical education, improves classroom behaviors and benefits several aspects of academic achievement

(Álvarez-Bueno et al., 2017). It was found the beneficial influence of physical activity engendered through aerobic exercise on selective aspects of brain function (Hillman et al., 2008). Physical activity and lifestyle significantly affect various processes including the brain bioelectrical activity and vegetative functions of the body and, consequently, human cognitive functions (Popova et al., 2021). Physical activity has also been found to be an effective intervention to increase executive functioning in students with attention deficit hyperactivity disorder (Nakutin & Gutierrez, 2019). Exercise affects specific brain functions and therefore it has a significant effect on human cognitive function. The results of the study show a specific connection of the brain lobe with peripheral physiology, as well as the level of physical activity, perceived tension and dependence on the type of rest or exercise (John et al., 2020).

The aim of the study was to develop methodology and protocols for tracking adolescent's daily physical activities, sleep duration and quality, and assess dynamic of adolescent's motor skills and psychophysiological parameters. This case study showed full protocol of applied observation procedures used in PRIUSS research (see full observation data in Klavina et al., 2022). In the study were explored the effects of partly supervised physical exercise program (PSPEP) intervention compared to fully supervised physical exercise program (FSPEP) on cognitive functions, movement proficiency and problematic internet use (PIU) in adolescents presenting combined unhealthy lifestyle behaviors. As addition adolescent's daily activities were tracked with trackers devices FITBIT Inspire HR (<https://www.fitbit.com>) and ActiGraph wGT3X-BT (<https://theactigraph.com>).

Methodology

Participants

Over a period of 16 weeks the PSPEP group ($n = 14$) engaged in strength, balance and flexibility exercises three times per week with one supervised session and two unsupervised sessions. The FSPEP group ($n = 13$) practiced in dance activities for 2 to 4 days per week including in training sessions the same exercises as the PSPEP group. Prior and after the study adolescents completed the PIU scale, performed movement proficiency and cognitive function tests. In these interventions two types of physical activity tracker were used to monitor physical activity. In each group, 10 teenagers wore the FITBIT on the wrist and 5 of them simultaneously wore the ActivGraph device on the waist.

Adolescents' problematic Internet use was assessed by the Problematic and Risky Internet Use Screening Scale (PRIUSS), a validated screening instrument (Jelenchick et al., 2014). The PRIUSS is an 18-item risk-based screening scale for problematic Internet use with questions organized into 3 subscales: (1) social impairment (6 items), (2) emotional impairment (5 items), and (3) risky/impulsive internet use (7 items). The PRIUSS response selections use a Likert scale with scores of 0 through 4, including answers "never" = 0, "rarely" = 1, "sometimes" = 2, "often" = 3, and "very often" = 4. A PRIUSS score ≥ 26 indicates high risk for PIU; a score 15–25 indicates intermediate risk.

The motor skills of adolescents were assessed using the Bruininks – Oseretsky Bot-2 method (Bruininks & Bruininks, 2005, Bruininks-Oseretsky Test of Motor Proficiency, 2nd ed, (BOT-2), 2019). The Bruininks-Oseretsky test is a test individually developed for measuring of different motor abilities, in which targeted and effective tasks are performed to assess the development of small and large motor skills in people aged 4 to 21 years. Using this test, it is possible to determine the state of an individual's physical fitness and the delay in the development of motor abilities. Movement skills were assessed by four subtests of the Bruininks – Oseretsky Test of Motor Proficiency II (BOT -2): 1) bilateral coordination BC (7 items), 2) balance BAL (9 items), 3) running and speed RSA (5 items), and 4) strength STRG (5 items). The total point scores of the four subtests were calculated, and converted to scale scores, standard scores, percentiles, age-equivalents and descriptive categories for each subtest.

Students' psychophysiological parameters were assessed using Vienna tests before and after starting complex of physical activities. The tests have high values of validity and reliability, which have been confirmed by specially performed studies at the test development company "Schufried" in Vienna (The Vienna Test System. Schuhfried, 2022).

The following Vienna tests were used: Cognitron test (COG), Determination Test (DT), Adaptive Matrices Test (AMT), Figural Memory Test (FGT), Reaction Time Test (RT) and STROOP Test (STROOP).

COG test describes a person's work style, the speed of information processing, the persistence of attention and the ability to focus on work. During the test, the respondent must compare complex figures and decide on their identity.

DT test is used for measurement of reactive stress tolerance and ability to react under complex stimulus conditions. During the test, visual and acoustic signals are presented at high speed, to which an appropriate response must be given as soon as possible. The results of the test can be used to judge an individual's ability to work under stress.

AMT test is a non-verbal test that assesses general intelligence in terms of logical reasoning. Each test item consists of a stimulus part made up of nine fields, which is displayed in the upper part of the screen. Eight of these fields contain geometric configurations, while the final field contains a question mark. The eight configurations stand in some relationship to each other. The respondent's task is to identify these relationships and "replace" the question mark logically (correctly) with one of the eight patterns that are presented in the lower part of the screen. The variable General Intelligence assess the ability to draw non-verbal logical inductive conclusions.

FGT test is used to measure figural learning performance and figural episodic memory. The FGT test consists of several parts. The first part comprises five learning and reproduction runs in which 9 figures are presented repeatedly. Immediately afterwards the figures must be reproduced by means of simple mouse clicks on the screen. After a 5 minutes break this is followed by the second part, which requires free reproduction of the figures without a second viewing. The third part involves free reproduction after an extended delay (30 minutes), together with a forced-choice recognition task. The FGT test can be used to test memory for figural material.

RT test assesses the ability to react under simple stimulus. The use of a rest key and a reaction key makes it possible to distinguish between reaction and motor time.

STROOP test is a sensorimotor speed test that measures speed in reading words and naming colors under conditions of color/word interference. The respondent in the first part of the test must react according to the meaning of the written word (reading words), but in the second part of the test he or she must react according to the color of the written word (naming words). STROOP test assesses the ability to inhibit cognitive interference that occurs when the processing of a specific stimulus feature impedes the simultaneous processing of a second stimulus attribute.

The complex of physical activities was developed by sports pedagogues. Students were introduced to physical exercises that had to be performed regularly. Physical activities were organized in the form of training group exercises, or by tasks which were given to students, and students filled these tasks individually. The level of physical activities was assessed with Fitbit fitness tracker and mobile applications.

Data from fitness devices were collected using appropriate platforms developed by manufacturers. For Fitbit adolescents synchronized their tracker with accounts in the FIT-BIT web-page, for ActiGraph sport pedagogues collected recorded data after intervention period using local application. In both cases collected physical activity data were processed and analyzed in Matlab (Matworks Inc, version 2020a) using self-developed script.

Statistical analyses were performed using IBM SPSS Version 28. Data analyses included descriptive statistics calculating means and standard deviations for groups descriptions, parametrical one-way ANOVA, and non-parametrical Kruskal-Wallis tests for comparing observed cognitive tests results with used statistical significance levels of $p < 0.05$ and $p < 0.01$ for these analyses.

Results

In Table 1 the results for problematic Internet use during the intervention are shown. In spite of increased physical activity level in PSPEP group, some adolescents increased also Internet usage intensity especially in emotional impairment scale. Perhaps, this can be explained by the fact that during the experiment there were restrictions due to the spread of COVID-19, so teenagers spent a lot of time in front of computers.

Table 1 PRIUSS test results

	PSPEP		FSPEP	
	Baseline values	After intervention value	Baseline values	After intervention value
Priuss (total)	13	28	14	15
Social Impairment	4	4	5	6
Emotional Impairment	4	15	3	3
Risky Impulsive Internet Use	5	9	6	6

In the Table 2 the summary of cognitive test's results is shown. Generally, the test results for both groups improved, although it seems that in PSPEP group some persons lost their motivation in participating in the study and did not perform at their best on the tests, resulting in slightly worse AMT intelligence test scores and slowdown of reaction time after the intervention period for these adolescents. AMT intelligence test scores after the intervention period for FSPEP group increased, and also reaction time became faster. On the other hand, adolescents in the PSPEP group performed better during the DT test, showing resistance to the stressful task conditions. DT test results also improved for FSPEP group after intervention period. In STROOP test reading and naming interference decreased for both groups. Results of COG and FMT tests did not much changed after intervention period.

Table 2 Cognitive function assessment outcomes

	PSPEP		FSPEP	
	Baseline values	After intervention value	Baseline values	After intervention value
AMT				
Intelligence Index	-1.528	-1.873	--2.19	-0.624
Correct items	10	9	8	12
STROOP				
Reading interference (s)	0.277	0.081	0.072	0.06
Median RT – reading (s)	1.346	0.959	1.109	1.073
Naming interference (s)	-0.036	0.006	0.087	-0.013
Median RT – naming (s)	0.798	0.739	1.097	1.046
COG				
Sum correct reactions	54	56	55	55
Mean RT – correct reaction (S)	1.684	1.557	2.665	3.336
Sum incorrect reactions	6	4	5	5
Mean RT – incorrect reaction (S)	2.347	1.715	3.017	3.676
FMT				
Delayed free reproduction I	9	9	8	7
Delayed free reproduction II	9	9	8	8
Learning sum	17	18	16	16
Recognition – hits	8	8	8	8
DT				
Correct items	206	236	184	195
Number of stimuli	235	266	200	217
Reactions items	219	258	198	265
Median RT (s)	0.85	0.75	1.02	0.93
RT1				
Reaction speed RT6 (ms)	296	325	347	297

Table 3 BOT-2 test results

	PSPEP		FSPEP	
	Baseline values	After intervention value	Baseline values	After intervention value
BOT-2	126	130	118	121
BC	24	24	22	23
BAL	37	37	33	34
RSA	36	39	34	34
STRNG	29	30	29	30

BOT-2 – Test of Motor Proficiency, BC- bilateral coordination, BAL – balance, RSA – running and speed, STRG – strength.

A steady improvement in physical condition was observed in both groups with a greater improvement in running and speed parameters in the PSPEP group (see Table 3.). Test of Motor Proficiency results have improved in both groups (from 126 to 130 in PSPEP group and from 118 to 121 in FSPEP group).

Trackers recorded physical activity data

Both devices record activity levels by using internally build 3-axis accelerometer sensors. In this article, collected data for two persons were analyzed where data sets from two trackers devices were obtained. Actigraph in their calculation use all 24 hours' time slot therefore real physical activity cannot be detected for sedentary activity level. In this situation Fitbit shows more precise activity (steps and levels) because it additionally uses

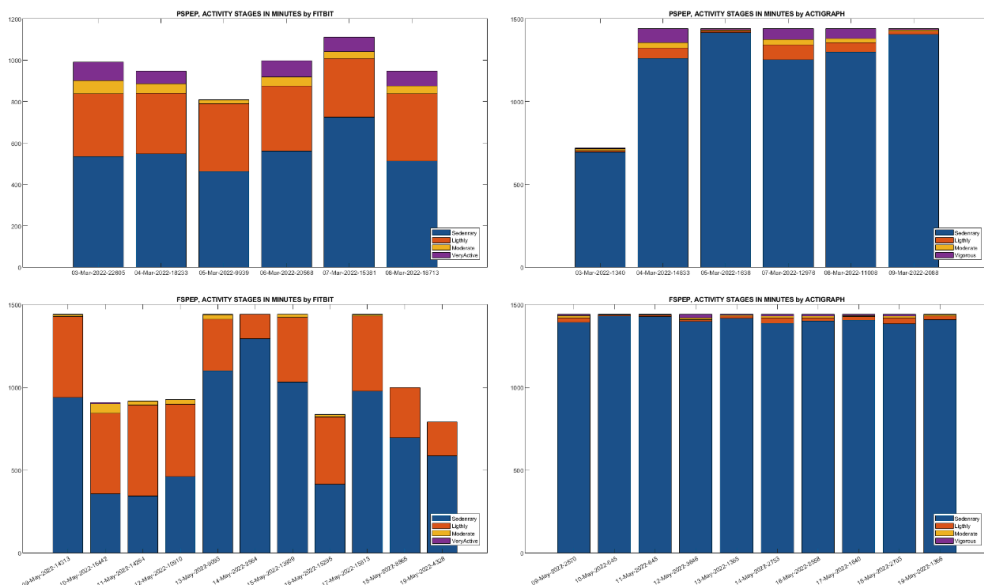


Figure 1 Physical activity in minutes FITBIT versus Actigraph (x-axs – observation days, y-axs time in minutes per stage. Stages of activities -Sedentary, Lightly, Moderate, Vigorous)

data from heart rate sensors. Activity levels in minutes recorded by FITBIT versus Actigraph data (see Figure 1) are completely different during adolescents' activity observation. In both groups adolescents didn't wear Actigraph device correctly during their day time activities. As a result, Actigraph high intensity stages (Moderate and Vigorous) in average were 2.5 minutes in PSPEP and 2.09 minutes in FSPEP, but in same time in FITBIT 51.01 and 9.46 minute respectively. In light activity stage by FITBIT data adolescents from PSPEP were 307.67 ± 17.65 minutes and FSPEP 379.27 ± 134.06 minutes.

Sleep stages

Sleep stages FITBIT calculated in minutes by following parameters: changes in movement activity and heart-rate. In one hour of inactivity trackers assumes that persons are asleep and second is changes in heart rate variability or beat-to-beat dynamics. During observation person from PSPEP group sleep's average 7.6 hours with relatively high sleep time variability across observation 1.7 hours. In FSPEP case average sleep is 9.1 ± 1.2 hours, in spite of these sleep time difference proportion of non-REM stages versus REM stage in both adolescents are almost similar 4.9 and 4.8. Sleep dynamic during observation time see in figure 2. Each sleep stage is measured in minute level.

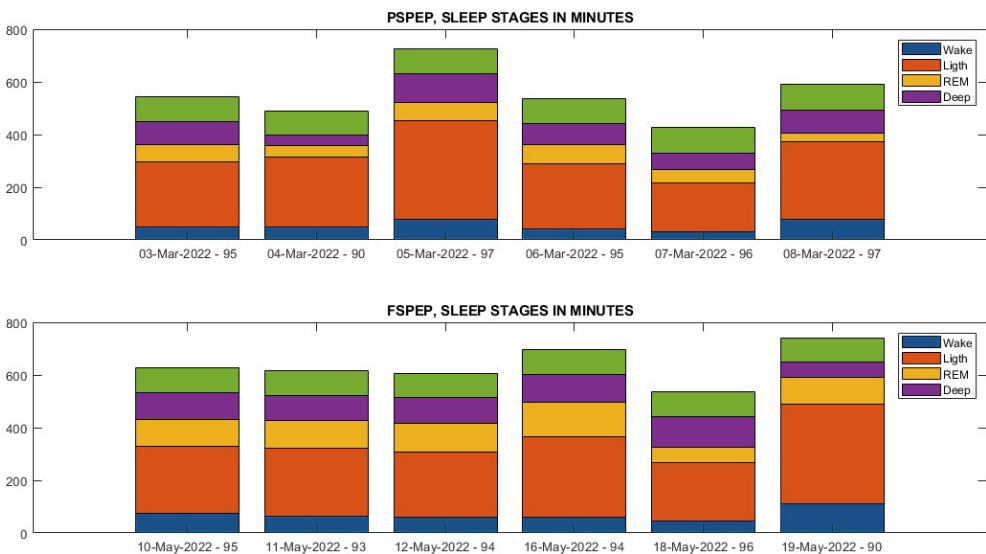


Figure 2 Sleep stages of adolescents (x-ass – observation days, y-ass time in minutes per stage. Stages of sleep – Wake, Light, Deep, REM)

Activity stages by heartbeat sensors data

FITBIT have addition activity tacking possibility using heart rate optical sensors data, as results addition activity zones (*Low*, *Moderate*, *High*) are calculated by device. In comparison with physical motion PSPEP participants have moderate and high activity for

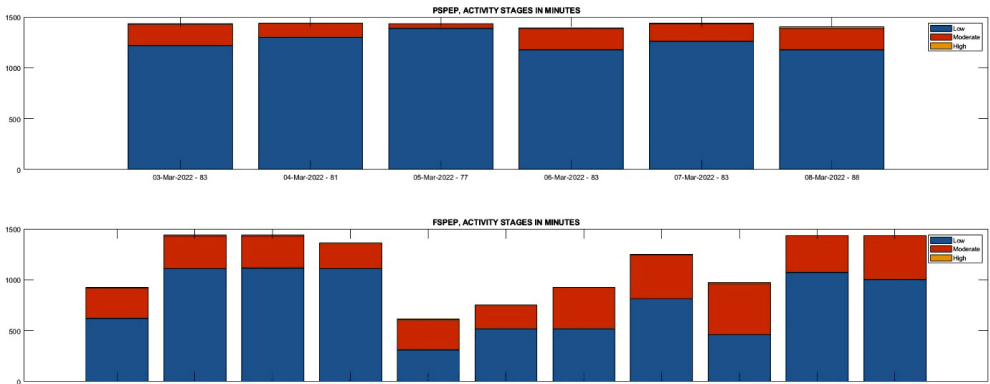


Figure 3 Activity stages by heartbeat sensors data (x-axis – observation days, y-axis – time in minutes per stage. Stages of activities – Low, Moderate, High)

180.58 ± 79.51 versus 307.67 ± 17.65 minutes, and FSPEP 361.03 ± 91.12 versus 379.27 ± 134.06 minutes (see Figure 3).

Steps and Heart rate by Fitbit recordings

In Figure 4 time series of steps and heart rate (HR) are presented. Correlation between amount of the steps and HR per activity time period is clearly visible, especially in case of PSPEP group adolescent.

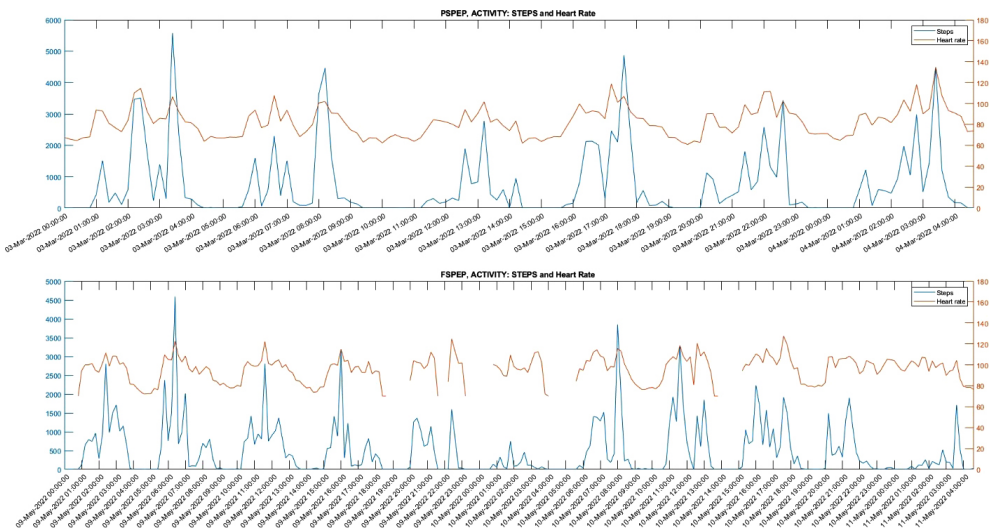


Figure 4 Steps and Heart rate by Fitbit recordings (x-axis – observation time line, y(right) -ass steps count per time y(left) -ass heart beat per minute)

Discussion

Investigators, using various consumer activity monitor models and smartphone models for measuring steps observed, that smartphone data collected at the hip, analyzed with a separate algorithm, performed either equally or even superiorly to the research-grade Actigraph (Hartung et al., 2020). The authors came to the conclusion, that measurement inaccuracies during intermittent walking and arm movements should be considered when interpreting study results and choosing activity monitors for evaluation purposes. Another authors have found that Fitbit shows better validity for estimating sedentary behavior and similar validity for assessing moderate to vigorous physical activity compared to the research-grade monitor (Kang et al., 2019).

Comparing of Fitbit and Actigraph use, the authors found high correlations and agreement between Fitbit and Actigraph, however, findings suggest also differences between the two devices (Chu et al., 2017). From specification perspective both tracking devices – Actigraph and Fitbit have 3-axis accelerometer sensors for motion tracking. Both devices have algorithms and hardware for sleep stages tracking. Fitbit device have built-in optical heart-rate sensor and this is optional with Polar heart rate monitor additional device in the Actigraph. Other differences between devices are the wearing locations (wrist, waist, arm, ankle) and 12 metabolic activity algorithms that are suitable for different age groups and physical exercises or continuous monitoring of activity in Actigraph.

One of the reasons that cause imprecise data from Actigraph was its physical dimension 46x33x15mm and weight 19g vs 16x37x13mm and weight 17g and for Fitbit and their external look. Results of our investigation show that adolescent's prefer wearing more convenient looking Fitbit devices with watch like display. Thus, although the Actigraph is a specific tracker that allows to capture various indicators, it is not necessarily suitable for young people in everyday use, and the Fitbit has some advantages over the Actigraph in everyday usage.

The use of tracing devices enables adolescents to engage in physical activities more actively on their own or under the guidance of educators, which promotes a more active lifestyle and also stimulates cognitive functions.

The developed methodology and protocols for tracking the adolescent's daily physical activities, sleep duration and quality and evaluating the dynamics of the adolescent's motor skills and psychophysiological parameters give the ability to follow the adolescent's lifestyle, physical and psychophysiological state.

Conclusions

Methodology for recording adolescent's physical activity, using tracking devices gave ability to record adolescent's physical and behavioural activity during the 16-weeks physical exercise program and compare it with their self-reported physical activities.

Fitbit fitness trackers are more preferable in comparison with ActiGraph because it is convenient easier to use them in partly supervised activity conditions, and it is possible to register sleep duration and heart rate changes with Fitbit.

Adolescents of both groups (PSPEP and FSPEP) showed improvements in physical test indicators and cognitive test parameters after partly or fully supervised physical exercise program intervention.

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INTELLIGENCE QUOTIENT AND SOME ANTHROPOMETRIC INDICES IN CHILDREN WHO PRACTICE SWIMMING

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ABSTRACT

General human intelligence and anthropometric indices are important factors in the cognitive learning process, but also in the motor learning such as swimming.

In the period March-June 2022, we conducted a longitudinal study on 136 children aged 6.0 to 9.11 years (mean 7.2 years), who practice swimming for leisure (beginner level) in the swimming pools from Iasi city, Romania. The instruments used were the Raven Standard Progressive Matrices for intelligence quotient, an OMRON BF511 device (scale) for body mass index, adipose tissue mass and muscle tissue mass, a Makita laser rangefinder and a Makita scale for waist measurement.

The purpose of the research is finding out if there is an association between the intelligence quotient and certain anthropometric indices in children participating in introductory swimming lessons.

The main hypothesis of the research is that there is a positive association between the intelligence quotient and certain anthropometric indices in children participating in introductory swimming lessons.

The research results show that the association between intelligence quotient and body mass index is negative of moderate strength ($r = -0.41$; $p = 0.04$); the association between the intelligence quotient and the adipose tissue mass is also negative of moderate intensity ($r = -0.47$; $p = 0.02$); and between the intelligence quotient and the muscle tissue mass there is a positive association of low intensity ($r = 0.23$; $p = 0.03$).

In conclusion, we can state that among children who practice swimming in Iași City, the intelligence quotient is inversely related to the body mass index and the adipose tissue mass (if the intelligence quotient increases, the body mass index and the adipose tissue mass will decrease) and in positive relation with the muscle tissue mass (if the intelligence quotient increases, the muscle tissue mass will also increase).

Keywords, *anthropometric indices, intelligence quotient, learning, swimming, children, beginner level.*

Introduction

In its modern, Western guise the concept of intelligence has seemed inextricably linked to the technology for measuring it, the Intelligence Quotient (IQ) test. Developed in its modern form in 1905 by the French psychologist Alfred Binet (1857–1911) and his collaborator Théodore Simon (1872–1961), the intelligence scale and the practices of measuring intelligence it spawned spread quickly to many parts of the world, including England, Spain, Germany, Latin America, and preeminently the United States (Carson, 2015).

Firm evidence that psychometric test scores accurately predict real-world success would have considerable import at the practical and the theoretical levels. It would justify the use of such tests as educational and occupational selection tools and as dependent variables in studies of possible genetic and neurophysiological correlates of cognitive ability differences (Ian et al., 2007).

In this study we want to show what is the association between the intelligence quotient (IQ) and certain anthropometric indices such as body mass index (BMI), fat tissue mass (FTM), muscle tissue mass (MTM) in children participating in introductory swimming lessons.

The association of the IQ with anthropometric indices (in children who practice swimming) is not found in the specialized literature. Also, IQ testing of novice or performance swimmers is lacking. Aspects of approach to the process of learning to swim are encountered (Giannousi et al., 2017; Revesz et al., 2007; Light & Wallian, 2008; Monteiro et al., 2021).

Regarding anthropometric indices, Statkevičienė & Venckūnas (2008) conducted a study that targeted the level of performance in different swimming techniques correlated with anthropometric indices for young people aged 18 years. Their objective was to establish the possible relationship between the somatic development and the physical condition and the learning abilities to swim backstroke, breaststroke, and crawl.

The association of the variables invoked in this study (IQ and certain anthropometric indices) can be found in the specialized literature (Sandjaja et al., 2013; Akubuilu et al., 2020; Mahmud et al., 2022) among children who have problems with food (nutrition).

The authors Akubuilu et al. (2020) presented conclusions such as that, acute and chronic under-nutrition did not adversely affect the IQ and academic performance of the study population. In other studies it was found that, anthropometric nutritional status indicators are significantly associated with cognitive performance (Sandjaja et al., 2013) and nutritional status can have a serious effect on intelligence among preschoolers (Mahmud et al., 2022).

Methodology

Research sample and population

The research sample consists of 136 children (66 girls and 70 boys) with ages between 6.0 and 9.11 years (M age = 7.2), who practice leisure swimming (beginner level) in the swimming pools in the city of Iași, Romania. The composition of the sample was carried out by stratified random sampling on each age level (6, 7, 8 and 9 years).

The research population consists of approximately 500 children who practice swimming in Iași city. This results in a sample of 27.2%; statistically significant.

Table 1 Research subjects

Gender	The research subjects	Percent	Valid Percentage	Cumulative percentage
Male	70	51.47	51.47	51.47
Female	66	48.53	48.53	100.0
Total	136	100.0	100.0	

The research subjects followed a program of two lessons per week, lasting 60–75 min each, following a program that included different exercises structured by learning stages for swimming.

The study was conducted in accordance with the Oviedo Convention of 1997 and the Helsinki Declaration of 1964. Subjects were included with prior written consent obtained from a parent or guardian for each child.

Measurement of variables

The independent variable – IQ was measured using the Raven Standard Progressive Matrices (RSPM).

The RSPM (see Figure 1) is a non verbal test commonly used to measure general human intelligence and abstract reasoning and is regarded as a test for estimating fluid intelligence (Bilker et al., 2012).

The measurement and evaluation of this variable (intelligence quotient – IQ) was done before swimming training sessions in good conditions and without disturbing factors (in the protocol rooms of the swimming pool).

Dependent variables BMI, FTM and MTM were measured using an OMRON BF511 (weighing scale, see Figure 2). The waist of each child was previously measured using a Makita LD050P laser rangefinder and a Makita professional measuring tape. All the anthropometric measurements were carried out in duplicate following standard techniques by trained research personnel.

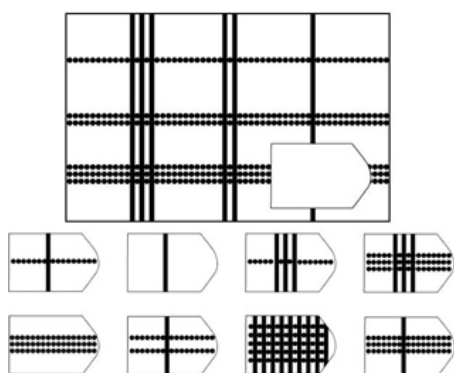


Figure 1 Raven Standard Progressive Matrices (RSPM)



Figure 2 Weighing scale (OMRON BF511)

The measurement and evaluation of the dependent variables of the research was also carried out before the swimming sessions, in the fitness room of the swimming pool, in optimal conditions and without disturbing factors. The research subjects were informed not to eat two hours before the measurements were taken.

The purpose of the research

We want to find out if there is an association between IQ and certain anthropometric indices BMI, FTM and MTM (which can determine buoyancy) in children participating in introductory swimming lessons.

Buoyancy can influence swimming performance because of its potential to affect the drag experienced by the swimmer, the efficiency of the swimmer, and the metabolic cost of swimming (McLean et al., 2000).

Research objectives

1. To create a statistically representative research group that complies with the ethical standards required by the Helsinki Declaration;
2. To test subjects on their level of IQ and to group them into several strata;
3. Testing subjects on certain anthropometric indices (BMI, FTM and MTM) that contribute to the buoyancy of the human body on water.

Research hypotheses

Main hypothesis

There is a positive association between the fluid intelligence and certain anthropometric indices.

Secondary hypotheses

1. There is a positive correlation between IQ and BMI;
2. There is a positive correlation between IQ and FTM;
3. There is a positive correlation between IQ and MTM.

Results

The results from this research were stored and processed using IBM SPSS 20 software. Specifically, the SPSS 20 software used in this research provides data analysis for descriptive statistics, predictions of numerical results, and hypothesis validation.

Descriptive analysis

In the descriptive analysis we calculated the central tendency parameters and the dispersion parameters for all four variables invoked in this research (IQ, BMI, FTM, MTM – see Table 2).

Table 2 Descriptive statistics

		IQ	IMC	FTM	MTM
N	Valid	136	136	136	136
	Missing	0	0	0	0
Mean		96.54	20.078	20.425	33.871
Std. Error of Mean		1.048	.1714	.3766	.3420
Median		97.00	20.100	20.150	34.150
Mode		97	19.8	17.3	33.3 ^a
Std. Deviation		9.140	1.4940	3.2835	2.9813
Range		34	7.1	11.5	10.8
Minimum		80	16.3	14.3	28.1
Maximum		114	23.4	25.8	38.9
Sum		7337	1525.9	1552.3	2574.2

^a Multiple modes exist. The smallest value is shown

Testing the distribution of research variables

Distribution of research variables was verified using the Kolmogorov-Smirnov Test. Based on this test we will know what kind of correlation we can perform. In this study all research variables (BMI, FTM, MTM) have a normal distribution of the values obtained from the measurements performed (see Table 3).

This fact (normal distribution) determines that we use the Person Correlation for hypothesis testing.

Table 3 Kolmogorov-Smirnov Test of research variables

Research variables	Kolmogorov-Smirnov (K-S)	Threshold of significance (p)	Distribution
IQ	0.63	0.81	normal
BMI	0.61	0.83	normal
FTM	1.27	0.07	normal
MTM	0.71	0.68	normal

Testing hypothesis 1

There is a positive correlation between IQ and BMI.

Among the children who practice swimming in Iași City (beginner level – novice swimmers), the association between IQ and BMI is negative of moderate intensity ($r = -0.41$; $p = 0.04$). The significance threshold $p = 0.04$ allows us to state that hypothesis 1 is rejected (see Table 4). Using the coefficient of determination ($r^2 = 0.17$) we deduce that 17% of the variation in BMI can be “explained” by the relationship (association) with the IQ variable.

Table 4 Pearson Correlation Test for Hypothesis 1 (association between IQ and BMI)

		Variable IQ	Variable BMI
Variable IQ	Correlation Pearson	1	-.412**
	Sig. (2-tailed)		.043
	<i>N</i>	136	136
Variable BMI	Correlation Pearson	-.412**	1
	Sig. (2-tailed)	.043	
	<i>N</i>	136	136

** Correlation is significant at the 0.05 level (2-tailed).

Testing hypothesis 2

There is a positive correlation between IQ and FTM.

Among the children who practice swimming in Iași City (beginner level – novice swimmers), the association between IQ and FTM is also negative of moderate intensity ($r = -0.47$; $p = 0.02$). The significance threshold $p = 0.04$ allows us to state that hypothesis 2 is rejected (see Table 5). Using the coefficient of determination ($r^2 = 0.22$) we deduce that 22% of the variation in FTM can be “explained” by the relationship (association) with the IQ variable.

Table 5 Pearson Correlation Test for Hypothesis 2 (association between IQ and FTM)

		Variable IQ	Variable FTM
Variable IQ	Correlation Pearson	1	-.471**
	Sig. (2-tailed)		.024
	<i>N</i>	136	136
Variable FTM	Correlation Pearson	-.471**	1
	Sig. (2-tailed)	.024	
	<i>N</i>	136	136

** Correlation is significant at the 0.05 level (2-tailed).

Testing hypothesis 3

There is a positive correlation between IQ and MTM.

Among the children who practice swimming in Iași City (beginner level – novice swimmers), the association between IQ and MTM is a weak positive association ($r = 0.23$; $p = 0.03$).

The significance threshold $p = 0.03$ allows us to state that hypothesis 3 is confirmed (see Table 6). Using the coefficient of determination ($r^2 = 0.05$) we deduce that 5% of the variation in MTM can be “explained” by the relationship (association) with the IQ variable.

Table 6 Pearson Correlation Test for Hypothesis 3 (association between IQ and MTM)

		Variable IQ	Variable MTM
Variable IQ	Correlation Pearson	1	.237**
	Sig. (2-tailed)		.036
	<i>N</i>	136	136
Variable MTM	Correlation Pearson	.237**	1
	Sig. (2-tailed)	.036	
	<i>N</i>	136	136

** . Correlation is significant at the 0.05 level (2-tailed).

Discussion

Among children aged 6.0 – 9.11 years who practice swimming in Iasi City (learning level), the relationship between IQ and certain anthropometric indices is as it follows: negative with BMI and FTM and positive with MTM. This fact shows that if IQ were to increase, BMI and FtM would decrease and MtM would increase (see Table 7).

The specialized literature does not present studies that show the association/relationship between IQ and certain somatic or anthropometric indices.

The main hypothesis of this research – *There is a positive association between fluid intelligence and certain anthropometric indices* – is partially confirmed.

Studies show other relationships such as association between IQ and school performance. There is broad agreement that there is a moderate to strong correlation between the two variables. Jencks et al.'s (1979 *apud*. Ian et al., 2007) detailed account of eight samples from six longitudinal studies reported correlations ranging from 0.40 to 0.63 between cognitive test scores and amount of education obtained. More recent overviews are provided by various authors and reach similar conclusions (Bartels et al., 2002a; Bartels et al., 2002b; Neisser et al., 1996; Sternberg, Grigorenko, & Bundy, 2001).

For example, Mackintosh's (1998 *apud*. Ian et al., 2007) survey reckoned that there is a correlation between 0.4 and 0.7 between IQ scores and school performance grades.

Table 7 Dependent variables and relationship/association between IQ

Research variables	Pearson Correlation	Coefficient of determination	Variation of variables	Threshold of significance (p)
BMI	-0.412	0.17	17%	0.043
FTM	-0.471	0.22	22%	0.024
MTM	0.237	0.05	5%	0.036

Other studies present IQ as the dependent variable and show an association between sleep duration and performance on IQ tests, but the mechanisms underlying this interplay remain unknown. Several authors have proposed that sleep spindles may physiologically underpin intelligence or high-level general mental ability (Bódizs, et al., 2005; Fogel et al., 2007).

Conclusions

For the research sample and for the population it represents, children (aged 6.0 to 9.11 years) who swim in Iasi City (beginner level), IQ is in inverse association/relationship with BMI and FTM. These results show that, by increasing IQ, anthropometric indices BMI and MTF are kept under control. We can conclude that children who swim and have a good IQ level have a reduced risk of adipose tissue and of being overweight.

Also, increasing IQ levels in swimming children leads to an increase in MTM.

Swimming is a sport where smart kids control their BMI and FTM and develop MTM.

Anthropometric indices and cognitive abilities may be predictors for learning and performance in sport swimming.

In future research we will have the following directions of study:

- testing the link between cognitive abilities (IQ) and sports swimming technique (freestyle and backstroke);
- verification of the association between anthropometric indices and sports swimming technique (freestyle and backstroke);
- testing the relationship between psychomotricity and sports swimming technique (freestyle and backstroke).

Conflict of interests

The author declares that there is no conflict of interests.

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MENTORING TO SUPPORT ATHLETES' DUAL CAREER

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ABSTRACT

Aims: The “Establishment of a Dual Career Mentor Centre in Latvia” project, which was carried out within International University Sports Federation (FISU) framework, aimed to research the opportunity for creating a dual career mentoring centre for higher education institutions (HEIs), taking into account feedback received from student-athletes. It also aimed to compare support priorities with similar studies carried out previously.

Methods: Theoretical method – study of theoretical sources. Empirical method – analysis of a dual career survey. The research comprised student-athletes from seven higher education institutions in Latvia. Results were analysed with the SPSS data processing software program.

Results: Data analysis allowed the authors to conclude that student-athletes need support for the provision of sports infrastructure ($n=51$ before, 63%). Additionally, prior to starting studies, student-athletes need more information about study opportunities in higher education institutions in Latvia ($n=61$, 75%). It is confirmed by the fact that even though the information on education has mainly been sought on the internet ($n=69$, 88%), the respondents still could not find relevant information on dual career opportunities in any of the universities.

The results suggest that HEIs promote the development of dual career education centres, which would support dual career by providing information on study programmes, universities, and opportunities to do sports at high level adapted to high-performance athletes. Therefore, the project “Establishment of a Dual Career Mentor Centre in Latvia” could be of significance for the development of dual careers in Latvia.

Keywords: *dual career, higher education institutions, high-performance athlete, mentor, support.*

Introduction

In Europe, high-performance sports are mainly structured at the club level, with limited access to education, which creates a peer gap. This results in talented high-performance athletes who are at risk of dropping out of education or sport. The Latvian Cabinet of Ministers' Regulations on Sports Policy Guidelines also indicates an emphasis on further developing the system of training centres for high-performance athletes,

while increasing the role of recognised sports federations in implementing the support programme (Ministru kabinets, 2022), although there is an absence of a focus on education. In recent years, the ‘dual career’ (DC) of athletes has been considered a priority in European sports strategy and policy (European Commission, 2007, 2012; European Parliament, 2015; 2017). Based on the material published in 2013 on dual careers for athletes, the term ‘dual career’ implies that an athlete is able to flexibly combine their sporting career, including high-quality training, with education and/or work (European Commission, 2013). In Latvia, the “Sports Policy Guidelines 2022–2027” were adopted in 2022, where it is stated in point 4.17 that “the awarding of sports scholarships to promote dual careers in sport needs to be supported” (Ministru kabinets, 2022). Athletes with higher education are competitive in the labour market, which contributes to the development of human resources. The report of the European Commission highlights that “every year, 30% of young people aged 10–18 who take part in sport give it up because they find that their sporting activities take up too much of their time” (European Commission, 2012). This is particularly relevant for high-performance athletes who are struggling to reconcile the demands of a sporting career with the challenges and constraints of the education system or the labour market. Research highlights this fact as a condition that sport is often not promoted as a career choice (European Commission, 2016). In 2021, the Erasmus+ project “More than Gold”, initiated by the University of Latvia in cooperation with universities in five other countries, was implemented with the aim to develop DC guidelines for higher education institutions (HEIs) and strengthen DC policies in all EU countries, especially in countries where DC policies are at an early stage of development, such as Latvia, Romania. The project highlighted best practices in support provision (i.e., career centre services, psychological services, mentoring programmes for students, etc.). As a result, a HEI methodology was developed which aims to share how existing HEI activities can be used to support DC. Responsibility for dual careers does not only depend on the microenvironment of student-athletes (gender, age, sports involved) but also on the macro (organisations, sports clubs/federations, and educational institutions), and global (international, national, regional, and municipal policies) dimensions, which are also influenced by several socio-cultural, media and economic mediators (Capranica & Guidotti, 2016). Therefore, supporting the bridging of education and sports processes for high-performance athletes largely depends on the interrelationships between multiple stakeholders, which require a well-structured collaboration and a systematic monitoring system in order to promote and implement effective dual career programme policies.

Methodology

The research was aimed to compare support priorities with similar studies carried out previously, and to explore the opportunity for creating a dual career mentoring centre in Latvia for higher education institutions (HEIs), taking into consideration feedback received from student-athletes.

Methods: study of theoretical sources and documents and analysis of a survey results.

The survey was carried out using data collection methods. During the development and implementation of the study, the authors considered the fundamental ethical principles of the study. It was clearly stated that anonymity was maintained for the participants involved in the study, i.e., the research sample – the personal data of the respondents (first, last name) was encrypted. The research instruments were approved by the Ethics Commission of the Faculty of Education, Psychology and Art (FEPA) of the University of Latvia on Research with Human Involvement.

The questionnaire as a data collection tool was developed based on similar published studies on DC issues (Abelkalns, 2014; Sánchez-Pato et al. 2017). A questionnaire was developed for student-athletes in Latvia, which included specific questions based on the overall project vision related to DC processes and the management of support opportunities. Therefore, the results obtained within the project provide a holistic view of the problem through its exploration. The purposeful recruitment of participants attained, in total, 81 high-performance athletes ($F = 37$, 45%; $M = 44$, 54%; age range: 19–25 yr.). All the respondents engaged in full-time academic education and competitive sports (e.g., national, international), with 53 (65%) representing individual sports such as athletics (10), wrestling (1), while 27 (35%) represented team sports such as volleyball (5), football (6), floorball (5), etc.). Most athletes ($n=44$, 54%) studied in bachelor's programs, master's programs ($n=8$, 10%), doctoral programs ($n=2$, 2%). The range of the respondents' study areas was broad, but sports science ($n=31$ 38%), economics ($n=9$, 11%) and military ($n=8$, 10%) could be identified as the most popular education fields. The survey focused on the provision of support from a DC perspective and identified athletes' needs in relation to DC implementation. Questionnaire data was collected and processed using SPSS statistical processing software. The following statistical methods were used for data processing: descriptive and inferential statistics, factor analysis.

Results and discussion

At the beginning of the study, the authors researched and analysed experiences of different countries in DC governance (Australia, the United Kingdom, France, etc.) in order to find out which models would be more suitable for Latvia (Athlete Career and Education [ACE], 2022; Dagley, 2004; France's National Institute of Sport, Expertise, and Performance [INSEP], 2022; The Talented Athlete Scholarship Scheme [TASS], 2023). Researchers took notice that in Australia there are athlete career education (ACE) programmes managed at the national level by the Australian Institute of Sport, which aim to help high-performance athletes to access education or career and personal development opportunities while striving to achieve better results in sport and education. ACE offers a wide range of services including career and education counselling, a variety of programs, services designed to help athletes cope with DC, and services related to personal development. These services are provided through one-to-one consultations with ACE counsellors or through group training courses (Dagley, 2004).

In the United Kingdom (UK), the Talented Athlete Scholarship Scheme (TASS) is a national support organisation. TASS is a UK publicly funded body which is a unique partnership structure between talented young athletes and colleges and universities. TASS aims to help its athletes to balance academic life with high-performance sports. TASS supports more than 500 athletes in 38 different sports nominated each year by their national governing bodies (TASS, 2023). There are a few DC centres in the country, with support provided in different regions ranging from partial financial support to full support, including financial and academic support and sports work. The decision to provide support generally depends on the amount of funding available, strategic priorities and the potential of athletes. Many universities prioritise sports and provide additional support for athletic students (Morris et al., 2020).

In Portugal, as in several European countries, high-performance athletes can study at any university (with which cooperation agreements have been concluded). In Portugal, 2.15% of all students are high-performance athletes (Fernandes & Camps, 2007). Student-athletes are free to change universities between the partner universities, continuing their studies in the programme of their choice. High-performance athletes receive support in four main support blocks: academic, psychological, medical and sport (Fernandes & Camps, 2007).

In this research a survey for student-athletes in Latvian HEIs was developed and carried out, the survey consisted of four parts: introduction, education, sport, and dual career. In order to better understand student-athletes' views on combining academic education with sport, the authors compared the results with data from similar studies conducted 5 to 10 years ago (Abelkalns, 2014; Kravalis & Abelkalns, 2017; Abelkalns et al., 2021). The results of the survey showed that 19 (23%) of the student-athletes had a training experience of 12 to 15 years and 45 (55%) of the athletes trained 5–6 times per week. It should be noted that only 8 (10%) athletes receive DC support for tuition fees, 41 (51%) study with state budget funds, while 24 (30%) study with their own financial means. If we compare these results with the previous ones, we can conclude that DC support for athletes is gradually increasing, while self-financed studies remained at the previous level of 35% (Abelkalns, et al., 2021). High-performance athletes responded that 30 (37%) of them received a sports scholarship at their university, which is also regarded as DC support. One of the key questions was related to the type of support needed to improve the DC process. Respondents were given a choice of financial, moral, consultative, and other types of support, see Figure 1.

As shown in Figure 1, most respondents ($n=55$, 67%) answered that financial support is highly needed, while 41 respondents (50%) indicated that moral and consultative support is needed in order to successfully balance academic performance and sport. On the other hand, comparing the data with the study conducted by Abelkalns (2014), it can be concluded that younger athletes need relatively less support. From the surveys of high-performance athletes, it can be concluded that both sports and education are important for these young people. As can be seen in Figure 2, athletes are willing to pay more attention to achieve better results in education ($n=64$, 79%) and in sports ($n=73$, 90%).

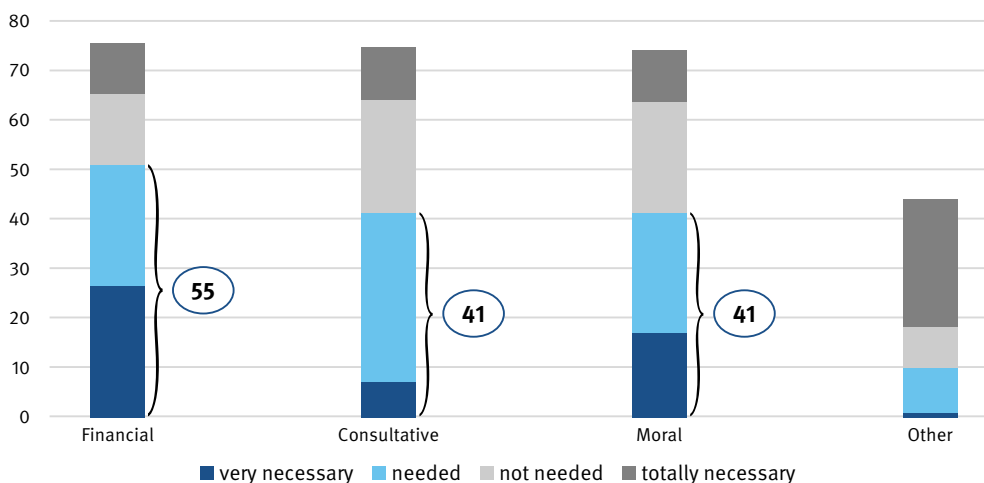


Figure 1 Type of support required

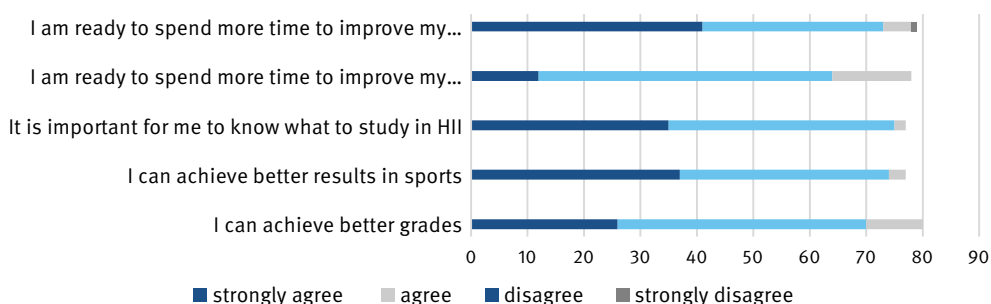


Figure 2 Athletes' opinions about the importance of sports and education in their lives

There is a slightly prevalence in favour of sport, and more respondents answered strongly agree than agree. A similar situation emerges in the part of the question of whether athletes are confident that they can achieve higher results in studies ($n=70$, 86%) and in sports ($n=74$, 91%).

The authors conclude that if athletes can devote time and energy to both academic learning and athletic achievement, this implies that the drive towards DC excellence is there, but time management needs to be improved.

The study went on to further analyse the needs of athletes in sport to achieve better results. As shown in Figure 3, the main problems stem from the lack of adequate infrastructure. 51 athletes (63%) believe that there is no adequate infrastructure for training near universities, and 49 respondents (60%) would like to be able to plan their training schedules to fit in with their studies. The third most important factor is the time and facilities for rest at the university after the first/morning training ($n=33$, 40%).

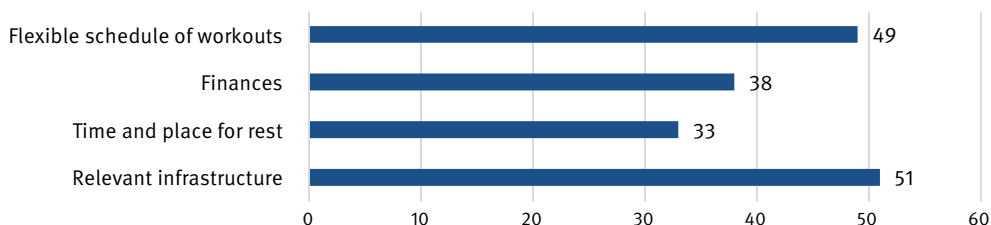


Figure 3 Basic needs in sport (n=81)

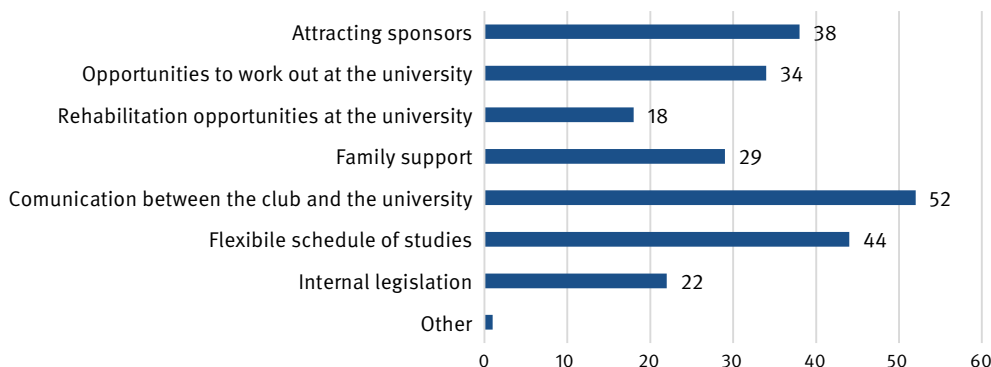


Figure 4 Solutions of support (n=79)

When we asked about more necessary areas of DC centre support for students-athletes, we received several recommendations related to sports activities. In Figure 4 we can observe that most of the student-athletes (n=52, 66%) believe that there is a need to improve communication with sports clubs/federations and higher education institutions. If we compare the results with previous studies (Kravalis & Abelkalns, 2017), where 31% of athletes underlined mutual communication. The authors conclude that athletes now feel a greater need for communication, which is perhaps a consequence of Covid-19, but based on Dagley's (2004) research, the activities of the DC Centre could improve the situation.

In the study, student-athletes were asked to identify individuals who could provide solutions to the problems analysed above. The results show that the responsibility lies with HEI decision-makers (n=44, 55%), followed by coaches (n=39, 49%). Naming sports club managers (n=34, 43%) and dual career counsellors (n=31, 39%) in third place. The authors here draw attention to the fact that Latvian HEIs do not officially have dual career counsellors, but on a voluntary basis, the sports clubs of each institution try to provide the necessary counselling to athletes. Athletes also provide relevant answers on how to obtain information. Respondents mainly obtained information about study programmes from internet resources (n=69, 88%). However, when answering about the source of DC information, only a few (n=3, 3%) athletes found the expected information. In this context, however, the authors remind us that currently, only the University of Latvia website provides information on DC. The analysis of the results showed that

the study process is also important for high-performance athletes. 58 respondents (73%) have chosen their study programme to develop their knowledge and skills that will help them to improve their performance in sports. 48 respondents (60%) believe that studying at university will enhance communication skills and 39 respondents (49%) believe they will acquire the ability to make responsible decisions. These results are in line with previous studies, which indicate that it does not matter which study programme athletes choose, but it is important that the overall level of intelligence is developed in the studies (Capranica L, Guidotti F., 2016).

Having previously clarified the difficulties student-athletes must overcome in sports, with the next question the authors wanted to find out what difficulties they have to face in the study process. The main problem is that due to the heavy training load, athletes cannot attend all lectures (*n*-39, 53%) and cannot devote enough time to prepare well for seminars (35, 47%). Sometimes this causes stress that can interfere with both academic and sporting achievements. Looking at the overall factors that mainly hinder the success of the DC, lack of time (*n*-49, 67%) and scheduling of training and studies (*n*-43, 59%) are highlighted first.

Once the problems were identified, the authors of the study identified what would need to change in HEIs in order to introduce or improve DC management mechanisms. As can be seen in Figure 5, the conditions should first be created so that DC is promoted, and student-athletes can obtain the necessary information in a timely and simplified manner. Once again, the emphasis is on communication, where the authors conclude that communication skills, one of the cornerstones of the DC management process, have declined among young people.

Athletes expressed their own options, such as “the sports law needs to be reformed”, “university sports facilities need to be built”, “more information about studies should be accessible”, “DC should get more publicity in universities, in schools and in sports schools”, “students should be taught more about how to plan their time better”, etc.

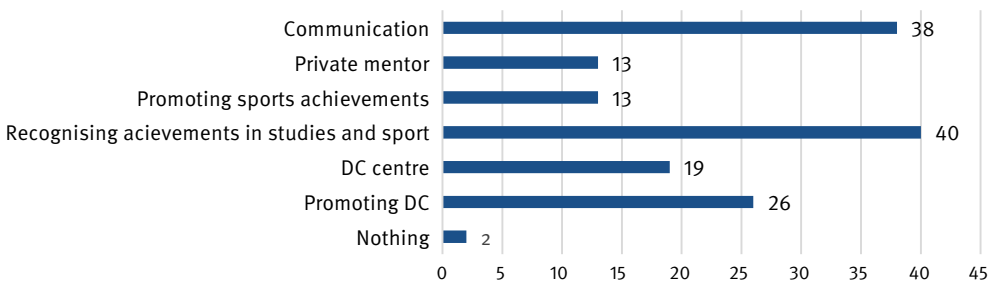


Figure 5 What must be changed to improve dual career (*n*-81)

Conclusions

By analysing the experiences of DCs in different countries, the authors conclude that DC support centres have been established in many countries around the world and in Europe, all with the common goal of helping athletes to access education or careers and personal development opportunities while striving to achieve better results in academics and sport.

In Latvia, guidelines have been established for the implementation of DC in HEIs, but the development of DC processes is passive and changes in the education law would be needed. Surveys of athletes suggest that both sports and education are important to young people. Financial support is now more needed than moral or counselling support for athletes, but the weight of counselling support has slightly increased compared to previous studies.

In the current situation, athletes feel a greater need for communication with peers, professors, and sports officials, which is perhaps a consequence of Covid-19. Athletes believe that studying at university fosters their communication skills and they gain the ability to make responsible decisions, which can lead to better results in education and sport. Lack of time to attend lectures and prepare for seminars is mentioned as an important problem. Opportunities should be created to promote DC and informal education courses on time management should be organised.

The results suggest that HEIs promote the development of dual career education centres, which would support dual careers by providing information on study programmes, universities, and opportunities to do sports at a high level adapted to high-performance athletes. Therefore, the project “Establishment of a Dual Career Mentor Centre in Latvia” could be of significance for the development of a dual career in Latvia.

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EXPLORATION OF EEG MARKERS OF SENSORIMOTOR FUNCTIONING DURING INCORRECT VERSUS CORRECT DECISIONS

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ABSTRACT

Open-skill sports are demanding for athletes' decision-making. Incorrect decisions can have substantial consequences. Complex programs for elite athletes include improvement of their neurocognitive functioning. Simultaneously, making errors remains underrepresented in broader sports science. The present study explored EEG markers of sensorimotor reactions under incorrect versus correct responses to visual stimuli.

Seven male participants (24.2 ± 2.5 years) completed the Choice Response Time task (CRT) with simultaneous EEG registration. Two color stimuli (red and green) and a discriminative stimulus (black) were presented on an LCD screen, using PSYCHOTOOLBOX coded CRT task. Stimulus and response events were synchronized with EEG amplifier NVX-136, and 32 channels of EEG were recorded. Data were preprocessed in EEGLAB, and event-related potential (ERP) calculations were performed in ERPLAB. ERP was analyzed for correct and incorrect color choices and reactions to the discriminative stimulus. The electrodes represented the visual (O1, Oz, O2), frontal (F3, Fz, F4), and sensorimotor (C3, Cz, C4) cortex.

Behavior data revealed a shorter reaction time during the incorrect decision (4.6% of cases) than during the correct one, 398.1 ± 55 ms vs. 456.8 ± 96 ms. In the N2 peak area, the incorrect color stage differed significantly from the two correct stages (e.g., the amplitude of -1.624 mkV at a latency of 264 ms for the correct color stage and -1.779 mkV at a latency of 254 ms for the correct discriminating stage vs. -3.716 mkV at a latency of 300 ms for the incorrect color stage for channel F3, peak N2).

Correct decision stages had similar ERP wave peak patterns. Incorrect decisions deviate from functioning during correct ones. Differences in the N2 peak area represented conflict in decision-making during incorrect decisions. Simultaneously, the shorter latency of a motor reaction requires investigating the role of decision-making conflicts in impulse control and behavioral consequences.

Keywords: *electroencephalography, errors, event-related potential, reaction time, sensorimotor functioning.*

Introduction

Incorrect decisions have substantial consequences in different domains of human activities (Kim et al., 2022; Pooladvand & Hasanzadeh, 2022; von Bechtolsheim et al., 2022). Sports presents a kind of activity oriented to maximal results under competitive conditions. These conditions associate with time pressure and are highly demanding for athletes' attentional processes and decision-making, especially in open-skills sports (Memmert, 2009; Wang, 2016). For elite athletes, complex training programs include specific components that improve their neurocognitive functioning, shortening reaction time and reducing errors (Larson et al., 2012; Niederer et al., 2016; Tang & Posner, 2009). Simultaneously, the effects of programs remain limited in amplitude and generalizability to other kinds of activity (Kolesovs et al., 2020; Larson et al., 2012; Tang & Posner, 2009). Moreover, sensorimotor functioning while making errors remains underrepresented in a broader scientific discourse, including sports science.

The dominating discourse of empirical studies indicates a tendency to focus on correct rather than incorrect functioning. For example, a *Google Scholar* search (April 27, 2023) presents about 321,000 items for “event-related potential” and only about 690 items for “error-related potential.” Our research team emphasizes that errors and incorrect decisions are highly significant because of their consequences and require particular focus in investigation. Therefore, the present study aimed to explore EEG markers of sensorimotor reactions under correct versus incorrect responses to visual stimuli.

Objective data form a solid base for the development of any field of science. Therefore, we have focused on brain functioning and revealing brain activity as highly topical for modern psychology (e.g., Jeste & Lee, 2019). Electroencephalography (EEG) is among the methods of identification of neural correlates of human perception, decision-making, and action. Event-related potential presents a way to identify dynamics of perceptive and decision-associated arousal. Simultaneously, reaction time measures allow us to characterize the motor component of the sensorimotor cycle (e.g., Reigal et al., 2019). In order to compare functioning under correct and incorrect decisions and explore in greater detail their neuro correlates, our exploratory study focused on EEG markers of sensorimotor reactions under incorrect versus correct responses to visual stimuli.

Our special attention focused on the N200/P300 complex of brain responses because of their modulation by conflict-provoking tasks (Enriquez-Geppert et al., 2010). Following Enriquez-Geppert et al. (2010), we have selected the “go/nogo” task paradigm for assessing correct and incorrect responses. This paradigm encompasses processes of discriminating between stimuli, making decisions, and initiating or inhibiting motor action within a relatively simple procedure (e.g., pressing the buttons under exposure to certain stimuli and not pressing them under exposure to a specific discriminative stimulus). It allows the application of the “go/nogo” paradigm in general and clinical populations (Lamp et al., 2022; Wang et al., 2020).

Simultaneously, we have maintained a broader temporal focus of investigation, addressing differences between correct and incorrect responses in the interval after

the decision was made. It should be noted that extending the time interval links observed activity to memory processes (Megías et al., 2021; Voss & Paller, 2008). This extension requires a better differentiation of conscious and more automatic processes (Kane et al., 2000). However, it was out of the focus of our study, aimed at the analysis of a broader temporal range of correct and incorrect responses.

Accounting for brain functional asymmetry, we have expected to identify some differences in the functioning of the right and left hemispheres potentially associated with the leading and non-leading hand (Serrien & Spape, 2009; Zhavoronkova et al., 2019). Aiming to better interpret the results of our exploratory study, we have added control over participants' handedness by including right-handed participants only.

Method

The study was conducted in the scientific cooperation frame and involved the analysis of existing data. Data were collected in November – December 2022 under the project, supported by the Latvian Council of Science under Fundamental and Applied Research grant No. lzp-2019/1-0152.

Participants

Participants of the exploratory study were seven right-handed male emerging adults (24.1 ± 2.4 years). For this exploratory study, inclusion criteria were male gender, age 18 to 29, regular physical exercises (from regular exercising two to three times per week to competitive athletes), and voluntary participation. The age range was limited because of age-related variability of reaction time (Adleman et al., 2016). The exclusion criteria were color blindness, acute upper extremities or back injury, and any sign of infectious disease (accounting for pandemic limitations in 2022).

Measures

Choice Response Time task (CRT) with simultaneous EEG registration was performed to assess functioning under correct and incorrect reactions. Within the PSYCHOTOOLBOX coded CRT task, two color stimuli (red and green) for choice by right and left hands and a discriminative stimulus (black) for non-reacting were presented on an LCD screen (see Figure 1). As a result, the “go/nogo” task paradigm was applied to investigate correct and incorrect responses.

Stimulus and response events were synchronized with EEG amplifier NVX-136, and 32 channels of EEG were recorded. Accounting for the exploratory nature of the study, the following electrodes were selected for region of interest (ROI): visual cortex O1, Oz, O2, frontal cortex F3, Fz, F4, parietal cortex P3, Pz, P4, and sensorimotor cortex C3, Cz, C4.

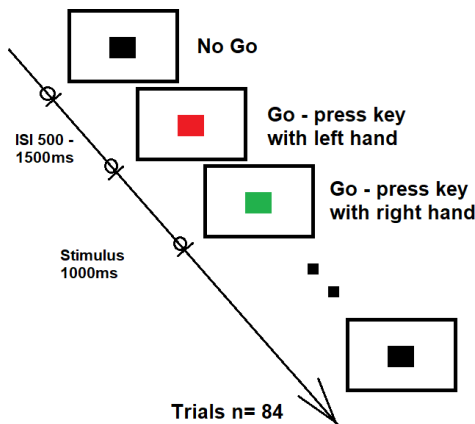


Figure 1 Schematic representation of the Choice Response Time task

Procedure

EEG was recorded with a sample rate of 1000 Hz and cut-off frequencies of 0.1–100 Hz with impedances $< 5 \text{ k}\Omega$, which included the 32 standard electrodes of the 10–20 system and A1 and A2 electrodes as reference channels. NVX-136 recording system with application software (NVX136, Medical Computer Systems Ltd.) was used.

EEG recordings were preprocessed and analyzed using Matlab (The MathWorks, Inc.) based EEG analysis software products, EEGLAB (<http://sccn.ucsd.edu/eeglab>), applying some custom processing scripts. The EEG was re-referenced to the computed average reference. 50 Hz noise in EEG signals was rejected using bandpass filters with 48–52 Hz values. Then, EEG signals with performance errors or remaining artifacts exceeding $\pm 100 \mu\text{V}$ in any channel and eye-blinked artifacts were rejected using the ICA procedure (based on online EEGLAB tutorial http://sccn.ucsd.edu/wiki/Chapter_09:_Decomposing_Data_Using_ICA) from data before processing. Additionally, EEG trials were inspected visually before event-related potentials (ERP) calculation using the ERPLAB plugin. Within ERP, the following reactions were analyzed: correctly and incorrectly pressed buttons during color choice, correct reaction on the discriminative stimulus (no button pressed), and incorrect reaction on discriminating stimulus (button pressed). The level of significance of 0.05 was maintained for statistical comparisons. Higher levels of significance are additionally reported in the Results section.

Results

Reaction time was the main indicator representing behavior data for correct and incorrect reactions to stimuli. The analysis shows that reaction time during the incorrect decision (4.6% of cases) was shorter than during the correct decision, $398.1 \pm 55 \text{ ms}$ vs. $456.8 \pm 96 \text{ ms}$, respectively.

Simultaneously, we have observed statistically significant differences in P300 peak areas between all experimental stages ($p < 0.01$). In the N200 peak area, the incorrect color

stage differed significantly from the two correct stages. Both correct decisions (i.e., correct reactions on the color stimuli and no reactions when black stimuli were presented) show similar ERP waves, especially at F3, Fz, C4, O1, Oz, and O4 electrode positions (Figure 2).

For example, the amplitude of -1.624 mkV at a latency of 264 ms for the correct color stage for channel F3 (Figure 2), and peak N200 was similar to the amplitude of -1.779 mkV at a latency of 254 ms for the correct discriminating stage. Simultaneously, both correct stages differed from the incorrect color stage with the amplitude of -3.716 mkV at a latency of 300 ms.

Significant alterations were observed at sensorimotor ROI electrodes (Figure 2). A spike at 114 ms with an amplitude of 1.95 mkV was observed at C4 when participants made an error (pressed the wrong keys) on the color stimulus. It can be related to stimulus recognition in the visual cortex. The spike (P100) was common in the right hemisphere electrodes O2, P4, and C4 in cases of incorrect color stimulus reactions.

P300 spike in the right hemisphere had greater amplitude, except for frontal cortex ROI electrodes. These differences between hemispheres were in parietal and sensorimotor ROI ($p < 0.05$), which is valid for all observation cases.

Post-stimulus time intervals were over 500 ms in parietal ROI, also having a greater amplitude in the case of an error in color choice than during correct decisions. A similar pattern was observed in visual cortex ROI with two spikes at 450 ms and 670 ms.

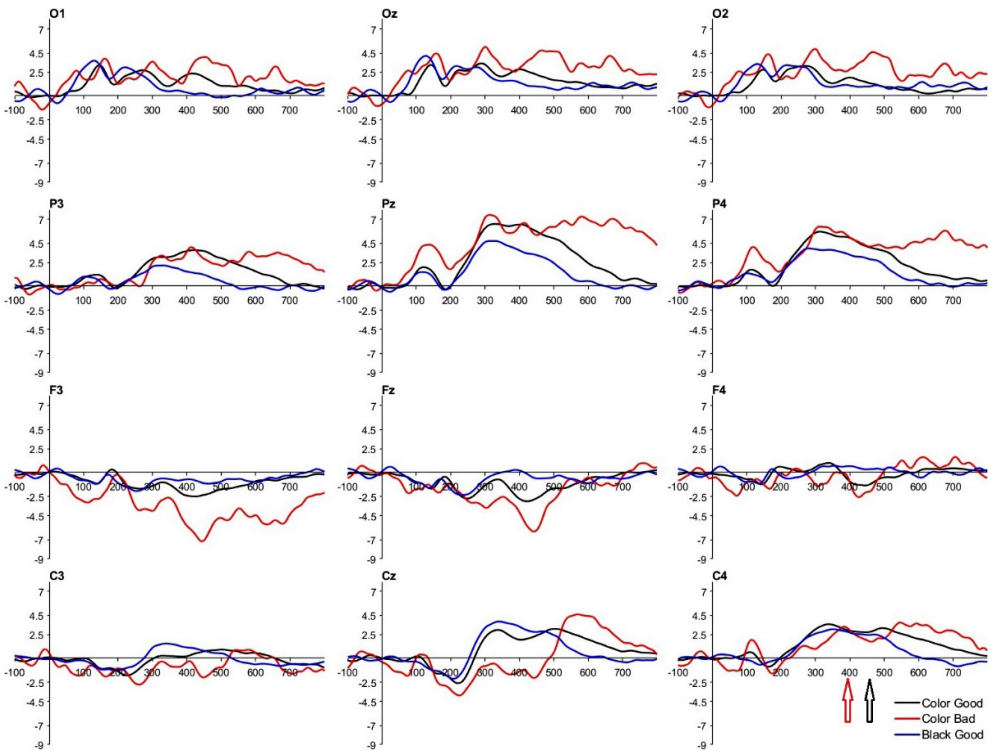


Figure 2 Time amplitude of ERP in visual (O), parietal (P), frontal (F), and motor (C) cortex (arrows in C4 indicate motor reaction time for correct and incorrect decisions)

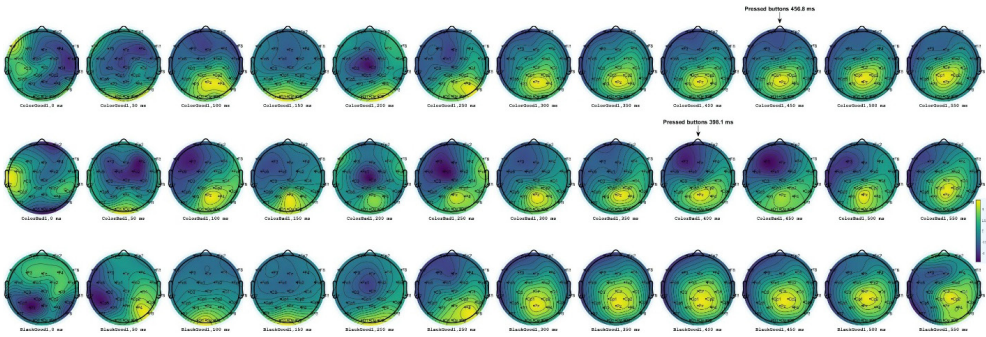


Figure 3 Topographic EEG map of activation patterns for correct (1st and 3rd line) and incorrect (2nd line) decisions and reactions in the interval from 0 to 550 ms after stimulus onset

Post-stimulus time intervals were over 500 ms in parietal ROI, also having a greater amplitude in the case of an error in color choice than during correct decisions. A similar pattern was observed in visual cortex ROI with two spikes at 450 ms and 670 ms.

The topographic map (Figure 3) also presented similarities in regions' activation patterns for both correct decision stages from 150 to 500 ms after stimulus onset. The map indicated similar activation of regions during correct behavioral outcome (correctly pressed and not pressed button). Black (no reaction) color perception has different patterns at the time 50 ms to 150 ms.

At P300, we have observed similar activation patterns in all correct case conditions. Simultaneously, activation of frontal ROI during correct and incorrect reactions visibly contrasted in the 400 to 500 ms interval.

Discussion

Both correct decision stages had similar ERP wave peak patterns in amplitude and time dimensions. From the perspective of the “go/nogo” task paradigm (e.g., Enriquez-Geppert et al., 2010), this similarity points to more minor differences between correct initiation or inhibition of motor action than between correct and incorrect initiation of this action.

It should be noted that incorrect decision events were rare, but current exploration revealed their significant deviance from functioning during correct decisions. Accounting for differences in the N200 peak area in the frontal cortex, they can represent higher conflict in decision-making during incorrect decisions. It concurs with previous findings on the role of conflict in frontal cortex activation (Enriquez-Geppert et al., 2010).

The similarity in brain activation patterns on P300 in all correct reaction cases suggests that common cognitive loading processes take place. Simultaneously, we have observed low amplitude in the right frontal cortex, which probably relates to the following error key pressing in the next time slot – 398 ms. Kane et al. (2000) suggest that such

observed patterns may relate to conscious or automatic behavior. Additional studies are required to differentiate these modes of action.

Simultaneously, the latency of a motor reaction was shorter for incorrect decisions than for correct ones. It indirectly supports the findings of Bechtolsheim et al. (2022) on the negative association between faster motor action and its quality. It also indicates a need for further investigation of the role of decision-making conflicts (Enriquez-Gepfert et al., 2010) in impulse control during sensorimotor reactions. In addition, including a broader time interval can help understand the neurocognitive consequences of errors.

As expected, we have identified differences associated with sensorimotor asymmetry in brain functioning. Higher motor activation in the right hemisphere than in the left hemisphere (C4 vs. C3 ROI electrodes) indicated higher arousal associated with the involvement of the left hand. Since our participants were right-handed, higher amplitudes may indicate the involvement of additional resources to manage the movements of the non-leading hand under challenging tasks (Zhavoronkova et al., 2019; Serrien & Spape, 2009).

The post-stimulus (400–800 ms) behavior differed in the error case in comparison with both correct cases. Relevant activation of frontal ROI can point to additional involvement of working memory in processing information regarding the outcomes of a particular decision and action (Megías et al., 2021). Therefore, investigation of working memory processes in relation to incorrect decisions should be considered as an option for further consideration.

A limited number of respondents form the main limitation for identifying error-related potentials during the analysis of the EEG procedure. However, seven participants provided data for exploratory insights into the problem. In addition, the present study was also limited in the variability of tasks challenging the correct performance. It resulted in a relatively low number of incorrect reactions. Especially, incorrect reactions on a discriminant stimulus were rare. It points to difficulties exploring inhibitory processes within the “go/nogo” paradigm. Another paradigm in studying these processes can be combined and contrasted with the current approach.

One more limitation of our study is associated with a relatively broad temporal interval for reacting to each stimulus. Accounting for the significant association between time pressure and errors (Pooladvand & Hasanzadeh, 2022; von Bechtolsheim et al., 2022), temporal frame and time-related characteristics of stimuli form a set of independent variables for further studies. However, an extension of temporal intervals can involve memory processes as a challenge for parallel investigation (Megías et al., 2021; Voss & Paller, 2008), while their shortening of the interval can limit the investigation of error monitoring processes and consequences of errors (Wang et al., 2020). Therefore, exploring chains of errors and correct decisions form an additional topic for empirical studies. Moreover, focusing on physical activity requires a combination of physical load and assessment of neurocognitive functioning. It will provide more relevant information for dealing with errors in sports.

Our findings point to the possible applied value of the study. Preliminary analysis indicates a significant challenge for practitioners aimed at developing precious reactions and stable behavioral patterns in the field of sports (Larson et al., 2012; Wang, 2016) or other disciplines (Kim et al., 2022; Pooladvand & Hasanzadeh, 2022; von Bechtolsheim et al., 2022). The initial differentiation and decision-making require no less attention than focusing on completing or not completing the activity. Therefore, a special focus on early reactions to visual stimuli is needed in training programs.

Conclusions

The exploratory study revealed that incorrect decisions are associated with shorter motor reaction time and higher loading in various regions of interest. These findings confirm a need for investigation of the role of decision-making conflicts in impulse control and its behavioral consequences. Extending the time interval for depicting consequences is significant. Simultaneously, shortening time intervals between stimuli can form a frame for studying chains of reactions. More complex cognitive tasks can provide a broader spectrum of links between correct and incorrect decisions and actions.

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THE RELATIONSHIP BETWEEN PERFECTIONISM AND SYMPTOMS OF DEPRESSION IN YOUNG ATHLETES

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ABSTRACT

Perfectionism is an increasingly common negative tendency to set high goals and expectations, which may be the basis for the development of depressive symptoms in young athletes. The purpose of this paper is to identify aspects of perfectionism and their association with depressive symptoms in young athletes. The research was conducted with a sample of subjects ($n = 256$) aged 9 to 17 years, coming from different parts of Croatia. The respondents were active athletes from different sports, divided including team ($n = 163$) and individual ($n = 93$) sports. Two questionnaires on mood and feeling were used for the study: The Short Version (MFQ) was used to assess depressive symptoms and the Sport Multidimensional Perfectionism Scale 2 (SMPS-2) to assess aspects of perfectionism. The questionnaire consisted of 43 items to which participants gave their agreement on a five-point Likert scale. Data were analyzed using descriptive analysis and multiple regression analysis. A correlation was found between the total depression variable and six variables of mean perfectionism ($R^2 = 0.28$). Four variables (high expectations, failure = complete failure, failure = annoyance, and rarely feeling that training prepared me for competition) were related to self-referential perfectionism, while the other two variables (coach criticizes everything except perfect performance, only outstanding performance is appreciated by the coach) were related to the coach and his influence. These variables are related to high expectations in sports, failure, frustration after a mistake, perception of the coach as a critical person who sets too high goals, and participants blaming themselves for poor training.

Keywords: *adolescents, coach, depression, athletes, expectations*

Introduction

Leisure activities, including sports, have different impacts on children, adolescents, and young people. This varies depending on the risk and protection arising both from the individuals themselves and from their environment. Bioecological theory (Bronfenbrenner & Morris, 2007) explains how children's and young people's leisure time,

including playing sports, belongs to a microsystem that directly influences an individual's development. In the context of leisure sports activities, this influence can come from different sides, including coaches, peers, and the individual's self-perception in the sports in which they participate. Apart from positive influences, including being beneficial to mental health (Blažević et al. 2018), sports and sports activities can have a negative impact. Perfectionism proved to be a negative trend manifested in children and young people who still develop. This current trend has been increasing significantly since 1985 (Currian and Hill, 2019). It is manifested in setting high goals, having too much aspiration for order and schedule, showing concern, and being mistake-focused (Piuk & Macuka, 2019). Since perfectionism can be present in all aspects of a person's life (Flett and Hewitt, 2002), it is also visible in athletes. Apart from perfectionism, children and young people face symptoms of depression. These include lack of sleep or too much sleep, lack of concentration, lack of optimism, and feeling worthless (American Psychological Association, 2019). Many studies show that perfectionism is associated with the development of symptoms of depression (Smith et al., 2016; Smith et al., 2018). Perfectionism was also recorded in sports (Valdez & Juan, 2020) and can potentially develop symptoms of depression, which makes research into this area important. There is a wide range of factors that can negatively affect the individual in the sports environment. This paper aims to determine whether perfectionism or parts of perfectionism are correlated with symptoms of depression.

Methods

A total of 256 athletes including both females ($F = 105$) and males ($M = 151$) coming from different parts of Croatia participated in the study. Research participants play different sports, including team ($N = 163$) and individual ($N = 93$) sports. The sample was the athletes of the clubs that were contacted. The target population was athletes aged 11 to 17. All available athletes of the mentioned population participated in the research with their voluntary consent, which constitutes a suitable sample. After the approval of the club to conduct research with their athletes, the consent of the parents and the athletes themselves was sought before conducting the research.

Measurement

The survey was conducted in March and April 2022. Since the research participants are minors, the institutions and clubs were contacted prior to the research, and their consent was requested along with participants' and parental participation consent. A survey questionnaire was created using Google Forms and sent to the institutions and clubs that conducted the research. The questionnaire consists of three parts. The first part included participants' sociodemographic data: gender, age, county of residence, type of sports they play. In the second part, participants answered questions about perfectionism arising from the translated questionnaire Sport Multidimensional Perfectionism Scale-2 (SMPS-2) (Gotwals et al., 2003). This part consists of 43 items with which the participants

expressed the level of their agreement using the five-point Likert scale (1 – I completely disagree, 2 – I disagree, 3 – I neither agree nor disagree, 4 – I agree, 5 – I completely agree). Moods and feeling – Short form (SMFQ) (Angold et al., 1995) was used for symptoms of depression. On a scale ranging from 0 to 3 (0 – never, 1 – rarely, 2 – sometimes, 3 – always), participants assessed how frequent the situations addressed in the 13 items were in the previous two weeks. A total score higher than 12 represents a person with symptoms of depression. The reliability of the questionnaire was 0.93 Cronbach’s alpha.

The results obtained from this scale are also consistent with clinical assessments of depression (Turner et al., 2014). For each participant, a sum of the response results was created in an Excel table along with a new variable – Total Depression.

Data Analyzes

Statistical analysis of the obtained data was made using the Statistica 14 (version 14.0.0.15, TIBCO Software Inc). The collected data were processed by calculating *descriptive statistics*, which gave the basic statistical parameters. After descriptive statistics, a *multi-dimensional regression analysis* was applied, including backward regression to obtain the predictor variables that most influence the criterion variable.

Results

Table 1 Descriptive statistics

Variables	N	Mean	Min	Max	Std.Dev.
High goals	256	3.51	1	5	1.19
Being the best	256	3.82	1	5	1.14
Competency	256	4.23	1	5	0.98
Best performance	256	3.96	1	5	1.11
My own high expectations	256	2.86	1	5	1.16
Top goals	256	4.04	1	5	1.05
High expectations	256	3.43	1	5	1.10
Exaggerating a mistake	256	2.83	1	5	1.29
Mistake = bad person	256	2.57	1	5	1.36
Mistake = lack of respect from others	256	2.66	1	5	1.26
Mistake = feeling upset	256	2.52	1	5	1.25
Better player in my category = failure	256	2.96	1	5	1.22
Failure during a match = lack of respect from others in sports	256	2.58	1	5	1.23
Mistakes = others don’t think of me	256	2.46	1	5	1.18
Small mistake = poor overall performance	256	2.59	1	5	1.20

Variables	N	Mean	Min	Max	Std.Dev.
High parental goals	256	2.57	1	5	1.25
Feeling unable to attain high parental goals	256	2.13	1	5	1.21
Only a remarkable performance satisfies my family	256	2.08	1	5	1.18
Higher parental expectations than mine	256	2.07	1	5	1.17
Being criticized for the slightest mistake	256	1.87	1	5	1.06
I can't live with my parents' expectations	256	1.84	1	5	1.08
Parents expect excellence	256	2.52	1	5	1.23
Parental misunderstanding for making mistakes	256	2.11	1	5	1.17
Parental expectations of me obtaining higher scores than others	256	2.65	1	5	1.35
Coach criticizes everything but perfect performance	256	2.46	1	5	1.18
Only outstanding performance is appreciated by the coach	256	2.61	1	5	1.27
Feeling of not meeting the coach's expectations	256	2.41	1	5	1.26
Coach's high expectations	256	3.32	1	5	1.16
Coach expects excellence during the training/ match/competition	256	3.61	1	5	1.13
Insecurities during the pre-match training	256	2.39	1	5	1.21
Insecurities regarding the adequacy of the pre-match training	256	2.23	1	5	1.11
I rarely feel that training has prepared me for the match	256	2.25	1	5	1.18
Satisfaction with the pre-match training	256	2.30	1	5	1.13
I rarely feel satisfaction with the amount of the pre-match training	256	2.32	1	5	1.18
Indecision regarding the adequacy of the pre-match training	256	2.37	1	5	1.20
Pre-match routine	256	3.30	1	5	1.30
I follow a pre-match routine	256	3.37	1	5	1.27
I follow predetermined steps to prepare for the match	256	3.39	1	5	1.19
I follow a match or a competition routine	256	3.40	1	5	1.26
Preparation plans for the match/competition	256	3.19	1	5	1.22
Setting strategies for the match/competition	256	3.35	1	5	1.20

*N – number of respondents, Mean – arithmetic mean of the results, Min – minimal answers to each question, Max – maximal answers to each question, Stv. Dev. – standard deviation.

Table 2 Regression analysis of depression and perfectionism

$R = 0.53$; $R^2 = 0.28$; Adj. $R^2 = 0.26$; Std. Err. est: 5.48 ; $F = 16.05$; $p < 0.00$

Variables	B	Beta	t	p-value
High expectations	-0.19	-1.06	-3.42	0.00
Mistake = complete failure	0.22	1.08	3.46	0.00
Mistake = feeling upset	0.13	0.67	2.11	0.04
Coach criticizes everything but perfect performance	0.28	1.50	3.59	0.00
Only outstanding performance is appreciated by the coach	-0.19	-0.94	-2.47	0.01
I rarely feel that training has prepared me for the match.	0.23	1.23	3.80	0.00

* R – multiple correlations, R^2 – coefficient of determination, Adj. R^2 – adjusted coefficient of determination, Std. Err. est – standard error of estimation, F – test value, p – value of significance level of the F test, B – unstandardized partial coefficient, Beta – partial standardized coefficient of regression, t – value of the t-test of partial regression coefficient, p -value. – significance level.

The results of the (*backward*) regression analysis of the predictor set of perfectionism variables with the criterion variable of total depression show a statistically significant correlation $R = .53$. The model is significant at the level of $p < .00$ and explained with a 28% variance. *I set higher expectations than most athletes who play my sport, If I make any mistakes / If I fail in a competition/match, I consider this as unsuccessful as if I had completely failed, I should be upset if I make a mistake during the competition/match, I feel that the coach criticizes me if during the competition/match I had a bit worse performance, Only an outstanding performance is good enough for my coach, and I rarely feel that I have trained enough before the match/competition* are variables that have a significant contribution in explaining the criterion variable of total depression. The predictive variable of the athletes' perfectionism that most contributes to the explanation of the criterion variable of total depression of athletes is the variable *I feel that the coach criticizes me if during the competition/match I had a bit worse performance*. Its partial regression coefficient (Beta) is 1.50.

Discussion

The aim of this paper was to determine whether there is a correlation between the occurrence of perfectionism and symptoms of depression in young athletes. It has been shown that the key link between perfectionism and symptoms of depression is in self-oriented perfectionism, but also in the influence of the coach. Considering that the correlation has been established, this is consistent with the research of Jensen et al., (2018) who also found a correlation between perfectionism and symptoms of depression in their research on a sample of professional athletes. The relationship between perfectionism and symptoms of depression is manifested through 6 obtained variables, four of which refer to self-oriented perfectionism while the other two refer to the coach and his influence. Perfectionism is considered to be multidimensional and it is important

to delineate its parts that can have a positive effect on the individual from those that have a negative impact. The results present perfectionism concerns related to analyzing mistakes and thinking about them (Stoeber and Rennert, 2008). This is evident in the variables related to focusing on a mistake, analyzing the training perceived as inadequate, and feeling upset about making a mistake. Such perfectionism is perceived as negative, as ultimately demonstrated by the fact that in this research it is associated with contributing to the development of symptoms of depression in athletes. A variable that belongs to personal perfectionism and is considered perfectionism strivings is the one that relates to setting high goals. It is believed that this is “positive” perfectionism that can improve a person’s subjective well-being as a psychological adjustment (Stoeber and Childs, 2010). Setting one’s own high standards also proved positive for motivation in sports according to a study by Moratidis and Michou (2011) on a sample of adolescents. Their results related to focusing on a mistake like in our research proved to be negative. In our study, this proved to be incorrect, because the above variable was the one that contributes to the development of the symptoms of depression, which is the opposite of the above claims. On the other hand, Hewitt et al. (2017) show that self-oriented perfectionism is a predictor of the development of depression over a long period. The insight into the results showed that one of the sources of perfectionism in athletes is actually their perception of the coach and his actions. The theory of the bioecological model (Bronfenbrenner and Morris, 2007) explains that there are various risk and protective factors in the environment of the child and young person that can positively or negatively affect them. These factors may act directly and indirectly. The athletes’ sports environment indirectly influences them. Two perfectionism variables that do not arise from the athletes themselves are those focused on the other person – other-oriented perfectionism. If an individual with other-oriented perfectionism is solely taken into account, it is known that these persons require special treatment (Thomaes et al., 2008). On the other hand, a person who is negatively perceived can also be taken into focus. In this case, the coach proved to be a negative figure that causes negative consequences for the athlete. In the context of environmental impact, the coach is a risk factor for the child’s development. As these variables are correlated with symptoms of depression, this is consistent with other recent scientific findings. Other-oriented perfectionism is considered to be a predictor of the development of internalized behavioral problems, which in this case proved to be true, because symptoms of depression were addressed (Chen et al., 2017). Several open questions can be asked to explain this impact. One of them certainly refers to pedagogical competences in kinesiologists as the educational basis for treating an athlete. On the other hand, the question arises about the effect of different coaching styles and their impact on the athlete. As this is a complex situation, additional research is needed both on other-oriented perfectionism and its impact on that person, as well as research on the relationship between coaches and players, coaching styles, and coach’s pedagogical competences.

Surprising in this sample was the perception of the family, that is, the parents. Sevilla and Borra (2015) believe that parents are the reason for worry in the context of children’s

development and negative influences, including perfectionism. In our case, parental pressure was not the reason for the development of perfectionism and consequently symptoms of depression.

Conclusion

This research has shown that there are athletes who experience symptoms of perfectionism, and consequently symptoms of depression. It is evident that both the individual characteristics of the athlete and sports-related stimuli, such as the coach's influence on the athlete, are the cause. Since our participants are all adolescents, the results are not surprising, because in adolescence there are usually increased risks of developing behavioral problems, both externalized and internalized. Although the results are somewhat expected, it is necessary to pay additional attention to the annulation of negative impacts that come from the sport itself. This scientific research is a valuable starting point for limited scientific research on the development and existence of internalized behavioral disorders. In order to gain a clearer insight into the causes of behavioral disorders, this issue should be investigated also in a qualitative way.

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THE PERSONALITY OF ANTONINA MASILUNE AND HER CONTRIBUTION TO PRESERVING THE CULINARY HERITAGE

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ABSTRACT

Cookbooks are an essential type of publication in the field of food heritage preservation. Antonina Masilune (1921–2019) is a cook, popularizer of Latvian cuisine and author of several books, whose cookbooks are known both in Latvia and beyond its borders. The first book by Masilune “Everyday and festive table” was published in 1982, while until now the only cookbook in the world in the Latgalian language (one of the languages that is used in Latvia) “Povõru grõmota” (The Cookbook) was published in 1992. This determined the need, when developing the research, to get to know the food recipe books published by Masilune, with the aim of popularizing the culinary heritage by developing a new graphic design of the first and only book published in Latgalian. The redesigned cookbook will popularize the knowledge and skills of Latgale’s traditional crafts in Latvia and the world today, will introduce readers to the contribution of Masilune, an outstanding cook born in Rezekne (Latvia) and internationally known lecturer, fourth class officer of the Order of the Three Stars, (the highest award in Latvia) to the preservation of the culinary heritage.

Research base: associates of Masilune – relatives ($n = 5$), students of culinary courses ($n = 1$). Research period – 2021, 2022. The research has a practical significance, because during the research a redesign was developed for the book published in 1992 by Masilune.

The research results were obtained using theoretical research methods: research and analysis of scientific, journalistic literature and Internet resources, which reveal the nature of the relevant problem, as well as conducted interviews.

Keywords: *Antonina Masilune, cookbook, culinary heritage. Personality*

Introduction

Today, cookbooks are one of the most trusted branches of book publishing that even the Internet, with its countless recipe sites, has not been able to destroy. If people love to cook, they will always have a selection of cookbooks on their shelves. It is possible that only a few recipes will be made from these books, but cookbooks will still be bought

in search of new recipes. Today's information society dictates a new aesthetic format for the producer's visual communications and consumers. The new task of the graphic designer is the transfer of artistic meanings and images based on the needs of the users and the sequential execution of the design process. The design process turns a task or requirement into a finished product or design solution. The design process consists of several stages: defining the problem, researching, developing ideas, prototyping, choosing, implementing. Each of these requires design thinking.

Anke Klitzing in her study "Making Books: The Recipe for a Successful Cookbook" ("Cooking the books: the recipe for a successful cookbook") admits that thanks to the Internet, cookbooks have become more beautiful objects that are pleasant to the touch and well-designed with enticing photography. It may also have contributed to the trend of having more content alongside recipes in books, such as stories about the origin of the ingredients or dishes, or how the author came to create the recipe. These cookbooks are meant to be read away from the stove, and their premium design emphasizes that (Klitzing, 2020).

The cookbook should reflect not only recipe descriptions, but also create an individual and unrepeatable mood that only the specific book has, which will encourage the buyer to pick it up and, as a result, to buy it, but most importantly to use the purchased cookbook daily or during holidays and pass it on to the younger generation.

It can be concluded that even though digital books, blogs, social networks, etc. are very popular now the development of cookbooks are still relevant today. The main thing for a book is to be informative not only in terms of content, but also in terms of ergonomic and aesthetic graphic design.

Antonina Masilune is a cook, a popularizer of Latvian cuisine and the author of several cookery books, whose cookbooks are known both in Latvia and beyond its borders. The first book by Masilune " "For everyday life and for the holiday table" was published in 1982, while the only book in the world so far in the Latgalian language "Povōru grōmota" (The Cookbook) was published in 1992 by Mrs. Masilune from Rezekne. As part of the practical part of the research, a graphic design was developed for the cookbook "Povōru grōmota" written in 1992. The cookbook contains around 400 recipes: recipes for porridge, pancakes, meat, pastries, drinks and many other dishes. The book was published in 1500 copies. In the anniversary year of the publication, the period of 30 years has made this publication a bibliographic rarity. This determined the need to get to know Masilune's personality, her published recipe books, more closely when developing the research.

The redesigned cookery book today will promote the research, restoration and creative processes of the cultural heritage of food, popularize the passing on of the skills and knowledge of traditional crafts of Latgale in Latvia and the world, will introduce the readers to the culinary contribution of Masilune, an outstanding cook born in Rezekne and internationally known lecturer, fourth class officer of the Order of the Three Stars in the preservation of heritage, as well as will promote the distribution and accessibility of newly created cultural values to the general public.

Methodology

The purpose of the article is to study the importance of cookbooks in a historical and contemporary context, as well as, based on the results of empirical research, to analyze the personality of the outstanding cook and lecturer Masilune, born in Latgale, and her contribution to the preservation of Latvian culinary heritage.

The research results were obtained using theoretical research methods: studying and analyzing scientific, journalistic literature and Internet resources, which reveal the essence of the relevant problem, and an interview was conducted, which is, accordingly, a method of empirical research.

Scientific and journalistic literature was studied in the collections of library funds and Internet resources. Within the framework of the article, three scientific publications, two books, seven Internet resources were analyzed. The initial selection of literature is based on key words relevant to the research. The aim of the literature analysis was to get an idea of the historical development of cookbooks and their relevance today in the European context. The limitation of the research is determined by the research of the creative contribution of a specific personality in the field of cooking.

The basis of the research is the associates of Masilune – relatives, students of culinary courses. Research period – 2021, 2022. The research has a practical significance, because during the research a redesign was developed for the book “Povōru grōmota” published in 1992 by Masilune.

In order to learn more about Masilune’s personality and her contribution in the field of culinary heritage, her associates were interviewed. The surveys were conducted from October 2021 to January 2022 using the structured interview method. The invitation to participate in the survey and answer the questions compiled by the authors was sent by e-mail to six relatives of the cook, book author, some of whom knew her well from childhood and youth years, the younger generation got to know her later in life, as well as four course attendees of culinary courses. Answers to the interview questions were received from five relatives and one course attendee. The interview consisted of seven open questions. The questions are slightly different for relatives and course attendees. The purpose of the interviews was to find out the multifaceted personality of the Latgale-born cook and lecturer Masilune and her role in preserving Latvia’s culinary heritage, in order to supplement Masilune’s biography with the knowledge gained in the interviews, which is included in the annotations of the redesigned cookbook. The answers to the survey questions were given both in writing and orally, and the answers were clarified during the interviews. The resulting data were collected and analyzed.

Results

The historical and contemporary context of cookbooks. Theoretical review

Cookbooks have a long and rich history, and the first culinary works were known in ancient times. Cookbooks are a special type of book that instructs the user on what and

what to do to prepare a particular dish. With constant changes in technology as well as human consciousness, cookbooks are constantly evolving, trying to understand their user and respond to their needs. Visually, the language of cookbooks has changed over the centuries (Charko, 2015).

The visual image of books is often determined not only by content, but also by modern design trends, which change every year, as graphic design has also changed dramatically in the last decade: pixels and computer programs replaced pencils and paper (Филь Ш. & Филь П., 2008).

In the program “Known in the Unknown”, Doctor of Arts Astra Spalvena states that: “Cookbooks are published when something changes in the food culture. Cookbooks are the harbingers of change. That’s why we can’t always be sure that what we see in the cookbook was actually eaten at the time period” (Gulbinska, Kropa, Lāce-Baltalksne, 2016).

Spalvena noted that initially cookbooks in Latvia were about holiday food, they are more complex dishes made from more difficult to obtain and more prestigious products, they are dishes that take longer to prepare. Everyday food recipes were not included in cookbooks because the cook knew them by heart or passed them down by word of mouth (Gulbinska et al., 2016). Initially, vegetable dishes, baking recipes were rarely included. The cook already knew that, it was self-evident.

If we take into account the beginnings of the history of recipe books in Latvia, we should talk about an important event that took place 227 years ago, when the first recipe book in Latvian was published (see Figure 1.) which included 414 recipes (Matisone, 2020).

414 recipes – this is an impressive number of recipes even for many modern cookbooks, which could not compete in such a variety of recipes with this, now 227-year-old, “*The first cookbook translated from German books*”. The 227-year-old book was published in Rubene’s rectory and is the first cookbook in Latvian. Now it has been reissued and can provide both ideas for interesting recipes and is also a testimony of the history of its time with long-forgotten words and expressions (Matisone, 2020). However, the first original cookbook written directly in Latvian was published in 1796 under the title “Latvian cookbook for manor cooks” (Gulbinska et al., 2016).



Figure 1 The first cookbook (<https://www.retv.lv/raksts/ta-pirma-pavaru-gramata>)

In order to understand the significance of this book, we need to go back more than 200 years in history – at that time, serfdom had not been completely abolished in the territory of Latvia. Pastor Christofs Harders of German origin begins to serve in the Rubene parish, who wants to educate Latvian farmers and sets up a printing press in his rectory (Matisone, 2020).

The first cookbooks published in Latvian give an idea of the menu of the nobility of the Baltic provinces, the history page about the dining table of the nobility of Latgale has not yet been written. Neither serfdom, and its late abolition, nor the ban on printing contributed to the development of culinary literature in the Latgalian language. No matter how paradoxical it sounds, the first cookbook in Latgalian was published only in 1992, it is “Povōru grōmota” by Latvian culinary legend, Latgalian Antonina Masilune. There is no evidence of an older recipe book in the Latgalian language (Vilcāne, 2021).

Unlike modern cookbooks, which specify in detail how much of which products to add and how long to cook, the first Latvian cookbook did not specify the amount of products and the duration of cooking. Detailed instructions for cooking are also missing from many 20th century 20s and 30s cookbooks. This could be explained by the experience of the cooks, because in the past more time was devoted to food preparation and many things were taken for granted, there was a more developed culinary intuition (Vilcāne, 2021).

When studying the designs of the oldest cookbooks in the territory of Latvia, it must be recognized that until 1900, the gothic font was also dominant in book printing. For example, in the cookbook published in Jelgava in 1796, we see a recipe for cooking potatoes for manor cooks (Muzeja arhīvus pārļapojojot: kartupeļu..., 2020).

In the 19th century, the history of cookbooks changed to a Latvian audience, and the wealthiest Latvians started using cookbooks in their households. One of the authors of books about whom quite a lot is known is Hermine Zalite (1901–02: “Housekeeping and the art of cooks” (reprints 1902; 1907; 1921; 1927; 2012) (Blumberga, 2016).

The last period in the history of cookbooks in Latvia begins in 1990, when the way people perceive food changed. It was more talked about as pleasure and entertainment. Professions such as restaurant critic, sommelier, food photographer emerged, culinary tourism also became a full-fledged hobby. The search for a new identity was underway, and cookbooks from the 1920s and 1930s were widely published in the 1990s. It was an attempt to restore Latvian gastronomy in the situation where it was interrupted by the war. Cookbooks were often published by well-known people. One such book was “Feast with Martin”, “by Martins Ritins, which reflected a change in the treatment of food, namely food as a source of pleasure and its preparation as a creative process. The role of the cook also changed, the cook was no longer a hard worker, but a celebrity. The second cookbook, which came out later, is “Sirmā Latvija”, the author of which Martins Sirmāis popularized not recipes, but a way of life (Blumberga, 2016).

It must be admitted that recently cookbook exhibitions have been frequently held in Latvia (Latvian Book Exhibition in Kipsala, book exhibitions in city and village libraries, the Great Cookbook Exhibition in the Latvian Academic Library, etc.). It takes place in

cooperation with educational institutions or Culinary Heritage cooperation projects. In such exhibitions, it is valuable to examine not only the design of the books, but also the content of the book, understanding their meaning and importance today. Ancient cookbooks are engraved not only with beautiful fonts, but also with wise life instructions on how to keep the human body strong and healthy.

A cookbook or recipe book is still one of the best-selling types of books on the market today. People love looking at pictures of delicious food and being inspired to cook it (Вишняков, 2020).

Not so long ago, most books had a fairly simple design. Modern trends in book design have changed radically. Now the appearance of printed editions becomes more expressive, unique, more noticeable (Дизайн книги, 2019).

Nowadays, designers pay attention to all elements when developing graphic design for books. Previously, when designing a book, all attention was focused on the cover, but now designers include the design of the spine in the overall design concept. It significantly attracts attention and makes the work unique (Дизайн книги, 2019).

When researching the list of the best cookery books of 2021, it was concluded that the most current trend in book design is photography. Without a doubt, the photo conveys the information about the food best. A person can immediately see how the food will look, often without even reading the content of the recipe and will see what the meal will be made of. With the help of a picture, you can understand not only how the food will look, but you can also feel its taste and smell, but of course it depends on how much a person's imagination is developed.

Researching information about more current books of the years 2021/2022, it was concluded that an important prerequisite for creating a book is not only the creation of food photographs, but also the message that the book will carry. The book should contain not only food recipes, but also the author's story, for example, about his childhood, or family traditions, or even the mentioned national values. A recipe in itself as a recipe is a formation of words, the added value to it is the message. Combining the message and the recipe together creates a spiritual and physical meal that brings emotional pleasure, then the goal of the book has been achieved.

In the redesign of the book "Povõru grõmota" developed during the research, the authors of the article used photos of food, which is a current trend nowadays, even Masilune herself has said: "A *cookbook without photos is dumb*". The photos were taken in cooperation with professional photo master Zaiga Petteri. In the redesigned book, the photographs carry not only informational messages about the food, but also tell a story about Latgale, creating the atmosphere of Latgale, thanks to the chosen color range of brown earth tones, the earthenware selected for the photo sessions, it tells the readers a story both textually and visually about the most popular recipes of Masilune in the only edition published in Latgalian.

Analysis of peer interviews about Masilune's personality and her role in preserving Latvia's culinary heritage

Research of scientific articles ($n = 3$), scientific books ($n = 2$) and Internet resources ($n = 7$) allows us to conclude that the graphic design of cookbooks is very important. The visual image of the book reflects not only the process of preparing the recipes, but also often shows the table culture and etiquette of the respective nation, as well as conveys a message about the cultural heritage of food in general.

Working on the new image of the book was a big challenge, because the book "Povōru grōmota" published in 1992 has its own unique story, and redesigning the book is more difficult than creating a new design for the book. When working on the redesign, you should think about the fact that the first edition book does not lose its meaning, but on the contrary, it becomes stronger. The redesigned book will serve as a memorial from the hometown of the lecturer and cook Masilune and the entire creative team that worked in 2022, during the commemoration of the book's 30th anniversary, so that the new edition can go to its readers, passing on knowledge to the new generation.

As part of the research, in order to learn more about Masilune's personality and her contribution to the field of Latvian culinary heritage, associates of the cookbook publisher were interviewed. The selection of interviewees was chosen not only according to Masilune's blood relations, but also interviewed people who knew her as lecturer and book author. Paternal relatives of the cook – Anatolijs Slahtovics, Albina Slahtovica, Zenija Viluma, Solvita Jukna, Daniels Jukna – took part in the interviews. Slahtovics, Slahtovica and Viluma had contact with Masilune in her youth and adulthood, while the younger generation of her relatives – Solvita Jukna and Daniels Jukna – gave their answers in the surveys specifically about the last years of the cookbook author's life. Maruta Latkovska, the former editor-in-chief of the magazine "Katoļu dzeive" (Catholic Life), a journalist, a visitor to Masilune's culinary courses and the proofreader of the Latgalian written language of the redesigned book, also took part in the interview. Respondents involved in the interview were informed about the publicity of the study and gave verbal permission for their personal data and interviews to be made public.

The interview is one of the most widely used qualitative data collection methods. The validity of the interview is not so much about uncovering the truth during the interview as about a balanced description and interpretation of the interview. In an interview, subjective meaning is almost always revealed, rather than a response elicited in a standard form (Pipere, 2011). According to the form, a structured interview was used, consisting of specially prepared questions. The research and the interview are aimed at broadening the understanding of the specific phenomenon, as well as at improving the tools with which this phenomenon is studied. Discovering the nature of the process allows you to see the techniques that can be used to move the process in a direction desired by the person (Kristapsone, 2014).

Interviews were organized between October 2021 and January 2022 by sending questions in e-mails. In total, questions were sent to 10 respondents, of which six responded. Questions were asked about the observations from the meetings with Masilune, about

the insights and benefits gained during the conversations with her, interesting events and memorable moments, as well as all interviewees were asked a question about Masilune's contribution and role in Latvian culinary heritage conservation.

The article includes some significant interview answers of respondents, which vividly describe Masilune's creative personality and her contribution to the field of Latvian culinary heritage.

The “*recipes' mother*” Antonina Masilune (see Figure 2) was born in Rezekne and lived in the home of Lukna, Rezekne district, Sakstagals parish, Tiskadu parish, she spent her childhood and youth years here, often visiting her hometown Rezekne. Based on that the interviewees were selected – relatives living in Rezekne city and county.

Antonina's cousin Slahtovics remembers that, until the Second World War, Nina's (Masilune) family lived in the Lukna manor not only in the summer, but also moved in throughout the year. The household took care of the beautiful property of Lukna, lived happy as their four children grew up, often visited their relatives in the Papu manor of the nearby Ozolmuiza parish near Slahtovici (Anatolia's family), on Sundays, they visited each other with a carriage.

Slahtovics told historical facts from the everyday life of the Zadvinski family, more precisely about the times of the Second World War, the post-war period and the nineties. Delving into his memories, he says: “...the war drew a line between the active life of Nina's parents and the carefree life of young people. Two of Nina's three brothers went on the run. At the very beginning, to Germany, then to distant America. On the other hand, one of the brothers, Romans, was intercepted by a passing bullet right at the Sakstagals station, when the family had almost boarded the train to Riga, where they would go as refugees to Germany. Both brothers – Peteris and Zigfrids crossed the borders, but Antonina and her mother stayed in Latvia, living in Riga for many years, afraid to visit their homeland. Thanks to the regime of the Soviet times, Antonina did not go to Latgale, she only dared to return as a guest in the spring of 1990 for the funeral of her mother's brother, the owner of Papu Manor Viktor Slahtovics (Anatoly's father). From this year, Antonina's regular visits to relatives living in Latgale and Rezekne resumed.”



Figure 2 Photograph of Masilune's youth (photo from Masilune's cousin Viluma's personal photo archive, around 1938)

From the memories of Masilune's cousin's wife, Slahtovica: *"...I remember when we visited Nina in Riga unannounced. She was surprised by the uninvited guests but received us kindly and was happy to meet. The first thing she said was "oh horror, what will I treat you with? My fridge is almost empty". When she opened the refrigerator, she found herring-bone. And a very tasty dish was prepared. Nina breaded the fish in beaten egg and coated it in flour, added spices, fried it, and as a result the dish turned out to be very, very tasty".* In general, Albina remembers that Nina was a very attractive person with a fantastic sense of humor. For each specific occasion, she had her own "humorous recipe" with which she attracted the attention of those around her, *"as an actress,"* said Albina.

On the other hand, a relative cousin Viluma telling the story, Viluma remembered that Nina taught her mother how to cook herring in a fur coat. Until then, mom didn't even know that such a recipe existed. Zenija writes: *"...all the following years, when my mother received guests, herring in a fur coat (according to Masilune's recipe) was always served at the festive table".* Viluma also talked about Masilune's visit to her brothers in distant America, where she gave lectures and baked cakes for her brother Zigfrids Zadwinski's family, with whom she stayed, the cakes were brought to work for his fellow doctors. Colleagues praised Nina for such delicious cakes and joked that she should stay in America. Nina herself told Zenija: *"while visiting her relatives in America, she received a compliment that she was Latvia's Julia Child".*

Latkovska, a participant to Masilune's cooking courses, speaking about her first memories of meeting Mrs. Masilune, says: *"my first meeting with Ms. Antonina was during my student years, when I was already working in a women's magazine. She was a culinary consultant there. I remember that a bright and very talkative woman came to the editorial office. She talked about food with such passion that you could see in her every feature how extraordinarily delicious the pie, stew or porridge she told about was".* Ms. Latkovska also notes that Masilune had a great ability to captivate the audience with her stories about everyday and festive meals, cooking and serving, as well as excitingly and inspiringly she talked about the cultural etiquette of the table – table setting and behavior at the table while enjoying the food served by the hostess. In later years, when Ms. Latkovska attended Masilune's courses, as she herself says: *"..the courses were well received",* the journalist admires the lecturer's ability to speak with such a *"fiery passion"* and love to talk about the gifts of Latvian nature, products grown in Latvia and the necessary skills to use these gifts. Latkovska mentions that lecturer constantly emphasized: *"..extremely meaningful is how neatly the table is set",* Masilune did not skimp on the details in cooking. For example, when making an ordinary sandwich, it was important for her that *"..so that the butter is spread in an even layer from end to end and that there is no bare spot at the crust, so that the crust is not divided."* The course attendee remembers that, with today's mind, she is well aware that every sentence Masilune said about food was remarkable and worth remembering. After some time, Ms. Latkovska met again with Ms. Masilune, but already in Latgale while working at the Vilani printing office, where in 1989 she renewed the magazine "Katõļu Dzeive". Ms. Masilune wrote for the magazine her memories of the Aglona women's gymnasium, where she studied at the time, and also

told about her youthful dream of becoming an actress. A stumbling stone for the career of an actress and the possibilities of obtaining a university education was biography with two brothers abroad and a diploma from the Aglona gymnasium in her pocket unfit for the Soviet era.

On the other hand, Solvita Jukna, a relative of Masilune of the younger generation, remembers: *“I remembered how Masilune took charge of preparing food for her mother’s anniversary. The most vivid impression was the honey cake, it was so indescribably delicious, I thought to myself, how can you make such a delicious cake! I silently hoped that they would not eat the entire cake on the anniversary, that there would be leftovers and I would be able to eat them... but it was of course eaten”*. The relative also remembers when she studied at the Riga Pedagogical Institute, sometimes she did not go home during the holidays, but stayed with her aunt Masilune. In the interview, she says: *“...it was such a fantastic, easy, free (from home) vacation, starting with the fact that Masilune spoiled me by cooking different dishes. I really wanted to learn to cook like that too. I also liked to communicate with her about various topics, also about men, I was a young girl then and of course I was very interested in this topic. I got a lot of advice. I was inspired by her art of speaking, her ability to find contact with every person. She was so easy to talk to!* Jukna notes that aunt Masilune was a very hospitable, sweet, simple, but at the same time elegant lady. She says in the interview: *“...I am proud that I had such a relative”*.

A relative of the younger generation, Daniels Jukna, who was the last of his relatives to visit Masilune, talked about the positive impression that aunt Masilune left on him. Daniels said: *“...even though Mrs. Masilune was very ill herself during the last meetings, she took care of the guests, welcomed them like on holiday, including me”*. The relative remembers that his aunt served him a sweet sausage on the table, told a whole story about the history of its creation, was very hospitable and kind. She was proud of her family, especially her younger brother Zigfrids Zadwinski, who was a big supporter of charity events and a supporter of culture. She was pleased to come directly from the Zadwinski family. In her essence, as Daniels observes, Masilune was modest, never complained. She only talked about her absences as a fact, for example, talking about the social workers who came to see her, but did not particularly want to talk. Masilune said: *“...I really want to talk to someone”*, but she also realized that they do not spend a lot of time talking to patients. Masilune was very happy about her awards, especially about the medal presented by the president, she showed it to Daniels with great pride in her eyes. She was proud of what she had achieved, happy that she would leave books with many recipes for people to use. The main opinion of Daniels, a representative of the younger generation, is that: *“she really liked doing her job, not complaining about failures, but going forward, not giving in to the first failures, not giving up on everything and continuing to do what she started”*.

In response to the question about the role of Masilune in the preservation of Latvia’s culinary heritage – Ms. Latkovska mentions several aspects – firstly, Masilune’s advocacy for the diverse use of local products was especially important, secondly, the cooking courses she led and published books cultivate and popularize table culture, thirdly, her

dedication and the teacher's talent fascinated and inspired both course participants and cookbook owners. As Ms. Latkovska said during the interview: *"Antonina Masilune was a very bright and inspiring personality – a real gem in our Latvian cuisine"*. The courses attended by the participants and the books they read were a help to every Latvian housewife in learning the wisdom of the kitchen, in preparing tasty and beautifully presented food. Solvita Jukna, a respondent of the younger generation, unequivocally states that Masilune's greatest role in preserving the culinary heritage in Latvia is the popularization of Latgale, while the relative Slahtovica emphasizes in the interview that the biggest contribution of Masilune to the preservation of Latvian culinary heritage is that she left her food recipes for future generations, which we still use. Jukna, the representative of the younger generation of Latvian culinary heritage, says that *"..it is a very strong base that Masilune has given to the younger generation as well. Although I myself look at recipes on the Internet today, I think that if it were not for this basic foundation, which was provided by our previous generation, including Ms. Masilune, then the culinary field would not have developed as it did in today's Latvia, which is also very popular among young people. ..it created a kind of succession factor.. ..without this book, there would be nothing to be influenced by"*. Daniels mentions that they still use her recipes, they have not been forgotten. He mentions that Masilune has collected and compiled many recipes and has also created many, such as sweet sausage. This is also the most valuable contribution of Masilune to the preservation of Latvian culinary heritage.

Conclusions

Cookbooks are an essential type of publication in the field of food heritage preservation. A qualitatively designed paper book acquires lasting, sustainable value and can be passed on to future generations. A cookbook is a kind of communication between the author of the book and the user. The author of more than 25 cookbooks, Antonina Masilune, devoted her whole life to cooking. By carrying out the scientific article, the study of publicity literature and Internet resources, it can be concluded:

- Cookbooks are relevant today, despite the fact that digital books, blogs, social networks, etc. are very popular now. The main thing is that the book should be narrative not only in terms of content, but also in terms of ergonomic and aesthetic graphic design.
- Masilune is a Latgale-born cook, lecturer, popularizer of Latvian cuisine and author of several cookery books, whose cookbooks are known both in Latvia and beyond its borders, and she plays a major role in the preservation of Latvian culinary heritage, specifically in the diverse use of local products and promoting of table culture in Latvia and Latgale.
- Interviews with relatives of Masilune and course attendees gave a deeper insight into the personal life of the cook, revealing her daily life, one could get an impression of what Antonina was like as a person, what were her main character traits, and the questionnaire helped to obtain the necessary data for the interviews – the lessons

learned are included in the annotation texts of the redesigned book and supplement Masilune's biography.

- Based on the research of the theoretical information and the conducted interviews about Masilune's personality and creative activity in the field of cooking, a redesign of the book will be developed in order to popularize the culinary heritage of Latvian cuisine today and introduce readers to Masilune's personality and her contribution to the preservation of the culinary heritage.

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SKETCHING FOR VALUE-EMBEDDED LEARNING

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ABSTRACT

Sketching as a graphic record of the results of thinking is essential as a design presentation and can help develop design thinking and behaviour, creativity, problem-solving and communication skills. The aim of this study is to find the learning approach in which sketching can become a self-determined value for students. The data were collected through focus group interviews ($n = 12$) and a survey ($n = 55$) from three undergraduate programmes. The focus group interview results were analysed using the content analysis method. It was concluded that the lack of experience and skills, the limited time available for learning and the student's desire to demonstrate perfect results in their coursework hindered their interest in learning to sketch. In order to make sketching more successful, it is essential to explain the importance and purpose of sketching. Assignments related to students' future professional activity are recommended. Using methods that create a sense of freedom, including play, is also recommended. It is necessary to suggest and use different materials suitable for sketching, encourage the study of artists' sketches and give regular assignments to promote interest in sketching. Regularly completing sketchbooks (portfolios), quick sketching exercises and balancing free and given assignments are required to make sketching a self-determined value for students.

Keywords: *artistic activity, designer education, sketching in teaching, sketching materials, teacher education, understanding sketching, value-embedded learning*

Introduction

This article presents the results of the study “Sketching as a Methodological Technique in Art and Design Studies”. The study aimed to find a learning approach in which sketching can become a self-determined value for students.

Sketching skills are necessary to fix observations and can be used to record new information. Research findings confirm that sketching experiences help to realise the potential of visualisation in learning, promote concreteness and clarity of ideas and facilitate collaborative processes in idea generation and discussion. The sketching process can test assumptions demonstratively in the context of real problem-solving (Hautopp & Buhl, 2020).

Some researchers have pointed to a lack of empirical research on when sketching is needed, what value is gained from it and how visual aids fit into formal teaching methods (Hautopp & Ørngreen, 2018). The relevance of the topic is demonstrated by other problems identified in various research studies; for example, students have problems with motivation to sketch (Wood-Griffiths et al., 2015), and there are delays in the completing of sketching tasks (Thurlow et al., 2019).

That sketching and the sketching process are extremely valuable for successful design is well-founded. The reasons for sketching inhibition, according to Booth et al. (2016), can be grouped as follows:

1. individual inhibition (lack of understanding of the benefits, lack of skills and experience, disruption of creative flow caused by a perfectionist need or the inability to get into the right frame of mind),
2. social inhibition (fear of evaluation, predominantly negative; passivity of involvement),
3. technological inhibition (technology provision that does not lead to the need to sketch).

In addition, studies show that educational issues are one of the causal factors that lead to the inhibition of sketching among students. Observational evidence confirms that the provision of technology for learning cannot replace the complex cognitive activities involved in developing practical concepts (Thurlow & Ford, 2018). Leblanc (2015) points to a lack of understanding of sketching tools at the institutional level. Observing how students struggle with the creative process from idea to the final product, one must conclude that many perceive sketching only as a means of visualisation and rarely know how to use it as a creative thinking tool (Leblanc, 2015). Downs (2019) believes that institutions and educators do not understand the difference between sketching as a design process and sketching as a design presentation.

Sketching is about self-expression and self-consciousness, resulting from real experiences gained in the early stages of design; unfortunately, in situations characterised by digitisation opportunities, the possibility of sketching by hand seems to be forgotten (Wachs, 2021).

Researchers point to three aspects of the importance of sketching. The first aspect is cognitive implications, and these cognitive aptitudes must be identified by educationalists and students (Lane et al., 2009). The second aspect is educational significance. Teachers must be aware of the importance of creating appropriate pedagogical structures that use interdisciplinary knowledge to help students engage with graphical information (Contero et al., 2005; Lane et al., 2009) and understand that sketching can help develop design thinking and behaviours (Newcomb, 2007). The third aspect is economic benefits. As it has been found that sketching can help develop students' spatial abilities, communication skills, problem-solving skills, and creativity, it would be helpful to analyse the economic benefits to individuals of a unique set of cognitive skills enhanced by freehand sketching (Lane et al., 2009).

Ideation is the starting point for future thinking and can be subjective, team-based or a combined research or co-creation method. A sketch is best suited to this form, rather than a polished, drawn picture, as it is quick, cheap and suitable for beginners and experts alike. Sketching problems can be as valuable as sketching successful outcomes (Sturdee & Lindley, 2018).

Williford et al. (2019) distinguish four categories of what motivates students to sketch: achievement, competition, communication, and creativity. An individual's motivation also depends on their level of sketching – beginners are mainly motivated by a sense of achievement, while experienced sketchers are more motivated by creativity and communication. Students' self-confidence in product sketching is enhanced by the opportunity to choose between different design products and sketching tools, the progressive complexity of the tasks, allowing the use of prior experience, feedback from both their lecturer and coursemates and visual examples; furthermore, the ideal mental and emotional state of students help them to learn sketching skills faster and at a better level (van Passel & Eggink, 2013).

Methodology

This study is based on value-embedded learning theory, which emphasises the central role of values in the learning process. There is a strong link between values, emotions and emotional impact in the learning process, so it is vital to consider learners' interests, as learning always takes place in context, and the context of learning matters (Duncan et al., 2022).

Two research questions were defined to achieve the research objective:

- **RQ1:** What hinders students from sketching?
- **RQ2:** What should the learning approach be, and what should the tasks be for students to be more successful in sketching?

A two-part (Stage I and Stage II) empirical study was conducted using an online focus group interview and a survey to answer the research questions. The focus group interview and its results are described first, followed by the survey method and results. The survey questions were derived from the focus group results.

Results and Discussion

Stage I: Focus group interview

The study used an online focus group interview. According to the recommendations of Pipere (2016a), participant-informed consent forms and focus group interview questions were prepared beforehand. In line with the research questions, open-ended questions about students' sketching experiences, opinions, preferences, and recommendations for a successful sketching learning process were included. The question of what hinders students from sketching was also added. Five participants were invited from each of the three undergraduate programmes previously involved in the sketch study

(professional bachelor study programme (PBSP) “Art” students, PBSP “Teacher of Design and Technology” students and PBSP “Teacher of Primary School Education”); 12 students in total accepted the invitation. All respondents gave written informed consent to participate in the study. Each student was assigned a code (S1–S12) for anonymisation purposes. A purposive sampling approach was applied, meaning that “participants should have personal experience of the topic of the study and be able to express their views on it” (Pipere, 2016b, p. 311). The qualitative method of content analysis was used to analyse the data.

The authors of the study conducted the focus group interview. The duration of the interview was 95 minutes. The interview was recorded and transcribed and then read several times. The focus group interview elicited students’ responses to the research questions, and the results have been structured accordingly.

Results of focus group interview

The analysis of the focus group interview transcription led to the conclusion that students are hindered from sketching (RQ1) for several reasons.

1. Students are hindered by a lack of experience (“What bothers me is that I do not have enough experience in sketching” (S1)).
2. Sketching is hampered by a lack of technical skills, which stems from their lack of previous experience. Students admit that they do not know how to sketch understandably – to themselves or others (“[T]he technical capacity is just not there yet” (S2)).
3. Some students want to achieve a perfect result when sketching, but the result differs from what they have visualised in their imagination. Not achieving a perfect result contributes to students not wanting to sketch anymore. Sometimes, students do not like the sketched result because they compare their sketch with a sketch drawn by the lecturer or an example shown to them (“I have a kind of visualisation of what I want it to look like. In my head, in my brain, there is one visualisation of what it should look like, but my hand does not obey that visualisation and draw the lines that I see in my head” (S6); “What bothers me is that I do not have enough experience in sketching. Usually, I imagine what I want to create, but I do not get it” (S1)).
4. In the focus group discussion, one student mentioned that he does not want to sketch to save time because he can already see the work in detail in his imagination (“I do not sketch so much to save time” (S3)).
5. There is also the opinion that it is disturbing to sketch if the student must fit it into the time allocated by the lecturer (“It is quite difficult to sketch because of the time constraint – it is so fast” (S8)).

The responses to the second research question (RQ2) were compiled in three groups using the suggestions of Thurlow et al. (2019). To prevent delays in completing sketching tasks in higher design education, Thurlow et al. recommend:

1. promoting a deep understanding of sketching among lecturers and students (RQ2A),

2. building students' confidence so that they are not afraid of making mistakes in the sketching process (RQ2B),
3. structuring the pedagogical process more (RQ2C).

Regarding the first suggestion (RQ2A), students recommend explaining the purpose of sketching (“Just explain why sketches are important” (S4)) and believe that learning to sketch would be enhanced by the high relevance of the tasks to the profession (“In drawing we just had to sketch different interiors... I know that in the future I will have to design an interior for a client, and it will be easy to sketch it all to visualise the main idea” (S3)). Several students expressed the need to be able to sketch in a way that they can understand the sketch. It is also essential that other people can understand what is being sketched (“People need to be able to present their idea to others and themselves in such a way that they understand what the result we want to achieve is” (S6); “The main thing in sketching is to sketch the idea so that it can be read” (S4)).

The second topic (RQ2B) includes student recommendations about different sketching tasks, materials, and tools (“[I]t seemed interesting that you should not take your hand off the paper. And then I think that these restrictions allow me to feel freer about the sketching process” (S6); “A pen that cannot be erased and corrected. One must try at once to achieve the right proportions and dimensions and position, and there will be no erasing and correcting, as is customary in a drawing” (S5); “It is best to use some thicker markers. The thicker the markers, the more freedom there is. There is no subtlety” (S4)). Students consider assignments where they can sketch not only objects chosen by the lecturer but also objects chosen by the students themselves to be successful (“I would like compulsory sketchbooks, but only if we had more freedom. If we could also sketch what we want, not just some compulsory settings in drawing lectures” (S1)). In addition, students recommend creating a relaxed atmosphere and using the game method (“For example, music. It could be one of the first steps to feel that freedom, not to give a specific task right away. Then they could open more to sketching” (S6); “I liked that everyone had three minutes to sketch one landscape from the 18 pictures available and then had to guess which sketch matched which picture. It seemed quite exciting; the kids would like it too” (S3)).

For successful sketching, students advise using different types of examples, including studying and copying artists' sketches (“Show artists' sketches. I have not seen many. Artists have very loose sketches to start with. It helps to visualise how to sketch” (S4); “There was an exercise in the drawing: the teacher made us study three or four sketches ... and make the same one. It was useful” (S1)).

There are contradictory views on the time limit: some students recommend making sketches quickly, within a tight time limit, but others point to it as a hindrance. Students also point to the time limit per sketch as a hindrance on the one hand but, on the other, as useful for developing sketching (“The most helpful tasks are those where we need to sketch something quickly in a limited time because then we do not have time to pay attention to small details. We must feel the essence of it” (S2); “I also really liked the quick tasks” (S7)).

The third category of answers corresponds to recommendations to structure the pedagogical process more (RQ2C). The study process can be planned more often, e.g., sketching in sketchbooks at the beginning of each lesson (“If it was the first five minutes of every lecture, each of us would sketch in our notebooks” (S7)). Students recommend saving sketches so they can be compared and evaluated later on (“In the long term, sketches are important because they add to a person’s visual library, and it develops observation... Do not destroy sketches; explain their importance. It is stressful initially, but the more you do it, the easier it becomes” (S9)). The focus group interview also suggests that sketches should not be evaluated (“I do not think the teacher should assess it in any way; it is one stage of the process” (S6)).

However, there are conflicting views among students about the number of sketches to be made for a given task. Not everyone is in favour of the lecturer setting the number, and for some, one or two sketches are enough (“I don’t think you can set the number of sketches like that; someone might decide with the second sketch that he will make this product. For somebody else, 30 will not be enough, and he will think he needs some fine detail. Students should not be asked for a number of sketches. Everyone needs his own number of sketches until he can design” (S3); “Quantity matters; you must make several to have different sketches. You can combine something, cut something so there are different ideas” (S9)).

Stage II: Survey

Based on findings in the focus group interview, a survey with 30 questions was designed. Two questions were designed to find out information about the respondents, seven to find out respondents’ opinions about conditions that interfere with sketching, and 21 questions to find out the respondents’ opinions on learning to sketch. These questions were structured in three groups (understanding of sketching, confidence in sketching and structuring the sketching learning process) according to the findings from the focus group interview and the suggestions of Thurlow et al. (2019). The survey employed 28 multiple-choice questions, 26 using a Likert scale ranging from 1–5 (see Pipere, 2016a; Geske & Gr̄infelds, 2020). Two open-ended questions were added: one to elicit respondents’ views on the nuisances of sketching and the other to elicit the respondents’ views on learning to sketch.

The survey was distributed electronically to PBSP “Art” students, PBSP “Teacher of Design and Technology” students and PBSP “Teacher of Primary School Education” students for study years 1, 2, 3 and 4 in the spring semester of 2023. Sketching was part of the study process for all respondents. The survey was voluntary and anonymous; the data was used only in aggregate form. Answers to open-ended questions were given codes. The Research Ethics Committee of the University of Latvia determined that the study complied with research ethics principles and personal data protection requirements under Latvian law. The results of the survey were analysed quantitatively and qualitatively.

Results of survey

Electronic surveys were received from 55 respondents. All respondents were studying on PBSPs: 54.5% were studying on the “Art” programme, and 45.5% were studying to be teachers (30.9% to become primary school teachers and 14.6% to become design and technology teachers). The most significant number of respondents are 6th-semester students (36.4%), followed by 8th-semester students (32.7%), 4th-semester students (25.5%) and 2nd-semester students (5.5%). Each respondent is assigned a code (N1–N55).

Regarding the nuisance of sketching (RQ1), the results of the questionnaire confirmed that some students are hindered from sketching by a lack of sketching skills (61.9%), inconsistency of sketching results with visualisations in their imagination (58.2%) and a lack of sketching experience (56.3%). In addition, 47.3% of respondents pointed to limited time as a barrier to sketching. Fewer students agreed with the statements that a lack of time (27.3%) and not seeing the point of sketching (7.3%) are obstacles to sketching (Table 1).

Table 1 Distributions of answers to questions about the nuisances of sketching

Statement	Strongly agree	Rather agree	Neutral	Rather disagree	Strongly disagree	<i>M</i>	<i>SD</i>
Sketching is hindered by inexperience	13 23.6%	18 32.7%	9 16.4%	5 9.1%	10 18.2%	3.42	1.40
Sketching is hindered by my lack of sketching skills	14 25.5%	20 36.4%	4 7.3%	8 14.5%	9 16.4%	3.42	1.41
Sketching is hindered by my sketches not matching the desired outcome/ visualisation in my head	17 30.9%	15 27.3%	7 12.7%	8 14.5%	8 14.5%	3.45	1.44
Sketching is hampered by the time limit for a given “quick” task, e.g., 1 minute per sketch	15 27.3%	11 20.0%	11 20.0%	9 16.4%	9 16.4%	3.25	1.44
Sketching is hampered by the fact that it takes time	6 10.9%	9 16.4%	18 32.7%	10 18.2%	12 21.8%	2.76	1.28
What stops me from sketching is that I do not see the point of sketching	1 1.8%	3 5.5%	10 18.2%	11 20.0%	30 54.5%	1.76	1.05

Note. Some rows do not add up to 100% due to rounding, and the data has no statistical errors.

The respondents' answers to the open-ended question on what else they would like to add about the obstacles to sketching echo the reasons already mentioned: a lack of skills and experience, and the mismatch between sketching and visualisation in the imagination. In addition, five respondents (9.1%) answered that a lack of inspiration was a hindrance.

Regarding sketching as a learning approach (RQ2), the answers can be summarised in three groups.

1. *Understanding of sketching (RQ2A)*. 89.1% of respondents think that lecturers need to justify the importance of sketches, and 83.7% think it is important to articulate the purpose. 89.1% agree with the statement that it is necessary to sketch so that they can understand the sketch themselves, while fewer (76.3%) think that it is essential that their sketch can be understood by others. 76.4% of respondents consider that sketching tasks should be related to future professional activities (Table 2). In response to an open-ended question, one of the respondents wrote, "All lecturers should agree on what counts as a sketch because definitions vary a lot between lecturers, and this causes stress and uncertainty" (N7).

Table 2 Distributions of answers to questions about learning to sketch (understanding of sketching)

Statement	Strongly agree	Rather agree	Neutral	Rather disagree	Strongly disagree	M	SD
Successful learning of sketching requires justification of the usefulness of sketching	37 67.3%	12 21.8 %	5 9.1%	0	1 1.8%	4.53	0.81
To learn sketching, it is recommended to formulate a sketching goal	32 58.2%	14 25.5%	7 12.7%	1 1.8%	1 1.8%	4.36	0.91
It is recommended to use tasks related to future professional activities to learn sketching	25 45.5%	17 30.9%	8 14.5%	5 9.1%	0	4.16	1.00
It is vital that the sketch can be understood by people other than the author	18 32.7%	24 43.6%	6 10.9%	6 10.9%	1 1.8%	3.96	0.98
It is essential that the sketch created can be understood by the author	32 58.2%	17 30.9%	4 7.3%	1 1.8%	1 1.8%	4.41	0.85

Note. Some rows do not add up to 100% due to rounding, and the data has no statistical errors.

2. *Confidence in sketching (RQ2B)*. Almost all respondents (98.2%) agree that a relaxed environment is recommended for learning to sketch. 90.9% support the statement that sketching should be taught using objects chosen by both the teacher and the student. 89.1% agree that they must learn to sketch to visualise their ideas. Fewer respondents (74.5%) support the use of the game method. 76.4% of respondents appreciate the importance of samples in general, 69.1% recognise the value of studying artists' sketches, and 63.7% acknowledge the value of copying artists' sketches. 76.4% of students agree with the statement that it is necessary to use a variety of materials. However, the use of specific materials, such as materials that cannot be erased or used to draw details, is supported by fewer respondents – 61.8% and 47.3%, respectively. 72.7% agree that it is necessary to include time-limited tasks, while 16.4% are against it, and 10.9% are neutral. 69.1% of respondents agree on the need to include a task to sketch an object without taking their hand off the paper (Table 3).

Table 3 Distributions of answers to questions about learning to sketch (confidence in sketching)

Statement	Strongly agree	Rather agree	Neutral	Rather disagree	Strongly disagree	<i>M</i>	<i>SD</i>
For sketching, it is recommended to give tasks with a time limit (e.g., 3 minutes)	24 43.6%	16 29.1%	6 10.9%	6 10.9%	3 5.5%	3.96	1.23
A variety of materials are recommended for learning to sketch	38 69.1%	10 18.2%	4 7.3%	3 5.5%	0	4.51	0.86
Learning to sketch requires the use of materials that cannot be erased	15 27.3%	19 34.5%	8 14.5%	8 14.5%	5 9.1%	3.60	1.16
Learning to sketch requires the use of materials that cannot be used to draw fine detail	12 21.8%	14 25.5%	13 23.6%	8 14.5%	8 14.5%	3.25	1.35
For sketching, it is recommended to give the following task: sketch an object without taking your hand off the paper	25 45.5%	13 23.6%	12 21.8%	5 9.1%	0	4.05	1.03

Statement	Strongly agree	Rather agree	Neutral	Rather disagree	Strongly disagree	M	SD
The game method is recommended for learning to sketch	22 40.0%	19 34.5%	14 25.5%	0	0	4.15	0.80
It is recommended to use an environment that creates a relaxed atmosphere for learning to sketch	45 81.8%	9 16.4%	1 1.8%	0	0	4.80	0.45
For sketching, it is recommended to sketch objects chosen by both the lecturer and the student	38 69.1%	12 21.8%	4 7.3%	1 1.8%	0	4.58	0.71
To learn sketching better, it is recommended to use a variety of examples, including videos	24 43.7%	18 32.7%	10 18.2%	1 1.8%	2 3.6%	4.11	1.01
Learning to sketch requires studying artists' work	26 47.3%	12 21.8%	9 16.4%	8 14.5%	0	3.98	1.10
For sketching, it is recommended to give the following task: make a copy of the artist's sketch	14 25.5%	21 38.2%	12 21.8%	4 7.3%	4 7.3%	3.67	1.16
You need to learn sketching to visualise your ideas	37 67.3%	12 21.8%	3 5.5%	2 3.6%	1 1.8%	4.49	0.90

Note. Some rows do not add up to 100% due to rounding, and the data has no statistical errors.

3. *Structuring the sketching learning process (RQ2C)*. Regarding the structuring of the sketching process, respondents most agree (92.7%) on the idea that sketches must be kept to assess progress. 83.6% agree that a small amount of time should be set aside for sketching at the beginning of each session. 78.2% think a specific number of sketches should be defined. Although many students (80%) agree that sketches should not be marked, four disagree, and seven give a neutral answer (Table 4).

Table 4 Distributions of answers to questions about learning to sketch (structuring the sketching learning process)

Statement	Strongly agree	Rather agree	Neutral	Rather disagree	Strongly disagree	M	SD
To learn to sketch, sketching exercises at the beginning of each lesson are recommended	29 52.7%	17 30.9%	7 12.7%	2 3.6%	0	4.40	0.76
Sketches need to be kept so that progress/dynamics can be assessed	38 69.1%	13 23.6%	4 7.3%	0	0	4.62	0.62
For successful learning of sketching, it is recommended to define the number of sketches for each task	25 45.5%	18 32.7%	11 20.0%	1 1.8%	0	4.20	0.83
To improve sketching skills, it is advisable not to mark sketches	24 43.6%	20 36.4%	7 12.7%	3 5.5%	1 1.8%	4.15	0.97

Note. Some rows do not add up to 100% due to rounding, and the data has no statistical errors.

In addition, in response to an open-ended question about what else they would like to add in order to learn sketching better, eight respondents (14.5%) indicated that they should sketch more often (“Sketching should be introduced in other subjects” (N1); “Make sketches more often because I rarely do it” (N23)).

Regarding the first research question on sketching barriers, this study confirms the findings of Booth et al. (2016) that students’ sketching is hindered by a lack of skills and experience, as well as a tendency towards perfectionism, being unable to sketch their idea or object according to the visualisation in their imagination.

Therefore, sketching skills must be promoted in the study process so that experience is also built. In addition, it is vital to demonstrate different examples so that students understand that sketches are part of a process and take different forms, including unfinished ones.

In the focus group discussion, there were conflicting views on the assessment of sketches and the number of sketches in the assignment conditions. In contrast, the preponderance of responses to the questionnaire clearly shows the students’ opinions: 80% of respondents think that sketching should not be assessed, and almost as many (78.2%) think that the number of sketches for assignments should be fixed. However, in order to be able to assess progress, every sketch should be kept. The students agree with this and show that they are interested in developing their sketching skills.

Regarding the second research question on the learning approach, most students agree that learning to sketch requires a relaxed atmosphere. Many support the use of the game method. Students appreciate the need to deepen their understanding of sketching and the regularity of sketching. The recommendations for learning to sketch explored in theory (van Passel & Eggink, 2013; Thurlow et al., 2019; Williford et al., 2019) are supported by both the focus group discussion and the survey results.

A limitation of the current research is the small number of respondents in general and the differences in the specificity of the programmes in which the respondents study. This affects students' understanding of the purpose of sketching and the importance of tasks and techniques.

Overall, the study shows that students appreciate the need for a deeper understanding of the sketching process, a varied learning of sketching skills in a relaxed atmosphere, and a more structured pedagogical process. One respondent's suggestion that all lecturers should share a common understanding of a sketch is noteworthy.

Knowing and respecting students' preferences is essential to make sketching a value-embedded education. Tasks in which students use others' sketches should be developed to help students understand the importance of others' understanding of what is being sketched.

Conclusions

Sketching can become a self-determined value if the guidance detailed in this study is implemented. This study has led to recommendations for organising the study process as it relates to sketching and compiled them in a set of activities.

The first suggestion is to explain and demonstrate the examples. When learning sketching skills, more attention should be paid to examining study works and artists' sketches. It would be advisable to design special exercises to interest students in the study of works of art. For example, students could be asked to study sketches by a particular artist and then create their own sketches inspired by the technique(s) used by the artist. A slightly more challenging task would be to create a three-dimensional model (e.g. of a vase) based on an artist's sketch.

Secondly, flexible tasks that match students' interests and career choices should be developed. It is recommended that students sketch objects chosen by the lecturer as well as objects chosen by themselves and that tasks for sketching ideas are offered. It is important to link the assignments to the qualification the students are studying for. For example, interior design students should practice sketching different interiors (both real and imaginary), while future primary school teachers should try out sketching exercises that they can later present to their pupils.

Thirdly, it is useful to develop practical skills in different assignments using a variety of techniques and materials, work sizes, and time limits.

Fourthly, lecturers should ensure the regularity of sketching, for example, by using an approach that involves sketching at the beginning of each lesson and regular drawing in a sketchbook.

In the future, it will be necessary to develop a model for learning to sketch, taking students' suggestions into account, validate it, and, after validation, organise a focus group discussion and a questionnaire to find out whether sketching has become a self-determined value for students.

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STUDENT TEACHERS' VIEWS ON THEORY AND PRACTICE FOLLOWING THE STUDY OF ARTS AND SKILLS SUBJECTS

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ABSTRACT

There have been changes in how arts and skills are taught in teacher education that, among other things, have sought to strengthen the dialogue between theory and practice. To examine these goal-orientated changes, it is necessary to take an in-depth view of the situation after they have taken place, and thus to justify future-orientated perspectives. The aim of this study was to find out how theory and practice appear in the writings of student teachers after they had completed Arts and Skills in Education courses, which are part of multidisciplinary studies leading to the qualification of a primary school teacher. Do theory and practice remain separate from each other, are they extremes of each other or is there a dialogue between them, and what is the nature of this dialogue? The research material consisted of the students' writings at the end of their final Arts and Skills in Education course. Writings were requested via e-form. The research material was approached according to the research literature on the relationship between theory and practice. The data were analysed using thematic analysis. The students' views on theory and practice were coded into three themes: (1) no relationship between theory and practice, (2) a comparative relationship between theory and practice and (3) a dialogical relationship between theory and practice. These themes made it possible to distinguish the extent to which and how students link theory to practice, or vice versa. The research findings led the researchers to reflect on the development of teacher education and, in particular, arts and skills courses.

Keywords: *arts and skills studies, practice, teacher education, theory, theory–practice gap*

Introduction

The theory–practice gap has long been recognised as a problem. Attempts have been made to understand this problematic relationship both theoretically (see e.g. Korthagen, 2010; Roth et al., 2014) and empirically (see e.g. McGarr et al., 2016; Sääntti et al., 2018). Both the gap and the relationship between theory and practice have been studied in a variety of professional education settings, such as nursing education (see e.g. Nematollahi & Isaac, 2012; Niemi-Murola, 2014; Wilson, 2008), clinical medicine

education (see e.g. Brown, 2012) and physical education training (see e.g. O’Leary et al., 2014; Stolz & Thorburn, 2019).

Teacher education has also long sought to meet the challenge of combining practice and theory. In the context of Finnish teacher education, the link between theory and practice first appeared at the document level in the 1970s, when teacher education, which until then had emphasised practical skills, began to highlight the importance of theory and research-based knowledge. With a high level of research-based academic training and the active and conscious activities of teacher educators, theory and practice now appear to be inseparable areas in Finnish teacher education (Säntti et al., 2018). However, one can ask whether the connection between theory and practice is shown as clearly to students as it is at the document level and in the understanding of teacher educators. The fruitful interaction between theory and practice is recognised as the ideal of teacher education. However, there have been both national and international studies that have suggested that, according to students, there is no link between theory and practice in teacher education (Niinivirta, 2014, 2017).

An interest in the development of arts and skills teaching in teacher education provides the background to the article (see Kröger & Ruotsalainen, 2019). The problem has been that students in arts and skills courses have perhaps been more interested in learning practical skills and learning to teach than in articulating the deeper theoretical views behind practice (cf. Tilleman, 2000; Väisänen, 2003). It is also possible to talk about the tension between the views of teacher educators and students. Teacher educators want to see students connecting theory and practice, whereas the orientation of those studying to become teachers is very practical, and they hope that the teaching is practical and concrete and offers a so-called ‘toolbox’ for the field (see Beattie, 2000; Leivo, 2010). Biesta (2007) questioned this kind of ‘toolbox thinking’ (p. 2) based on technical research knowledge in teacher education and instead emphasised the role of educational philosophical research knowledge, which, instead of offering ready-made operating models, provides different interpretations of teaching and educational activities and suggestions for combining theory and practice. Another challenge is that in classroom teacher education, each subject taught in primary school is studied for a very short time for only a few credits, so one has to make choices about what to focus on in teaching. This may also guide the teacher trainer to grasp quickly and efficiently presented, ready-made pedagogical action models and solutions, limiting the student’s own thinking.

The teacher training unit in the University of Eastern Finland has tackled the problem by experimenting with new ways of organising teaching. The traditional subject-based approach has been modified in a holistic direction by integrating separate arts and skills subjects (visual arts, crafts, music, and physical education) into common courses of study. This has made it possible to unify and clarify the rather fragmented field of theory relating to the teaching of arts and skills subjects. At the same time, efforts have been made to move away from the confrontation between theory and practice by using the common theoretical perspectives of arts and skills subjects (see Kröger et al., 2019).

This study is interested in the views of those studying to become teachers on the role of theory and practice at the end of their studies in arts and skills subjects. It asks how students perceive and relate theory and practice. The empirical research material is approached within the framework of the relationship between theory and practice.

The relationship between theory and practice

To understand the professional development of a student who is studying to become a teacher, theoretical and practical questions are framed in the following. To be able to approach the relationship between theory and practice, it is reasonable first to question and reflect a little on what knowledge is. According to the classical definition, ‘knowledge is a well-founded belief’ (Tieteen termipankki, n.d.; for more details, see Niiniluoto, 1980, pp. 138–139). The Finnish dictionary (Suomisanakirja, n.d.) defines the word ‘knowledge’ as “knowing, being clear about something, knowing the facts and being aware”. Knowledge is an understanding of something based on reality and facts; it is a thing that is known or given about something, for example knowledge acquired through study.

According to Jorgensen (2005), theories clarify and explain things and separate concepts from each other. Theories are tested and falsified through empirical observations and quantitative assessments. Practice, on the other hand, can be approached descriptively (what is done in the world of phenomena or considered as a general condition) or normatively, such as by examining what is desirable or ideal (Jorgensen, 2005).

According to Tynjälä (2006, 2010), a teacher’s theoretical knowledge consists both of content knowledge (knowledge related to the subject to be taught) and of pedagogical knowledge, which includes, for example, knowledge related to learning, student development, interaction and professional ethics as well as social and educational policy knowledge. Theoretical knowledge is transformed into procedural (i.e. practical) knowledge through experience and doing. In connection with practical knowledge, one often speaks of competence and skills (Tynjälä, 2006).

Tynjälä (2010) pointed out that practical knowledge is often silent knowledge (tacit knowledge), which, according to Polanyi (1962), is difficult to describe verbally. Tacit knowledge is therefore implicit in nature and includes an individual’s beliefs, attitudes and values (Nonaka & Takeuchi, 1995). Practical knowledge also includes social and communication skills as well as the ethical starting points of a teacher’s work (Tynjälä 2006, 2007).

Jorgensen (2005) presented four different models that can be seen in the relationship between theory and practice, namely dichotomy, polarity, fusion and dialectic. In a dichotomous relationship, theory and practice are seen as independent elements, and their differences are emphasised. A dichotomous relationship causes practice and theory to become estranged from each other and to conflict with each other, but on the other hand, it helps to clarify the differences between theory and practice. The dichotomous relationship between theory and practice, in which the importance of practical knowledge is emphasised, may appear problematic in the sense that a practical orientation may

limit the possibilities for the professional development of the teacher during training, since a discussion that emphasises practice may prevent the student from going beyond their own experiences (see Winkler, 2001).

In a polar relationship, theory and practice are divided into two extremes, highlighting their differences and comparisons. The comparison can, for example, take the form of a discussion about whether it is better to go from theory to practice or from practice to theory (Jorgensen, 2005).

In a fused relationship, theory and practice are so fused that they are inseparable (Jorgensen, 2005). Jorgensen (2005) criticised the fusion metaphor for its simplicity because it suggests that there is only one fused way that applies to everything at all times; that is, it leaves no room for different views and negotiation. In education, the fusion-like relationship between theory and practice is similar to the concepts of theory of use and theory of practice.

In a dialectical relationship, theory and practice interact, and it is understood that the relationship between theory and practice is dynamic rather than static; sometimes theory and practice exist more or less separately, and sometimes they do so together. The transition from theory to practice or from practice to theory takes place through dialogue (Jorgensen, 2005). The dialogue between theory and practice can take the form of the practicalisation of theory (i.e. the examination of theories in the light of practical experience) or the theorisation of practice (i.e. the conceptualisation and examination of practical experience in light of theories) (see Tynjälä, 2006, 2007). Many researchers seem to have emphasised the importance of the dialectical relationship between theory and practice in the construction of a teacher's expertise and identity (see e.g. Bereiter, 2002; Brookfield, 1998; Dewey, 1986/1938; Korthagen, 2004; Roisko, 2007; Tynjälä, 2007).

From theory to practice and from practice to theory?

How can theory be linked to practice, and vice versa? Both international (see e.g. Dewey, 1904; Hanington & Pillai, 2017; Korthagen, 2004, 2010; McGarr et al., 2016; Shulman, 1998) and national studies (see e.g. Jyrhämä, 2002; Leivo, 2010; Ojanen, 2002) have looked for ways to better link practice to theory, and vice versa. Linking theory and practice has been approached, for example, through cooperation between universities (theory) and working life (practice) (see e.g. Allen & Wright, 2014; Rasmussen & Rash-Christensen, 2015).

Linking practice to theory has also been examined through the concept of 'research teacher' (see e.g. Ojanen, 2002). Within the studies, efforts have been made to develop connections between theory and practice, for example by involving students and teacher trainers in the production of knowledge (see e.g. Bereiter, 2002; Cheng et al., 2010; Ünver, 2014), reflection (see e.g. Clift et al., 1990; Schön, 1987) and portfolio work (see e.g. Bullough, 1997).

Pedagogical models have also been developed to combine theory and practice. One example is the model of integrative pedagogy developed at the University of Jyväskylä

(Tynjälä, 2006, 2007, 2008), which aims to plan studies and learning tasks in such a way that theoretical (conceptual knowledge) and experiential (practical knowledge) are linked. This means that students should be given opportunities to apply theoretical knowledge in practice and to reflect on their practical experiences in light of theoretical and conceptual knowledge (Tynjälä et al., 2020). Korthagen (2010) suggested that research related to the connection between theory and practice should be conducted primarily from within teacher education, focusing on the views and experiences not only of students but also of teacher educators.

The reciprocal, dialectical (see Jorgensen, 2005) relationship between theory and practice, sometimes coming from theory and sometimes practice, can be seen through the concept of *phronesis* in educational philosophy. According to Värri (2011), empirical, mechanistic and reduced models of education are not enough, but a philosophical understanding of education is also needed as a background for practical work. When the theoretical-philosophical understanding of education is reflected in practical educational work and in the situational solutions made there, one can speak of practical wisdom. Practical wisdom can be promoted by strengthening the dialogue between educationalists and educators (Värri, 2011, pp. 42–43). Regarding practical wisdom, Värri (2011) referred to the concept of *phronesis*, which Aristotle called a kind of wisdom in the *Nicomachean Ethics*, and when applied to education, roughly means that the educator takes responsibility based on the knowledge required from the situation. From the point of view of this research, a teacher must develop their understanding of the aims of their educational activity, the requirements of it and the methods that are suitable for use in the pursuit of these aims. The dialogue between theory and practice aimed at ‘good’ education described above should also be kept in mind when accompanying someone studying to become a teacher and when considering the importance of theory and practice in teacher education more generally.

The context of the study

In Finland, those studying to become classroom teachers complete about 20 credits from arts and skills studies as part of their degree (there are small differences in the number of credits between different universities). The subjects are part of the multidisciplinary studies that lead to the qualification of a classroom teacher. Traditionally, each subject has been taught as a separate, independent entity (see Salminen, 2012), carrying about five credits per subject.

At the University of Eastern Finland, the tradition of subject separation has been renewed by the search for synergies among subjects. In practice, reform work has led to the integration of separate arts and skills subjects (visual arts, crafts, music and physical education) into common courses, such as Arts and Skills in Education 1, 2 and 3. The first of these, Arts and Skills in Education 1, challenges students to examine the theoretical underpinnings that link arts and skills subjects, including creativity, problem solving, skill acquisition, functional learning, cultural identity, wellbeing and gendered practices.

The course also challenges students to reflect on the teaching of arts and skills subjects through their own school and hobby experiences.

The Arts and Skills in Education 2 and 3 courses focus more on the specific issues of each subject through practical exercises, but they also consider the combination of theory and practice. These two courses are practical in the sense that they are largely based on contact teaching in small groups, whereas the Arts and Skills in Education 1 course is based on large-group teaching and portfolio work, and the materials are shared via an e-platform.

The development of the arts and skills courses has been based on a solid collaboration between teachers, which has made the integration process possible. Integrative arts and skills courses, such as the current ones, have been organised over the duration of the current curriculum. The teacher education curriculum is updated every three years, so it is important to stop and look at students' experiences of courses such as the current one.

Research material

The research material consisted of the essays written by students at the end of the Arts and Skills in Education 3 course in Spring 2020. This course is part of the multidisciplinary studies leading to a classroom teacher qualification. The essays were requested via an e-form. The essay was the final assignment of the arts and skills course and led to a reflection on the experience of studying all three courses. The assignment was as follows:

Write a free-form essay with the title 'Arts and Skills Studies in My Experience'.

The writing assignment did not ask students to directly articulate the relationship between theory and practice, since the aim was to see how the relationship between theory and practice appears in the authentic reflective writing of students at the end of the course. The aim of the guidelines was to guide informants' thinking as little as possible when they started to write. A direct question could have provided the expected answers, but the aim was to capture how the link between practice and theory appeared in the background of student reflection.

Of the 178 students who returned the essay, 165 made them available for research. The length of the essays varied from a few sentences to two pages, and the total length of the material was 141 pages (in Calibri 11 font). Of those who gave permission for research use, 104 were from the classroom programme ('Class' in the material samples), 23 were from the special education programme ('Special') and 36 were from the subject teacher programme ('Subject'). In addition, two students were from the guidance programme. Of the students, 117 were women ('w' in the material samples), 47 were men ('m' in the material samples) and one was of another gender. In the material samples, when presenting the research results, the students are separated according to abbreviations and letters, so that, for example, 'Subject12w' means a woman student studying to become a subject teacher.

Analysis

The qualitative data were analysed using thematic analysis. Thematic analysis involves searching the data to find repeated themes of meaning (Braun & Clarke, 2006). The identification of themes followed an abductive approach, where theoretical connections can be seen (see Braun & Clarke, 2022) but the analysis is not based on a single ‘theory’ *per se*, which was discussed above and provided as background for understanding the research topic.

The themes were identified at the semantic level, focusing on the underlying meaning conveyed by the data. This process involved structuring the data to reveal complex patterns within its semantic content. The data were then condensed, leading to a level of interpretation that aimed to gain a comprehensive understanding of the phenomenon (see Braun & Clarke, 2006).

Specifically applying Braun and Clarke’s (2006, 2022) analytical model, the analysis was divided into three phases. The first involved familiarising oneself with the data and forming a preliminary overall picture of it. At this stage, the refinement of the preliminary research question was also discussed. Next, the first author of the article read the material several times. The aim was to deepen the preliminary interpretation, which was then critically reviewed together by the authors. At this stage, it was decided to form the following three main themes according to how the relationship between theory and practice appeared in the material: (1) no relationship between theory and practice, (2) a comparative relationship between theory and practice and (3) a dialogical relationship between theory and practice. The themes captured something important about the data in relation to the overall research question and appeared to form a coherent pattern (Braun & Clarke, 2006, 2022). To some extent, Jorgensen’s (2005) classification of the relationships between theory and practice served as an aid in forming the themes, but the same classification was not actually tested in the analysis; rather, it worked better as an opening for thinking.

In the final stage of the analysis process, the material was systematically reviewed and coded and the points of reference to theory and/or practice identified. At the same time, these references to theory and practice were coded into the established themes. At this point, the codings were compared between the authors and their similarities and differences considered. It was concluded that the interpretations were largely consistent. The small differences in interpretation were mainly related to whether or not a student’s single reference had been interpreted as a dialogue between theory and practice.

The following chapter describes what each theme is all about. The essence and specifics of each main theme are refined with data extracts.

Results

When there was **no relationship between theory and practice** in the research material analysed, the description of experiences was just a description of carrying out the practice, in which case, theory and practice seemed to be separate, without any

relationship. For example, students could describe practices and useful tips that they personally found useful. In the following description, the student reports that she usually divided the ‘tips’ she had learnt according to the subject (i.e. what she had learnt in art, craft, music and physical education).

I especially liked the craft part because we got to make hand puppets. In music, we learnt to play many songs and practiced playing different instruments. In physical education, I got a lot of tips on how to work with primary school children in physical education. I also learnt a lot about safety issues when working with children in PE. (Class5w)

These descriptions emphasised the development of personal skills and the extent to which courses provided space and time for this. The students’ descriptions also compared arts and skills subjects in terms of teaching arrangements or learning tasks.

The textile workshop was otherwise nice, but it would have been nice to have had more time to work so I could really challenge myself. I did get my work done, though, which was nice. --- I particularly liked ice skating and swimming, but in swimming, it would have been nice to have a bit more time to try more of the tasks in the diving pool. (Special100w)

In addition to describing the practice, some students approached the issue in a normative way; that is, they described what kind of action would have been desirable or ideal.

However, I do NOT feel that I fully understood why we did a big project in the third course for craft and fine arts when we could have gone through the subjects in more detail and with clearer examples. Sure, we had clear examples of how to teach these subjects in the second course, but I would have liked more. (Class7w)

In the descriptions of the experiences coded under this group, the students mainly described a practice or how it should have been. They did not talk much about theory. For example, the more theoretical course, Arts and Skill in Education 1, seemed to have been ignored or completely forgotten. When the first course was mentioned, the practical exercises in it were mainly brought up as a way of increasing enthusiasm (e.g. Class9w, Subject46m). One could consider either this to be a dichotomous relationship, according to Jorgensen’s (2005) model, where theory and practice are so alienated that only practice is relevant, or that things are only understood through practice without understanding the underlying theoretical thinking.

In the writings in this theme, practice often acted as a modifier of attitudes. For example, some students described how their own attitudes towards arts and skills subjects had become more positive as a result of the practical exercises. The writings also emphasised the importance of the teacher in changing attitudes (e.g. Class73w). Some students also mentioned the practical as an element that increased wellbeing (e.g. Class48m, Subject83n, Special93w) or as a change from other theoretical studies (e.g. Subject56w, Class103w, Class134m). In the descriptions that emphasised practice, there was also a strong sense that the activity was being examined from a rather individualistic point of

view; that is, for example, what I learned, what I liked, what I didn't like or what increased my own well-being or enjoyment.

The writing that focused on describing practice was also often very short. Such short essays gave the impression that the students were not interested or able to describe their experiences in more depth in terms of their professional development or future profession.

In the **comparative relationship between theory and practice**, the students brought up both theory and practice, but it happened mostly through comparison. One of the things students described was how concrete doing was a more personally meaningful way of learning and doing, such as '*In the arts and skills studies, what I liked most was concrete doing*' (Class109m). The research data showed that students valued concrete and feasible tips. These themes were described as a comparison of practice and theory, which often manifested as a comparison of the first course with the second and third courses.

I particularly liked the second and third courses, where you could actually do things. I also think that the first course could have added more functionality and do-it-yourself, along with theory, which the first course was mostly. I think the portfolio was a good implementation method in the first course. However, I preferred the second and third courses, which demonstrated real lessons. (Class14w)

In some of the students' descriptions, the comparison was lighter; for example, the student might state that the study of arts and skills subjects was a 'nice break' from the rest of the theory-based studies. On the other hand, in some descriptions, theory and practice tended to appear as opposing methodological ways of approaching arts and skills subjects. Practice was often valued over theory because it was perceived to be more useful. The students felt that practice provided them with useful, ready-made models and tips.

The first course was a bit pointless. --- The second course was much better than the first. We were able to try each subject and test our skills and knowledge. (Class13w)

Theory and practice were thus compared, but in terms of content, the link between theory and practice remained loose in the texts placed in this theme. The relationship could also be described as polar, interpreting the concept presented by Jorgensen (2005), which were theoretically explored earlier.

In the **dialogical relationship between theory and practice**, there was a dialogue or at least some kind of connection between practical experience and theoretical knowledge. Theory and practice appeared as complementary elements in the students' descriptions of their experiences.

For me, the first course, Arts and Skills in Education 1, was a useful orientation for future study and teaching. It gave me a broad theoretical understanding of how and why arts and skills subjects are taught and studied. In the second arts and skills course, I was able to put into practice the knowledge and skills I had acquired in the first course. (Subject27w)

Some students only briefly explicitly mentioned the necessity of both theoretical and practical knowledge.

Now, after all the arts and skills courses, I still don't feel I'm anywhere near a finished teacher, but I have gained a lot of practical and theoretical information for my toolbox for the future. (Subject20m)

In some essays, the link between theory and practice was unconsciously brought out in the text. The students were able to describe the development of their teaching without explicitly mentioning the theory. The dialogue between theory and practice could therefore be seen in the background, even if the student did not consciously express it at the level of the text.

Mentions of theory appeared in the material both as content information (information related to the subject being taught) and as pedagogical information (see Tynjälä, 2006, 2010). Content knowledge appeared in the material as information directly related to the subject being taught and also related to the curriculum of the subject. Pedagogical information appeared in the material as information related to teaching, learning, student development and interaction.

In some of the descriptions, the dialogue between theory and practice could also be seen as opening up perspectives and being multi-voiced (Tynjälä et al., 2020); in other words, new interpretations and alternative ways of looking at things were offered through the dialogue between theory and practice. Multi-voice also meant that change and development could be heard in the students' narratives.

The first course opened up many different perspectives on the study of arts and skills subjects and the importance of studying. I found the lectures really interesting and felt that I was beginning to see beyond the surface and learn the secrets of education. In discovering and learning these 'secrets', I was helped by the course portfolio, whose many different tasks offered new perspectives and encouraged me to examine my own thoughts from their point of view. (Subject125w)

In some descriptions of their experiences, theory and practice appear to be closely integrated (Jorgensen, 2005), or fused, as the following quote illustrates:

I think it was particularly successful that we were able to actually put the lessons into practice; the teaching was very functional, and the theory came along as if unnoticed. (Subject133w)

Integration can be interpreted as a fused relationship in the sense of Jorgensen (2005); that is, theory and practice are merged in such a way that it is difficult to separate them.

In some descriptions, it was clear that the understanding of the importance of theory and practice dialogue only became clearer during the studies.

At first, I was a bit put off by the first course, Arts and Skills in Education 1, but now I have a better understanding of what it was all about. It makes the most sense to learn the theoretical basis before the practical studies. We need to know why we are studying arts and skills in the first place. (Class81m)

For those studying to become teachers, the dialogue between theory and practice should be emphasised and given meaning at all times, whether in lectures or in practical exercises.

Discussion and conclusions

In the study, student teachers' views of theory and practice following the Arts and Skills in Education courses were explored and divided into the following three themes: (1) no relationship between theory and practice, (2) a comparative relationship between theory and practice and (3) a dialogical relationship between theory and practice.

When there was no relationship between theory and practice, it could be seen in the descriptions that emphasised practice that only what had been physically done and tried remained in the mind. In a comparative relationship, the students saw theory and practice as opposing ways of approaching arts and skills subjects. In a dialogical relationship, theory and practice were seen as complementary, perspective-opening and fused dialogues.

In the descriptions that emphasised practice, it was brought up that the students looked at the activity individualistically through themselves; that is, what I learned, what I liked, what I didn't like and what increased my own wellbeing and enjoyment. In the descriptions of the integration of theory and practice, the examination of the activities was more focused on their own teaching and pupils.

In a comparative relationship, theoretical understanding was seen as useless. Students felt that theory did not bring any concrete benefits (ready-made solutions) to the teacher's work. A similar observation was made by McGarr et al. (2016), according to whom, some student teachers either question or accept educational theory but do not see that it has anything to do with their own practical work. This kind of thinking can be seen as worrying, as it indicates a highly technical orientation. The question arises of whether one should try to emphasise theory more through practice so that one can make practice-orientated students understand the importance of theory.

On the other hand, if one looks at the students' descriptions, where the integration of theory and practice can be seen, it can be said that the teaching was able to build bridges between theory and practice to some extent. McGarr and partners (2016) also found a similar group of students in their study who internalised educational theories and thus began to apply theoretical thinking more in practice.

However, it is important to consider how to continue and strengthen the building of these meaningful bridges so that more and more students (future teachers) experience theory and practice as a necessary dialogue rather than, for example, a confrontation or denial of theory. In the best case, students would understand that theory and practice are always present in their studies, whether it is a lecture, a practical exercise or portfolio work for their future professional practice. Rasmussen and Rash-Christensen (2015) also emphasised that the link between theory and practice should be more present in all teacher education, whether in university lectures, teaching practice or any other teaching.

Ünver (2014), on the other hand, stated that the connection between theory and practice does not open up to the student through a single operating model but that different methods are needed in which theory and practice are combined in different ways.

According to Allen and Wright (2014), one way to support the discovery of connections between theory and practice could be to focus assessment practices and criteria for teacher education courses on the connections between theory and practice. The assessment practices of the three different arts and skills courses should be critically examined in the future, and it should be considered how they could be used to focus students' attention on the links between theory and practice. One option might be to extend the reflective portfolio work required in the first course to the latter two.

As was argued theoretically in the previous framework, reflection has been seen as one of the key tools for bridging the gap between theory and practice. What kind of interpretive practices, then, would fruitfully support the dialogue between theory and practice? This emphasis on dialogue also goes hand in hand with an effort to move from a receptive education to a dialogical and problematising education in which the nature and importance of reflection itself is also understood in growing up as a teacher, for example, when considering pedagogical issues or the curriculum.

Cheng et al. (2010), in their study investigating the views of student teachers, found that the gap between theory and practice in teacher education can be narrowed by challenging and changing operating models through reflection and guiding the student teachers towards self-learning. On the other hand, Rasmussen and Rash-Christiansen (2015) emphasised that alongside self-learning and personal reflection, the importance of teacher guidance and discussion should be considered. Students should not be left alone with the responsibility of internalising the connections between theory and practice, as they are not necessarily able to build bridges for instructional support.

However, it is not enough to emphasise the importance of theoretical thinking only in the teaching of arts and skills subjects. The requirement for theoretical thinking should also be applied to all teaching and activities in the education of future teachers, as the analysis of the writings shows and can be interpreted. The material also raises the idea that courses should be seen as a whole and that too much weight should not be given to feedback collected after a single course (or to the way in which material is collected), since it seems for some students that the importance of the dialogue between theory and practice does not become clear until at the end of the courses.

From the point of view of reviewing for reliability, the appropriate scientific practice and care were followed throughout the research process. Participation in the study was voluntary for the students, and anonymity was guaranteed. When assessing the reliability of qualitative research, the entire research process, its different stages and the relationship between the researcher and the phenomenon under study should be considered (Elo et al., 2014; Hirsjärvi & Hurme, 2004). The request for essays in this study was deliberately made as open as possible so that the research subjects had the opportunity to address issues that they considered important and meaningful without any guiding emphasis. Overall, the research approach is based on interaction, which at the same time aims at

new practices and habits, not just 'locked-in' analytical approaches. During the process, understanding and interpretation are enhanced through reflective thinking by both informants and researchers (Sivenius & Friman, 2020).

The process of analysing the material was described as transparently as possible so that the reader has the opportunity to follow the solutions and conclusions the researchers reached, such as in the formation of themes during the analysis. Thus, direct quotations from the students' writings were included in the text to facilitate the assessment of the reliability of the conclusions (Elo et al., 2014; Hirsjärvi & Hurme, 2004). The researchers also compared among themselves (using researcher triangulation) the consistency of the codings and interpretations. The research material (165 essays) was sufficient in the sense that saturation could be seen in the material; that is, the same types of views began to be repeated in the essays written by the students.

The deepening of theoretical thinking is closely linked to the development of the education of those studying to become classroom teachers. Next, it could be explored how the dialogue between theory and practice can be supported by different practices that support reflection. It will also be important to explore and discuss what kind of reflection lecturers expect from students.

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ILLUSTRATIONS OF EXPRESSIONS OF EMOTIONS IN CHILDREN'S BOOKS

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ABSTRACT

Visual culture is an integral part of modern life. Books with the engaging visual design still attract children's attention and are at the center of examples of their experiences and interactions. In children's books, the image is the central part of perception and the accompanying text plays a secondary role. Visual perception influences and shapes children's views about what the world around them is like. The book's illustrations are often the primary criteria when choosing a book for a child, which also creates interest in the written content. By analyzing different illustrations, it is possible to distinguish several main features that are characteristic of depicting a certain emotion and how the characters feel. When looking at any illustration, the character's facial expression is one of the primary objects looked at to determine how the character is feeling. Appropriate body posture creates the effect of movement alone or helps create the mood of an illustration by complementing the emotional background provided by facial expressions. A true representation of emotions in an illustration not only creates an enjoyable overall image but also clearly shows children how each emotion manifests itself and helps them understand themselves and in the people around them. The aim of the research is to investigate the role of children's books in their psycho-emotional development and the techniques of depicting emotions in book illustrations. Research methods: theoretical – research of literature and Internet resources; case study. Research results – the importance of children's book illustrations in children's psycho-emotional development is substantiated, and the types of representation of various emotional expressions are determined. The case study confirms that not in all cases artists have paid attention to facial mimicry, which is the most active part of a person for the expression of emotions.

Keywords: *graphic design, children's book illustrations, emotions, emotional intelligence.*

Introduction

Children perceive the world around them and the situations it creates very vividly. In order for a child to grow and develop fully, it is necessary to be aware of their feelings, talk about them, and seek support if necessary (Grīnvuda, 2019). Looking at this fact in the long term, the limitation of emotions and the inability to express them in appropriate situations leads to the psyche shutting down emotions, guarding us against overload and

disappointment (Morozova, n.d.). Therefore, it is important for parents and caregivers to talk to children about different emotions, and how to better control or express them in harmless ways. Children are attracted to everything that happens around them, they observe, learn, and repeat. For this reason, it is important to pay attention to appropriate behavioral examples for children.

Around the age of 2–4 years old, children learn to become empathetic. Empathy can be encouraged in children by telling or reading stories about how other people or characters feel (Emociju grāmata/ A book of emotions, 2016). Empathy is based on self-awareness because the clearer and better we feel our emotions, the clearer we can understand the emotions of those around us. Emotions are most accurately reflected in the body rather than verbal language. By paying attention to a person's facial expressions or body movements, it is possible to understand their true emotional state much more clearly (Goulmens, 2001), which can also be depicted in stories and books for children. Discussing different stories and helping children analyze and understand them can develop a child's perception and help them avoid negative actions or behaviors in the future.

Emotional understanding is a vital indicator that satisfies needs and helps determine whether the environment is safe enough and meets the requirements to function fully. People who are not taught to recognize, analyze, and manage their emotions may encounter a series of difficulties in everyday life (Morozova, n.d.).

Each emotional range is a unique mixture of emotional sets accumulated throughout life from the people around us. Many emotions are also consciously accumulated by being influenced by a movie, cartoon, or reading a book or magazine that describes a particular emotion that each person later tries to apply to themselves (Villido, 2021). This is how children also accumulate and reflect emotions that they have seen, heard, or read, gradually learning how to reflect them.

Children aged 4 to 12 have a relatively limited emotional range accumulated from life experiences. It is useful at this age to supplement this range with the emotions and feelings depicted in picture books that children can internalize. Reading stories about emotions with children prepares them to face them in real life and develops a positive perception and emotional response to such situations (Nikolajeva, 2014). The emotional background created in a child can influence the type of person they will grow up to be.

The aim of the research is to investigate the role of children's books in their psycho-emotional development and the techniques of depicting emotions in book illustrations.

Methodology

The study is based on the analysis of literature and internet resources on the specificity of depicting human emotions and a case study, selecting Latvian children's books on emotional understanding. Case study is a research method that allows for detailed exploration and analysis of a specific case or event in order to understand its essence and compliance with established criteria (Yin, 2013). Qualitative data analysis was used in

the article to understand the situation and its compliance with the insights provided in the literature. Case studies can help develop specific strategies and solutions to improve the impact of children's books on emotional intelligence development.

Scientific literature, the internet, and publications were searched for information on the need for children to learn about emotions. The review of book offerings is based on the range of books available in libraries and internet resources on popular children's books that teach children about emotions and help them understand them. A qualitative content analysis was conducted on 11 emotion books published in Latvia from 2013 to 2021. This allows for an assessment of the existing book offerings and an analysis of their variety of depicted emotions and the quality of visual information.

The book evaluation summary was conducted based on the following criteria: review of dominant emotions, use of images, characters, and their portrayal in illustrations. Illustration ratings were assessed on a scale of one to three based on facial expressions and body representation (1 – average; 2 – good; 3 – very good).

The study presented in the article is a result of preliminary research and will be used as a starting point for the illustration project of the emotional storybook "Kā kļūt par Lāci?" (How to become a Bear?) in Latvian and Latgalian languages, which will be carried out by the author of the article, designer L. Munda.

Results

Illustrations of Emotions. Literature Review

Visual art is an integral part of modern life. Books with strong visual design attract children's attention and shape their emotional experiences. For younger children, the image itself is the central part of perception, and the accompanying text plays a secondary role. Visual perception influences and shapes children's views of the surrounding world (Short, 2018). Illustrations influence children's interest in the material they are reading. With their liveliness and vividness, images can intrigue children. Often, the image does not express everything that can be read in the book, thus piquing the reader's interest to explore the book further (Brookshire et al., 2002). In children's books, illustrations are one of the main ways to visually and clearly depict emotions and how the main characters feel. They help create a certain mood that is described in the text, and illustrations are much easier for children to perceive and understand. By examining various illustrations, it is possible to distinguish several main features that have been used to depict a particular emotion and how the characters feel.

Recognizing and understanding emotions is a task of psychology. To help children understand their own and others' emotions, purposeful activities are organized by psychologists for individuals or groups of children in preschool educational institutions. Various methodological materials have been developed, which can be used by both educators and parents.

When examining any illustration, the character's facial expression is one of the first objects to be looked at to determine the character's feelings. Body posture only creates a movement effect or helps create the emotional background of the illustration,

Table 1 A child's understanding of emotions (Emociju grāmata, n.d.)

Emotion	A child's understanding of emotions
ANGER	An angry person can frown their brow, clench their jaw, turn red, tremble, breathe quickly, yell or refuse to speak.
JOY	A happy person smiles, laughs, jumps, and runs.
SADNESS	A sad person looks at the ground, their lips downturned, they become still, and may cry.
SUSPICION	A suspicious person may squint or narrow their eyes. They may be silent and watch you skeptically.
FEARS	A scared person may widen their eyes, freeze, become still, quiet, and even pale. They may tremble and cry. Sometimes, a scared person may even attack.
SURPRISE	A surprised person opens their eyes wide and stares for a long time. They wait for a response. They may raise their eyebrows and wrinkle their forehead. They may open their mouth and let out different exclamations like oh, yes, wow, well, no!

complementing the emotional atmosphere provided by the facial expressions. It is valuable for children to examine and understand various illustrations and drawings that depict different facial expressions. Special attention is paid to facial features such as eyes, lips, cheekbones, etc. (Vingrinājumu komplekts.../ Exercise kit..., n.d.). True depiction of emotions in illustrations not only creates a pleasant composition but also clearly shows children how each emotion is expressed, helping them understand their own and others' emotions.

To successfully understand their own needs, children must learn to recognize and name their emotions. The "Emotion Book" developed by the "Family Development Center" indicates that when talking about emotions, a child can often name both physical manifestations and their feelings (see Table 1).

The depiction of diverse emotions is a challenge for animators and illustrators of children's books because each basic emotion has subtle variations. Emotion names and their specific relationships are depicted in various emotion and feeling maps. R. Plutchik's wheel of emotions helps us view literacy through a wider perspective. Literacy refers to "a person's knowledge of a particular subject or field." Therefore, improving emotional literacy means not only having words for emotions, but also understanding how different emotions are connected to each other and how they tend to change over time (Plutchik's Wheel of Emotions: Exploring the Emotion Wheel, 2022).

A visual representation of emotions is useful for illustrators, and is provided in the article "Emotions in diagrams and images. Create emotions for cartoon characters". The eyes, eyebrows, mouth, and nose are facial features that outwardly express a person's emotions. The face is analyzed in complex ways during emotional moments. For example, joy and happiness are expressed with a wide smile, with the corners of the lips lifted and tightened, often with dimples in the cheeks, and slightly narrowed eyes. A smile can be expressed in three different ways. A genuine smile is the happiest and cannot be faked in real life. A genuine smile is expressed with narrowed lower eyelids, strongly lifted corners of the mouth, showing teeth, and forming wrinkles in the corners of the eyes. A fake smile is not as wide as a genuine smile, it is much more subdued, the lower eyelids do not decrease, and the corners of the lips stretch more horizontally rather than lifting up.

Laughter is one of the signs of a smile. It is a very expressive and joyful facial expression, expressed in a wide smile, showing teeth, forming smile wrinkles on the face, often even with almost closed eyes (Emocijas diagrammās un attēlos.../ Emotions in charts and pictures..., 2019). It should be noted that joy is one of the basic human emotions and is expressed with a smile on the face. Even a fake smile creates a feeling of joy.

All negative facial expressions are characterized by tension and a furrowed brow, especially between the eyebrows. Even a slightly furrowed brow indicates that a person may become angry, although it may also indicate that a person is trying to concentrate on something (Emocijas diagrammās un attēlos.../ Emotions in charts and pictures..., 2019). Depression and anger can also affect those around or next to the depicted characters. If one of the characters is sad or angry, the adjacent person will also feel similar emotions (Vingrinājumu komplekts.../ Exercise kit..., n.d.).

Depression is an emotion similar to anger, but it is not expressed as expressively. A wrinkle appears between the eyebrows, the base of the eyebrows moves downwards, and the jaw is tense, lowering the corners of the lips slightly. Anger is expressed very expressively, the gaze is attentive, the eyebrows are furrowed together and downwards, expressive wrinkles appear between the eyebrows, as well as horizontal wrinkles on the forehead. The lips are tightly pressed together, and the jaw is tense, wrinkles may appear at the corners of the mouth.

The eyes are the center of attention and are capable of expressing many emotions. Subtle but significant changes in facial expression are caused by the size of the eye veins, the position of the iris, and the interaction of the eyelids (Emocijas diagrammās un attēlos... / Emotions in charts and pictures..., 2019). For example, sleepy eyes are half-closed, the eyelid covers half of the iris and pupil, the eye looks relaxed and calm, but in a surprised expression, the eyes will be wide open, the iris and pupil will be clearly visible. It is not without reason that it is said that the eyes are a mirror of a person's inner feelings.

Eyebrows. Just like the eyes themselves, the position of the eyebrows can express subtle differences in emotions. The movement of the eyebrows depends on their two main parts, the base and the arch. Both of these parts can be moved by raising or lowering them, relaxing them, and even combining all of the previously mentioned actions.

The position of **the mouth** is second only to the eyebrows in expressing facial expressions. The position of the lips, the dimples in the cheeks, and the location of the corners of the mouth can express and reflect a wide variety of emotions (Emotion diagrams and images, 2019). For example, when the lips are stretched and both corners of the mouth are lifted, it means that a person is happy, whereas if the lips are pressed together and the corners are drooping, the person feels sad or upset.

The nose is the only part of the face that does not express many emotions; it is practically a motionless part of the face, although it may wrinkle or have a crease in response to strong emotions.

The combination of all the parts of the face reflects a particular expression of emotion. Each facial expression is characterized by the emotion it represents, which the character feels. Therefore, the expression that is characteristic of the face is one of the main ways to determine the emotion that is being experienced.

When teaching children to recognize emotions, it is essential to point out that they are represented using lines, dots, and geometric shapes, and that these are stylized images created based on facial expressions in real life.

Case study. Offer of emotion books and their analysis

Books are one of the most effective tools that provide children with information about emotions and their expressions. Self-awareness and emotional intelligence are popular topics that are increasingly being discussed today. In Latvia, a wide range of foreign and local author books about emotions are available in bookstores. By exploring the offer of children's books, three main age groups for which these books are intended can be distinguished – preschool, primary school, and secondary school children. Parents and educators are also noted as the target audience for these books.

The development of empathy in children is important from an early age. It is the ability to empathize with another person's emotions and understand how they feel by putting oneself in their situation. People can feel very differently in certain situations, so it is important to teach children how these feelings manifest and recognize them (Velika, 2017).

For the youngest readers, an excellent aid in exploring emotions is the developmental booklet "Emotions" with 40 stickers that help develop a child's abilities and skills. The booklet contains engaging situations with short lines. Working with stickers helps children explore the three main emotions – joy, anger, and sadness.

The book "How the Bunny Learned about Emotions" by Lithuanian writer Š. Baltrušaitienė is intended for children aged three to seven. In the story, the bunny experiences various situations, meets new characters, and learns to recognize different feelings – sadness, jealousy, fear, and even how to turn anger into joy (Šauere, 2019). This unusual and adventurous story will help nurture emotional intelligence in children and teach them about feelings.

E. Greenwood's book "My Mixed Emotions. Learn to Love Your Feelings" is aimed at children aged four to eight and describes the four basic emotions – joy, fear, anger, and sadness. This book is not only interesting for children, but also useful for parents. It helps to understand and recognize various emotions in a way that children can understand, provides support for successful relationships, and strengthens interest in learning.

One more bright example can be mentioned – the book "What does it feel like" by Polish author T. Oževiča. This book is included in the reading promotion program "Children and Youth Jury 2022" in the category "5+" of the National Library of Latvia, as well as included in other reading promotion programs abroad. The book reveals various feelings and emotions that anyone can experience and thus recognize these feelings within themselves (Šmite, 2022).

Among Latvian writers' books that provide insights into various emotions, A. Jansons' book "Tūju pasaka" can be mentioned, which is intended for readers of all ages. Step by step, the fairy tale leads the reader into the world of emotions through a series of adventures that happen to the book's main character, a boy named Oge.

In bookshelves, there are books that describe a particular emotion. Their stories are designed to vividly show a specific emotion, its causes, and provide advice on how to cope with them in a way that children can understand.

Fear is one of the basic emotions that helps to survive. It both paralyzes and invigorates, allowing for quick action. It is normal to be afraid. For this reason, many writers show fear delicately and clearly, and provide recommendations on how to combat it.

“Erika and Fear” is J. Petraskevics’ picture book about a girl named Erika, who lives alongside Fears. They are small creatures that hide in the house, garden, and elsewhere, sometimes playing various games of fear with the girl, but then a storm comes and big fears arrive with it (Bilžu grāmata bērniem par emociju spēku/ A picture book for children about the power of emotions, 2018). The book is about how fragile the line between fear and courage is. This book encourages reflection on how emotions affect each situation in life and their variability.

M. Viganda’s book “Courage to Deal with Fear” provides simple but concise advice for parents and children on how to cope with worries and fears. Although the world may seem like a scary place, especially when you are younger than others, the book helps to understand fears and overcome them.

Just as it is natural to be afraid, it is also natural to feel sadness. When experiencing sadness, it is possible to overcome it faster, especially when there is someone nearby who supports and helps. L. Bikse’s “Book about the Blue Pony” is a book about sadness that sometimes arises for no particular reason. This book helps to understand what sadness is and why it arises, as well as how to help oneself in such moments.

“The Dog Who Found Sadness” is a book by R. Briede illustrated by E. Brasliņa. The book tells the story of a dog who did not allow the black clouds of sadness that began to take over the entire city to affect him. The story is about how emotions affect our view of the world and how not to give in to them, overcoming feelings of sadness.

After sadness, joy and a feeling of relief always come. Joy is the most positive of emotions that someone can experience. By giving happiness to others, we can also feel happier ourselves.

The book “Fox Goes to Find Happiness” by writer E. Mize is an attractive book intended for the whole family. Following the adventures of a fox cub who learns about the world by asking curious questions and seeking answers, readers can find fun games and coloring pages that make the book even more engaging.

E. Dacjute’s book “Happiness is a Fox” tells a story about family, friendship, and happiness involving the main characters in an unusual plot that makes one reflect on what happiness and friendship truly are. Published in 2017, the book has received various awards and honors worldwide, including recognition at the Bologna Children’s Book Fair.

By increasing the feeling of happiness, it is possible to raise one’s self-esteem. High self-esteem indicates that a person is aware of their worth, it is the ability to rely on oneself, to feel self-satisfaction despite weaknesses or shortcomings.

The book “A small puddle” by I. Zeimanis strengthens a child’s self-esteem. The author himself says: “The world is as beautiful as we see it and ourselves. Therefore, in moments when we cannot expect support or joy from outside, it is useful to remember

that everything is already within us. Every person has all the possibilities, and in every puddle – all the heavens.” This book makes us think that the most important thing is already within us.

The book “Rabbit Garausis’ Land of Happiness” is a joint work by T. Kalninskis and N. Kugajevska. It is a story about the bad days of the rabbit Garausis, who is encouraged to go elsewhere in search of happiness, but the rabbit stays there and encourages everyone to start solving their own problems. Inspired by Garausis, significant changes begin to take place in the surrounding area. The story encourages us to raise our self-esteem and see all the good in ourselves and our abilities, which positively affects those around us.

The development of emotional intelligence in children with the help of books began in the 2000s. Previously, books that talked about emotions were not as relevant. Fairy tales and stories teach various situations, and each of them has its own moral, but they are not directly aimed at exploring and analyzing emotions.

The summary of the comparative analysis of the content of the books emphasizes the leading emotions described in the story, the selected characters, and the evaluation of the correspondence of the illustrations (see Table 2).

Table 2 Results of a comparative analysis of book content and illustrations

No	Book	Emotions	Characters	Expression of emotions*	
				in faces	in the body
1	Š. Baltrušaitiene “How the Rabbit Learned to Recognize Feelings” (2018)	sadness, envy, fear, anger, joy	Hare, crow, etc. animals	3	2
2	E. Grīnvuda “All my emotions. Learn to love your emotions” (2021)	various	Children’s photos, various objects	3	3
3	T. Oževiča “What Feelings Do” (2021)	love, fear, anger, sadness, curiosity	Fantasy characters	1	2
4	A. Jansons “The Tale of Tūja” (2013)	self-awareness	Boy Oge	3	3
5	J. Petraškevičs “Erica and Fear” (2018)	fear, excitement, wonder, joy..	Fantasy and real characters	2	1
6	M. Viganda “Courage to Deal with Fear” (2014)	fear	Elves	3	3
7	L. Bikše “Book about the Blue Pony” (2019)	sadness	The blue pony	1	2
8	E. Mieze “Fox Goes to Find Happiness” (2017)	happiness	Fox	3	2
9	E. Dačjūte “Happiness is a Fox” (2019)	sadness, joy	The boy and the fox	1	2
10	I. Zeimanis “A Small Puddle” (2019)	self-awareness	Puddle, girl	2	2
11	T. Kalninskis, N. Kugajevska “Rabbit Garausis’ Land of Happiness” (2019)	self-awareness	Hare	2	3

* Evaluation of emotional expressions in illustrations: 1 – average; 2 – good; 3 – very good.

A great deal of attention in emotion-related books is devoted to fear and overcoming it (1, 2, 3, 5, 6). The role of self-awareness in personality development prompts writers and psychologists to emphasize it in literary works (2, 4, 8, 10, 11). Illustrators, who are often also the authors of the text (5, 7), choose people – both children and adults (2, 4, 10), animals (1, 7, 8, 9, 11), as well as fantasy characters (3, 5, 6) as visual images in children's books, which have always been appealing to children. As theoretical research confirms, real expressive faces, including depictions of eyes, unequivocally convey emotions in book illustrations (1, 3, 4, 6, 8). By assigning the body of a human to an animal, such as a rabbit in the story “The Rabbit Garausis’ Land of Happiness,” illustrations acquire a comprehensible and familiar character for children (2, 4, 6, 11). The cases mentioned have received the highest rating of 3 when evaluating the appropriateness of the illustrations to the depiction of emotions.

Conclusions

Theoretical research confirms that illustrations in children's books are important for the development of children's emotional intelligence, as they can influence a child's emotional state by promoting understanding, identification, and expression of emotions. Illustrations can help children understand and experience the events described in the book, develop empathy, enhance their ability to understand and resolve conflicts, and promote their emotional balance and overall well-being.

Facial expressions and body positions are two main ways in which emotions can be depicted in illustrations. Appropriately depicted facial expressions, such as a smile, sadness, fear, or anger, can help children understand the atmosphere of the story and anticipate the events that may occur. Body position complements facial expression for a complete expression of emotions.

The selection of engaging characters in illustrations for children's books is an important element, as it can help children understand and identify the various emotions that characters experience during the story. When it comes to illustrations for children's books, character selection can be people, animals, fantasy characters, or other beings.

A case study analyzing Latvian children's books on the topic of emotions demonstrates their diverse offerings and suitability for different age groups of children. The rating of the analyzed book illustrations ranges from one to three, indicating that not all artists have paid attention to facial expressions, which are the most active part of emotional expression. The conducted study is a preliminary study for the development of illustrations for the children's book “How to Become a Real Bear” by the author and designer L. Munda.

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CHARACTER DANCE GENRE IN THE CREATIVE WORK OF BALLET MASTER M. PETIPA AND BALLET ART EDUCATION

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ABSTRACT

This research delves into the historical development of the character dance genre in ballet education. By analyzing ballet literature from Latvia and Europe published over the past decade, the study aims to create a theoretical outline of character dance history. This will provide a wider understanding of the genre and serve as a professional teaching tool for academic dance performers and pedagogues. The research focuses on French ballet master M. Petipa's contribution to the development of ballet art, particularly his character dance "writing" as a means of enriching the choreographical language of classical ballet. The study also examines the interpretation of foreign dance elements and movement composition in classical dance. The enduring value of M. Petipa's classical ballet works, including Pharaoh's Daughter, Don Quixote, Bayadere, The Sleeping Beauty, Nutcracker, Swans' Lake, and Raymonda, are reviewed in the study. The research identifies essential pedagogical principles for the development of ballet education, including the consideration of character dance genre. Ultimately, this study will provide a methodical learning material of a historical period for the professional growth of character dance ballet performers and to preserve M. Petipa's legacy in classical ballet culture.

Keywords: *ballet education, character dance, classical ballet, divertissements, M. Petipa.*

Introduction

The focus of this research is the historical development of the character dance genre in ballet education. Character dance is a fundamental aspect of classical ballet training for professional dancers. Unfortunately, some enthusiasts and professionals mistakenly classify it as non-national stage dance. This article aims to provide a clear definition of character dance and its current status. The research draws from recent scientific articles, professional ballet literature, and classical ballet works. We analyzed examples from the "Golden Ballet Age" of French ballet master M. Petipa's creative work, drawing on content from articles and books. Petipa's works are a permanent cultural treasure in ballet theaters worldwide. Preserving classical ballet heritage is a crucial issue each year.

The professional development of the next generation of ballet artists depends on the latest, scientifically-based educational content program. It is essential to provide professional and visual materials for a complete understanding of the character dance genre, with classical ballet examples.

Methodology

After conducting a thorough search for current literature on character dance, it became clear that there was not a lot of material available on this specific topic. To address this, I decided to broaden my search to include materials related to classical ballet that referenced character dance. My research included a review of articles published in Central Europe and Latvia Summar from 2013 onwards, as well as the most current dance literature in Latvia. I utilized databases such as Web of Science, JSTOR, Taylor & Francis, Oxford Academic, and Cambridge Core to gather information for my analysis. To narrow down my results, I set specific search criteria to look for publicly available articles published in Europe and Latvia since 2013, using keywords such as M. Petipa, classical ballet, and character dance. This search yielded 47 results, 9 of which provided in-depth discussions on the development of ballet and M. Petipa's work as a ballet master and author of classical ballets, with mentions of two or more ballets.

In general, the articles (Table 1) provide a broad and generalized insight into the development of dance history and the first performance of the opera ballet "Galant's Europe", the meaning of the mentioned situation dances. Dance innovation and divertissement structure, speaking of *d'action* – action dance and character dance (Dartois-Lapeyre, Mcgowan, 2015). Great emphasis was placed on the development of the plot of the ballet in the articles, (Spalva, 2015). The creation of the ballet choreographic system notation (N. Sergeev), thanks to which M. Petipa's ballet heritage has been preserved in the original choreography even today (Guthrie, 2015). The topic of one article was copyrights in the works of choreographers. Giving the example of the 1858 ballet "Corsair" whose copyrights today would be challenged and called plagiarism by modifying another's work (Yeoh, 2013). M. Petipa's *Pas d'action* ballets were analyzed: The Sleeping Beauty, Giselle (chor: Jean Coralli and Jules Perrot), Pahita (chor: Mazilier), Corsair, Pharaoh's Daughter, Bayadère, Raymond (Fullington, 2017). M. Petipa's collaboration with the Italian virtuoso ballet artist E. Checetti at the St. Petersburg Ballet Theater, emphasizing the bright performance of the leading roles. Preparation of professional ballet dancers in the structure of a ballet training class, preserving the virtuosity and traditions of Italian ballet performance (Murray, 2017). Most of the articles analyze the context of the national dance, the flourishing of the Spanish dance form in the works of M. Petipa, mentioning the ballet Don Quixote as one of the examples (Maltsev, et al., 2020, Bonnin-Arias, Arostegui, Colomer-Sánchez, 2021 Joyce, 2016).

Table 1 Author

Author	Year	Scientific article
Françoise Dartois-Lapeyre, Margaret M. McGowan	2015	A Multi-Layered Analysis of Dancing in Eighteenth-Century French Opera
Kate Guthrie	2015	Awakening “Sleeping Beauty”: the creation of national ballet in Britain
Rita Spalva	2015	Ballet art Reforms During the Enlightenment
Francis Yeoh	2013	Choreographers’ moral right of integrity
Doug Fullington	2017	Finding the Balance: Pantomime and Dance in Ratmansky’s New/Old Sleeping Beauty
Melonie Buchanan Murray	2017	Maestro: Enrico Cecchetti and Diaghilev’s Ballets Russes
Anton V. Maltsev, Dmitriy K. Rudachenko, Svetlana A. Rusinova, Fatima Mayumi Tolenaida Sakamoto de Miasnikov	2020	System approach as a methodological basis in research on teaching ballet art
Patricia Bonnin-Arias, Juan Arturo Rubio Arostegui, Ana Colomer-Sánchez	2021	Spanish ballet school: nationalism, the weakness of bourgeois culture and heteronomy in the artistic field in Spain in the nineteenth century
Dan Joyce	2016	The Original Nutcracker Ballet: A Hidden Allegory by Margaret Fleming-Markarian

Nadine Meisner’s book can be highlighted as one of the latest (2019) and most accessible materials “Marius Petipa: the emperor’s ballet master”. This provides an opportunity to explore the life of M. Petipa, spanning from childhood to old age. In the creative and professional growth of a ballet master in a systematized sequence. M. Petipa Ballet soul paths in search of perfection. This work gave the widest insight into the creation of the ballet behind the scenes, cooperation with composers, choice of dancers and wishes of ballet lovers.

The most current books in Latvia provide a broad insight into the development of ballet in Europe (Spalva, 2013. Spalva, 2018) and Latvia, which gives ballet culture a chance to enrich knowledge (Čeže, Leimane, Treice, 2022). It is regrettable that we do not have available more extensive literature on the character dance genre.

The character dance genre, as a means of expressing national identity, has come to the fore in Russia (Meisner, 2019) when paying tribute to M. Petipa’s 200th anniversary in 2018. As a result, scientific articles, theses and discussions on the significance of M. Petipa’s “Golden Age” creative heritage have been prepared today (Чернышова-Мельник, 2022). Content analysis was used for subjective interpretation of M. Petipa’s ballet data analysis materials (Mārtinsons, K., Pipere, A., et al., 2021).

Results

Character dance (Deutsch: Charaktertanz, Français: Danse de caractère, Русский: характерный танец) a dance genre in classical ballet

Character dance is contrasted with noble or academic dance and associated with different nationalities or people character portrayals in dance. Historically, character dances

were considered a part of classical ballet, and the pure dance form is only seen in ballet performances. Character dance manifests special beauty in the dance style, the character of the dance in combination with the expressiveness of music. Character dances include not only the technical side of the performance, the dancer's ability to convey a folk dance, but also gives the opportunity to reveal the personality of the performer, to express one's feelings and richness of emotional soul, as well as interest in the dance life of other nations (Martinsone-Škapare, 2018).

The genre of character dance, theoretical knowledge of movement elements, stages of historical development are learned at "National Arts High School" Riga Ballet School in Latvia. Obtaining the professional qualification of a ballet artist. The curriculum for the character dance genre is very comprehensive and lasts for 4 years (8 sems.). More attention is paid to the academic performance of character dance movements in the first semesters of training. Creating students' understanding of the nature, manner and style of movement. Aspiring ballet artists are introduced to the academic performance of movements, which includes a large amount of essential knowledge. For example, the movements and names of classical dance form the alphabet of ballet art, which is also used in character dance for learning. The names of classical dance (even today) are derived from the French language. The names of character dance movements have sometimes kept their vernacular roots and their translation is impossible, so in several cases the authentic names of other nations are preserved. Character dance movements have developed naturally and essentially because the classical dance was also historically formed from the elements of the folk dance. The slow, flowing movements of character dances are closer to classical dance, but the fast movements are mostly characteristic of character dances (Martinsone-Škapare, 2018).

In character dances, the movements of the hands create the impression of spaciousness, the movements of the feet are supplemented with extended ones (*en dehors*) and inverted (*en dedans*). Both of these techniques are used in dance stage etudes. The freedom of the body in the choice of movements preserves the rules of classical dance. In classical dance, the principle of "stretched toes" is also preserved in character dance, but not so strictly in shape. Many movements of character dance are made without straightening the knees, so as not to lose the characteristic of the movement along with the appeal of the dance character. The five leg positions of classical dance are preserved, only without the inherent leg expansion. Complementing the foot positions with two inverted and five parallel (Лопухов, Ширяев, Бочаров, 1939).

The classic squat – *plié* is used in a slightly more complicated way in the character dance. The use of *plié* in the character dance is wider and richer. The classical dance rule – "slow half fingers" – *relevé* performance is not observed. Contrary to classical dance, character dances emphasize *plié* extension. The big squat – *grand- plié* is the basic movement for the deep squat of the characteristic dance. In classical dance *plié* and *relevé* is performed calmly and flexibly, but in character dances these movements are performed quickly, emphasizing the character of the dance rapidity. In a methodically well-formed character dance lesson, the calm and flexible *plié* and *relevé* always connects with the rapid *plié*.

Let's not dwell especially on the classic – open (*effacee*) and closed (*croisee*) postures, which are characteristic for each movement and there is no need to emphasize their role in character dance. We can conclude from historical sources the special passion of several ballet masters in using a certain pose, for example the frequently used pose – *croisee*.

Body position with *epaulement* is more common in character dances than in classical dance. The dancer's body, like the dancer's head, is given more freedom in character dance than in classical dance. In character dance you can tilt your head back and forth or change the direction from one to the other with a rapid movement from one side to the other side, use head movement for fast turns. Pronounced and characteristic head movements are typical for the dances of Uzbeks, Armenians and many eastern peoples (Лопухов, Ширяев, Бочаров, 1939, Martinsone-Škapare, 2018).

In character dance, the principles and rules of body and hand movement remain the same as in classical dance. (Elements: *plié*, *battement tendu*, *battement tendu jeté*, *rond de jambe par terre*, *flic-flac*, *diferent footworks*, *pas tortille*, *retiré*, *battement fondu*, *battement développé*, *grand battement jeté*.)

The dancer should pay special attention to the back, which characterizes the performance manner of nation. In character dance we come across the concept of “unstraightened or unstretched body” which is denied and not used in classical dance. In the daily life of character dance, we come across poses, movements that ignore classical dances canons (Martinsone-Škapare, 2018).

The technical possibilities of character dances are wide. Leg movements are not just limits creating an image. It takes the functioning of the body in the complex and interesting process. That's why the combinations of movements are more and more often created, supplemented with new hand, head and body movements in character dance. The body posture plays a big role in dance, which allows us to judge the character, belonging and stylistic of a particular dance direction.

The evolution of the character dance genre was born in moments when the dancer's body and hands began to search for a lot more natural expression and states. In the first characters, they tried to create an image, but the legs continued mechanically repeat classical movements (Лопухов А, Ширяев, Бочаров, 1939, Martinsone-Škapare, 2018, Lee, 2002).

Classical dance often uses “high half toes”, but in character dances everyday use both “high” and “low” half toes, when the heel is only slightly raised from the floor. In rare cases we see dances with technically complex movements on the fingers, for example, in the Caucasian national dances, performed by men. Character dance brought a special touch to the ballet's imagery, contributing to the performance contrasts and, therefore, dramatic saturation (Spalva, 2018).

Ballet master M. Petipa ballets

The creator of this work has included Table 2-Table 8, which display notable examples of character dances in classical ballet. This table serves as a helpful tool for explaining

the concept of character dance and can also be used for visual aid in teaching. Renowned for his selection of vibrant and dazzling ballet works, French ballet master M. Petipa's productions showcase the virtuosity of character dance and feature magnificent choreography of its characters and imagery. The technical demands of these ballets require dancers with a high level of training and excellent pedagogical experience to properly transfer their knowledge. Based on practical skills of the dance genre, Petipa's ballets create an exceptional spectacle on stage.

La Fille du pharaon, The Pharaoh's Daughter

The theme of Egypt is beautifully portrayed in the ballet Pharaoh's Daughter, as English Lord Wilson dreams of the exotic land. The ballet dancer's movements are highlighted with dominant oriental motifs, showcasing stylized Egyptian and Tibetan gestures. The dance also incorporates elegant fragments with fans and stylized oriental hand movements, enhancing the overall experience. The second act "Grand Pas of Rivers, Streams, and Sources" (*Grand Pas des fleuves, ruisseaux, et sources*) variation with national – dance motifs (Meisner, 2019).

Table 2 The Pharaoh's Daughter

Ballet	La Fille du pharaon, The Pharaoh's Daughter Ballet in three acts and nine scenes, with a prologue and epilogue
World Premiere	1862 , 30th January [O.S. 18th January] Imperial Bolshoi Kamenny Theatre, Saint Petersburg
Choreography	Marius Petipa
Music, Libretto, Decor, Costumes	Music by Cesare Pugni Libretto by Jules Henri Vernoy de Saint-Georges and Marius Petipa Decor by Heinrich Wagner (Prologue, scene 1; Act 1, scene 1; Act 2, scene 2, Act 3, scene 1) and Andrei Roller (Prologue, scene 2; Act 1, scene 2; Act 2, scene 1; Act 3, scenes 2 and 3) Costumes by Philippe Calver and Alexei Stoliarov
Principal dancers	Carolina Rosati (Princess Aspacia), Marius Petipa (Lord Wilson/Taor), Timofei Stukolkin (John Bull/Passifont), Nikolai Golts (Pharaoh)
Character dances/ Divertissements	Act 2. Divertissements: the Tiber in the style of a <i>tarantella</i> ; the Huang-he or Yellos River "Chinese girl"; the Rhine, steady steps of the Austrian <i>Länder</i> ; the Thames, a <i>pizzicato</i> dance; the Guadalquivir, echoing a <i>bolero</i> ; the Neva the rhythms of a <i>trepak</i>

Don Quixote

In the ballet Don Quixote, Spanish temperament and coloring are revealed in the movements. In character dance lessons, great emphasis is placed on Spanish hand positions, hand positions and their transitions (*port de bras*). For an extended walk on the *demi plié*, for the dexterity of the feet – elements of *zapoteado* strikes, *pas de basque*, *balansé*, *glissade*, *sissonne pas de bourrée*.

Table 3 Don Quixote

Ballet	Don Quixote Ballet in four acts and eight scenes	Ballet in five acts and eleven scenes
World Premiere	1869 , 26th December [O.S. 14th December] Imperial Bolshoi Theatre, Moscow	1871 , 21st November [O.S. 9th November] Imperial Bolshoi Kamenny Theatre, Saint Petersburg
Choreography	Marius Petipa	Revised version
Music, Libretto, Decor, Costumes	Music by Ludwig Minkus Libretto by Marius Petipa, after Cervantes Decor by Pavel Isakov (Act 1, scenes 1 and 2), Ivan Shengin (Act 2, scene 3, Act 3, scene 5 and Act 4, Scene 8) and Fedor Shenian (Act 2, scene 4; Act 3, scenes 6 and 7)	
Principal dancers	Wilhelm Vanner (Don Quixote), Anna Sobeshchanskaya (Kitri), Sergei Sokolov (Basilio),	Timofei Stukolkin (Don Quixote), Alexandra Vergina (Kitri/Dulcinea), Lev Ivanov (Basil)
Character dances/ Divertissements	Spain. Virtuoso imitation of Spanish and Gypsy movements and styles (<i>seguidilla, morena zingara</i>)	

La Bayadère

The oriental charm of Royal India unfolds with the conclusion of a pure classical dance in the view of the Kingdom of Shadows in the ballet “La Bayadère”. The character dance genre is in the performance of characters (dance character) and movements in this ballet.

Table 4 La Bayadère

Ballet	La Bayadère Ballet in four acts and seven scenes, with apotheosis	
World Premiere	1877 , 4th February [O.S. 23rd January] Imperial Bolshoi Kamenny Theatre, Saint Petersburg	
Choreography	Marius Petipa	
Music, Libretto, Decor, Costumes	Music by Ludwig Minkus Libretto by Marius Petipa and Sergei Khudekov Decor by Mikhail Bocharov (Act 1, scene 1), Matvei Shishkov (Act 1, scene 2 and Act 2), Ivan Andreyev (Act 3, scenes 1 and 3), Heinrich Wagner (Act 3, scene 2) and Andrei Roller (Act 4 and apotheosis) Costumes by Ivan Panov	
Principal dancers	Ekaterina Vazem (Nikiya), Lev Ivanov (Solor), Maria Gorshenkova (Gamzatti), Nikolai Golts (Great Brahmin), Christian Johansson (Rajah Dugmanta)	
Character dances/ Divertissements	Act 2. Grand Divertissements: <i>Danse des esclaves, Valse éventails,</i> <i>Valse des perroquets, Danse pour quatre bayadères, Danse manu,</i> <i>Pas indien</i>	

La Belle au bois dormant, The Sleeping Beauty

In the ballet “The Sleeping Beauty,” fairy-tale characters are portrayed through the European cultural traditions of the Baroque period. The Polish polonaise, a style of academic Polish dance, is also incorporated into the performance. During the learning process, dancers are taught proper hand positions and movements, including wavy hand movements., “keys”, *pas balancé*, *cabriole*, *pas boité*, *pas golubec*, *pas balancé*, *pas de bourree*.

Table 5 The Sleeping Beauty

Ballet	La Belle au bois dormant, The Sleeping Beauty Ballet-féerie in three acts, with a prologue
World Premiere	1890 , 15th January [O.S. 3rd January] Imperial Mariinsky Theatre, Saint Petersburg
Choreography	Marius Petipa
Music, Libretto, Decor, Costumes	Music by Peter Ilyich Tchaikovsky Libretto by Ivan Vsevolozhsky, after Charles Perrault Decor by Heinrich Levogt (Prologue), Mikhail Bocharov (Act II, Scene 1; with Ivan Andreyev, Act I), Konstantin Ivanov (Act II, Scene2) and Matvei Shishkov (Act III and Apotheosis) Costumes by Ivan Vsevolozhsky
Principal dancers	Carlotta Brianza (Aurora), Pavel Gerdt (Prince Desiré), Marie Petipa (Lilac Fairy), Enrico Cecchetti (Carabosse/ The Bluebird), Varvara Nikitina (Princess Florine)
Character dances/ Divertissements	Act 3. Polish polonaise

Casse-Noisette, The Nutcracker

The interaction of European culture with “guests from far corners of the world” takes place in the Nutcracker ballet”. The divertissement in classical ballet usually consists of a suite of character dances (Spalva, 2013). Divertissements: Spanish Hot Chocolate, Arabian Coffee, Chinese Tea, Russian Candy Cane is an integral dance fragment in the curriculum of the final year of the character dance genre.

Table 6 The Nutcracker

Ballet	Casse-Noisette, The Nutcracker Ballet-féerie in two acts and three scenes
World Premiere	1892 , 18th December [O.S. 6th December] Imperial Mariinsky Theatre, Saint Petersburg
Choreography	Marius Petipa and Lev Ivanov
Music, Libretto, Decor, Costumes	Music by Peter Ilyich Tchaikovsky Libretto by Marius Petipa, after E. T. A. Hoffmann Decor by Konstantin Ivanov and Mikhail Bocharov Costumes by Ivan Vsevolozhsky and Evgenii Ponomarev
Principal dancers	Antonietta Dell’Era (Sugar Plum Fairy), Pavel Gerdt (Prince Coqueluche), Sergei Legat (Nutcracker), Timofei Stukolkin (Drosselmeyer), Georgii Kiaksht (Harlequin), Olga Preobrazhenskaya (Columbine)
Character dances/ Divertissements	Act 2. Divertissements: Spanish Hot Chocolate, Arabian Coffee, Chinese Tea, Russian Candy Cane

Le Lac des Cygnes, Swan Lake

Ballet Swan Lake reveals the character of the image, the symbolic meaning of the movement, the contrast of colours, the glorification of academic dance. Example: dynamic development in the ballet was achieved with a suite of character dances – Spanish, Venetian – *tarantella*, Hungarian *czardash* and Polish *mazurka*. The nationalities of the mentioned dances are learned throughout all stages of study.

Table 7 Swan Lake

Ballet	Le Lac des Cygnes, Swan Lake Ballet fantastique in three acts and four scenes
World Premiere	1877 4th March [O.S. 20th February] Imperial Bolshoi Theatre, Moscow 1895 Première of Petipa and Ivanov's revival 27th January [O.S. 15th January] Imperial Mariinsky Theatre, Saint Petersburg
Choreography	Julius Reisinger Marius Petipa (Act I, Scene 1; Act II) Lev Ivanov (Act I, Scene 2; Act III)
Music, Libretto, Decor, Costumes	Music by Peter Ilyich Tchaikovsky Libretto by Vladimir Begichev, edited by Modeste Tchaikovsky Decor by Ivan Andreyev (Act 1, scene 1), Mikhail Bocharov (Act 1, scene 2, Act 3, Apotheosis) and Heinrich Levogt (Act 2) Costumes by Evgeni Ponomarev
Principal dancers	Pierina Legnani (Odette/Odile), Pavel Gerdt (Siegfried), Alexei Bulgakov (Rothbart)
Character dances/ Divertissements	Act 2. Spanish Dance, Hungarian Czardas, Neapolitan dance, Poland Mazurka

Raymonda

Ballet Raymonde discovers French Provence with visiting Saracens from the Iberian Peninsula. Ethnographic color and folklore dances. On the one hand, the Christian Latin civilization, on the other, the Eastern Muslim culture, and on the third, Eastern Europe – Hungary. This conflict of dramaturgy can be seen in the genres of character dance and classical dance in the ballet (Spalva, 2013). The elements of the Hungarian academic character dance genre, sequences of movements and performance of mannerisms are learned throughout the course of study.

Table 8 Raymonda

Ballet	Raymonda Grand ballet in three acts and four scenes
World Premiere	1898 , 19th January [O.S. 7th January] Imperial Mariinsky Theatre, Saint Petersburg
Choreography	Marius Petipa
Music, Libretto, Decor, Costumes	Music by Alexander Glazunov Libretto by Countess Lydia Pashkova Decor by Oreste Allegri, Pyotr Lambin and Konstantin Ivanov Costumes by Ivan Vsevolozhsky and Evgenii Ponomarev
Principal dancers	Pierina Legnani (Raymonda), Pavel Gerdt (Abderrakhman), Sergei Legat (Jean de Brienne), Olga Preobrazhenskaya (Henriette), Klavdia Kulichevskaya (Clémence), Nikolai Legat (Béranger), Georgii Kiaksht (Bernard)
Character dances/ Divertissements	Act 2. Dance of the Saracens Act 3. Grand pas Hungarian

For example: Act 2 Dance of the Saracens. The classical dance – *pas de basque* (Basque step) is used in the creation of the dance. The classical structure of the *pas de basque* is slightly altered, as the leg movements are not as extensive. The movements of hands, head and body do not follow the classical canons: the body is bent forward, the back is bent or slouched back, moving the shoulders forward in turn. One hand of the performer is raised above the head with the palm turned upwards, while the other hand is slightly moved back. The movement of the hands from one position to another is not performed by principles of classical dance.

After the *pas de basque* in the dance, the dancer performs a *pas de bourree* (unexpected change of legs “at a gallop”) on the spot. The nature of the movement is completely changed: the feet are placed parallel to each other and the *pas de bourree* is performed in the profile. These small details were introduced not by M. Petipa, but by the performers themselves, who adapted these movements to the requirements of time and “convenience” of performance. Hence the process of transformation or “rewriting” of the dance continues throughout the life of the scene.

Discussion

The enduring legacy of French ballet master Marius Petipa is being honored by the ballet community on his 205th anniversary. His timeless works continue to captivate audiences and will undoubtedly remain popular for years to come. The Latvian National Opera and Ballet Theater’s upcoming 2022/2023 season is a testament to his enduring influence, featuring beloved productions such as *Swan Lake*, *La Bayadère*, *Sleeping Beauty*, *Don Quixote*, *Corsair*, and *The Nutcracker*. Despite the passing of time, the value of classical ballet heritage remains as strong as ever in European and world theaters.

Character dance is an important genre often included in ballet performances alongside classical dance. The works of M. Petipa, scientific articles, and ballet literature clearly demonstrate its presence and definition in ballet culture. It is essential to pass on this value to future generations of ballet dancers, nurturing and upholding traditions. In addition to character dance, it is vital to continue exploring other aspects of ballet education such as the pedagogical conceptual model of character dance in ballet education, education for dance team managers and choreographers, and the interaction of character dance in non-national stage dance choreography. Learning the elements and methods of creating a dance composition are the primary didactic tasks of the character dance genre. There is still much to learn and improve in this genre, and it offers valuable lessons.

Conclusion

In order to preserve the heritage of classical ballet traditions, the character dance genre coexists in the ballet performance. It is an integral part of ballet culture and education, for the professional development of ballet dancers.

However, in classical ballet, the character dance is forced to depart from the authenticity of the folk dance, thus unifying the national style, subjecting it to certain ballet requirements. For more insight into the teaching methodology, it would be necessary to analyze other scientific articles, books (of a wider time frame, including a wider geographical amplitudes) and presentation of conclusions. In character dance ballet education, artistic individuality is revealed from several aspects, on the one side, the interpretation of the choreographer's idea, on the other side, the dancer's personality, image and emotions, and on the third side, the emotional fulfillment of the ballet viewer.

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INTEGRATING THE STUDY OF FAMILY HISTORY IN THE PROCESS OF LEARNING THE LATVIAN LANGUAGE

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ABSTRACT

Latvian language and literature, like the history of the nation and country, is an essential basis of national and cultural development, and an important part of civic education. One of the problems we face daily is related to the fact that many of young people do not perceive the Latvian language as a value, and do not want to learn some part of the curriculum, because it seems to them too far from reality, useless and irrelevant. To create more interest in language learning content, it should also include topics that may be personally meaningful to students or should be viewed in a context that is engaging to them.

The purpose of the paper is to justify the need to include the study of family history in the learning content of the Latvian language, ensuring the connection between subjects, and to characterize the developed linguo-didactic material. The author's experience in creating family trees and involving students in this work in interest education classes shows that this not only creates interest in young people in the set of personal names of their family and the motivation of their choice but also promotes the desire to more fully learn the history of the Latvian language and the language as a system, to develop their language and communication skills.

The research was conducted in the 10th grade using the methods of document analysis, case analysis, pedagogical observation, and pupil's survey. The research concluded that the study of family history can be successfully included in Latvian language lessons. The students were interested in lessons related to the topic of family history, admitting that they find the lessons more interesting, where it is possible to acquire not only theoretical knowledge of the Latvian language but also additional information about their family members. For the work to be more successful, students should already at the stage of primary education develop persistent habits, the skills of independent work, information acquisition, compilation, and analysis, as well as age-appropriate linguo-cultural tasks should be included in the curriculum, which would promote the study of language learning as a cultural phenomenon.

Keywords: *education, family history, Latvian language, linguo-didactics, personal name.*

Introduction

Family history research is becoming increasingly popular in Latvia and worldwide. There is a wide variety of ways to research roots, from interviewing family and friends, to using online resources, looking at church books or going to the Latvian State Historical Archives and researching the documents there. There are also several groups of like-minded people who work together to find their ancestors and help each other with family tree research. Often people do not think about the fact that they are related to each other by kinship, or that understanding family history could help to understand the processes of personality formation and linguistic development more successfully. It has long been recognised that knowledge of the historical context is essential for a deeper understanding of literary and artistic works, for a more detailed awareness of social and cultural developments, for the cultivation and continuous improvement of the sense of life (Lukaševičs, Mickeviča & Sokolova, 2007, 18), and for the strengthening of local and national identity. The Guidelines for National Identity, Civil Society and Integration Policy 2012–2018 state that national identity is “a part of a person’s identity that unites them with other persons who share similar national and cultural characteristics. Language, values, behavioural patterns, cultural symbols, social memory are the basis on which a person’s belonging to a nation is built and maintained, and the unity between people belonging to a nation. National identity includes the idea of the uniqueness but not the superiority of each nation, the idea of difference from other nations, the idea of interdependence between people belonging to a nation and the idea of the continuity of the nation” (Nacionālās identitātes..., 2012, 5, 4). Language is the spiritual cultural phenomenon of a nation, the embodiment of values, therefore “in the process of learning the mother tongue and other languages, students need to combine the concepts of language–culture–personality” (Gavriļina & Vulāne, 2008, 4). The exploration of family history, in connection with the study of Latvian language, could become an integral part of teaching, stimulating students’ interest in the learning process of both Latvian language and social sciences, the formation of a unifying understanding of social memory in society. Family history research is one way of strengthening family ties and contributing to the development of national identity. In the process of learning Latvian, it provides an opportunity to ensure inter-subject links.

The aim of the article is to justify the need to include family history research in the Latvian language curriculum, ensuring cross-curricular links to develop students’ linguistic, cultural and research competences.

The relevance of family history research in teaching

Learning about family traditions is not only the responsibility of the entire education system, but also of the family and society to promote empathy and correct abnormal behaviour (Nha, 2022). In today’s world, where the interaction of different cultures and peoples plays an important role, it is essential that not only school-age children, but also adults who are the bearers of their family traditions, develop an in-depth understanding

of them and a desire to preserve them by involving the younger generation and thus promoting their transmission. The development of traditions, customs and rituals is a time-consuming and complex process (Klepar, 2017). Family traditions aim to maintain order within the family and the transmission of folk experiences from generation to generation. For this to happen, it is important that the pupil knows how not only his current family was formed, but also the families of both his parents, and what historical events and places it was connected to. This can contribute to the pupil's self-directed cognitive processes, learning, interest in the events of his/her community and country, and raise the need to link the topics covered in lessons to the pupil's family history (Noble, 2018). Family history research is an interdisciplinary field, as not only biographical information about one's ancestors is obtained, but also different aspects of geography, history, linguistics are studied in order to solve problematic situations that arise during the research process (Hart, 2018; Hershkovitz, 2012). Family history research contributes to the understanding of life, enriches the researcher's life experience, and allows one to discern solutions to various life problems through ancestral experiences (Bottero, 2015; Darby & Clough, 2013; Fulton, 2016). This activity is becoming increasingly important for those who want to strengthen a sense of belonging to a place, a country, a nation (Ball, 2016; Bottero, 2015). The study of family history contributes to the development of students' cognitive processes (Noble, 2018), analytical thinking, self-discipline, patience, attentiveness, purpose, and develops skills that can be used in other subjects. As research into Arnon Hershkovitz's family history as a subject shows, most students tend to apply the insights gained from their research to other subjects (Hershkovitz, 2016). It also fosters an interest in language learning, as in order to work properly with the historical documents of our people, one needs to know German, Russian, Polish and Latin, to be able to decipher the various handwritings, to be familiar with Cyrillic, Fraktur and antique letters. This activity is a successful example of lifelong learning, as it can be undertaken by people of different ages (Darby & Clough, 2013; Fulton, 2009; Hershkovitz & Hardof-Jaffe, 2017).

One can agree with Arnon Hershkovitz that the inclusion of family history research in general education is an understudied aspect (Hershkovitz, 2012, 2016). He raises the idea that the research community should develop it as a subject and proposes a taxonomy of six components for its implementation: "Each of the first five components is a research unit. These units – namely, people, families, communities, representations, and data – refer to the core building blocks of traditional genealogy studies. [...] The sixth component, bird's-eye view, suggests an extension of genealogy beyond the traditional scope of its daily practice, hence, highlighting the potential contribution of such research to the field, academically. All together, the taxonomy suggests reciprocal relationships between the practiced field and its academic level." (Hershkovitz, 2012, 7) These thoughts are to some extent in line with the idea of pervasive skills described in the *Skola2030* project (2022), which is embedded in subject standards. They also point out that nowadays we need to think more about the integration of curriculum content rather than the isolated learning of subjects. This idea was already

raised last year. For example, Zenta Anspoka pointed out that integrated curriculum content links differentiated subject content, promotes the development of skills according to real-world problems and tasks, and the conduct of learning in which the goal, means, process and outcome are closely interrelated and both are equally important (Anspoka, 1999, 4).

Ausma Špona insight that “the content of education is knowledge, skills, abilities, attitudes, habits, which are formed into values in the process of action, correlates with the awareness of family history as an important value for the individual and the community. Things, facts, phenomena that a person experiences as essentially significant for him or her and that contribute to the development of his or her personality are pedagogical values.” (Špona, 1996, 4) This indicates that the correlation of content with the needs of personal development, the interests of the pupil, plays an important role in the formation of these pedagogical values. It is necessary to create favourable conditions for the development of a creative, cultured, interested and inquisitive personality. To achieve this, it is necessary to think carefully about the content of teaching, which, as Irēna Žogla points out, “is not just about what is in textbooks, but is a much broader concept. The content covered in a textbook is not to be seen as complete, nor as the only possible content. Therefore, the teacher must also offer a choice of content not only within the textbook but also from other sources. Sources chosen by the pupil should also be respected.” (Žogla, 1997, 59) This means that it is essential to design both content that includes material chosen by the teacher and content that emerges during teacher-pupil collaboration, because “teaching becomes meaningful when it stimulates, intensifies and enriches the pupil’s learning” (Žogla, 1985, 9).

Summarising pedagogical knowledge on curriculum integration, it can be concluded that integrated curriculum is the content of differentiated subjects arranged in a comprehensible, logical, pedagogically sound system, which ensures differentiated acquisition of knowledge, skills in context and unity, formation of socially significant attitudes, resulting in an education that enables self-realisation, further development and influence its further direction (Anspoka, 1999, 32).

This means that it is possible to integrate family history research into the Latvian language curriculum by assessing the links with the topics covered in history. This process would develop not only the pupil’s linguistic and communicative competence, but also his/her historical and linguacultural competence. It should be noted that the *Skola2030* project in the social and civic field has also developed a model programme for 72 lessons of a specialised course “Regional Studies” in secondary school (Grūbe, Ķipurs & Ozoliņa, 2021), in which a teacher can also integrate the content of family history research.

Methodology

Qualitative and descriptive research methods were used to investigate whether and how family history research can be integrated into Latvian language teaching (Charmaz, 2006; Mārtinsons, Pipere & Kamerāde, 2016) at secondary school. In genealogical

research, it is very important to obtain reliable factual information as accurately as possible in order to build a family tree. Document analysis – the systematic examination of various types of published documents available in public and/or private archives – is an important part of this process (Bowen, 2009). When creating the family history research programme and teaching materials, the following resources were identified and analysed: the website of the Latvian State Historical Archive project “Raduraksti” (Geneology), where one can find scanned church books of various denominations until the beginning of the 20th century, documents of the All-Russian census of 1897, 18th–19th century audits of souls and other documents. It was pointed out to the secondary school students that family archive documents, albums, letters, newspapers, inscriptions on tombstones and other materials can also provide documentary information for family history research and family tree building.

But to develop high-quality curricula, teachers must:

- understand the requirements set out in the Cabinet of Ministers’ regulations on the standards governing the learning of the subject (in this case, the students learning outcomes in Latvian language and social and civic learning) in order to know what outcomes to achieve at each stage of education (Noteikumi par valsts..., 2019 [Regulations Regarding the State...]),
- the expert perspectives on how to achieve these outcomes in the model curricula (Lazdiņa et al., 2021),
- explore the material available in teaching resources and other sources
- be familiar with the rules on data protection (Fizisko personu datu..., 2018 [Personal Data...]),

Therefore, an analysis of these documents and materials was carried out in the context of the research questions using the method of contingent analysis (Krippendorff, 2004; Neuendorf, 2017).

Other qualitative research methods were also used in the study, as analysing the same phenomenon requires combining methodologies to obtain information from multiple sources of evidence (Denzin & Lincoln, 2011). In addition to document analysis, a questionnaire survey, a pedagogical observation, a case study, and a descriptive study were used.

A questionnaire was developed for the students involved in the pilot activity, using open-ended and Likert scale questions.

The questionnaire contained 9 closed questions. Respondents were asked to rate the statements on a five-point scale (1 – strongly disagree to 5 – strongly agree).

The pupil survey, which involved 26 young people participating in the pilot activity, was conducted on paper. The questionnaire was designed using open-ended and Likert scale questions ranging from 1 to 5, where “1” indicates negative, “2” rather negative, “3” neutral, “4” rather positive and “5” positive. Young people were asked to answer 9 questions, which were selected with the aim of finding out:

motivation for learning and attitudes to learning in general (questions 1–4),

- attitudes towards the subject “Latvian Language” (questions 5–6),

- links with family members and attitudes towards family history research (questions 7–9).

The integration of family history research into the Latvian language learning process was conducted as a case study in combination with pedagogical observation (Mārtinsons, Pipere & Kamerāde, 2016; Neuman, 2003) in order to obtain data on the usability of the developed material. The results of the analysis of the content of the documents, respondents' opinions and the learning process were summarised and interpreted using the descriptive method.

Results

Survey results

The survey data shows that only six students are motivated to learn, nine students have a neutral attitude, and 11 young people are not motivated to learn. Comparing these results with the average scores of students in all subjects, a correlation can be seen between grades and motivation to learn. Students cite study overload as a major reason for demotivation. During the pilot work, it was also found that some students have difficulties with following a regime and developing sustainable habits. Some said that they go to bed well after midnight and are unable to get on with their daytime work because they spend all night playing computer games. Typically, students often submitted their independent work in the e-environment after the set time, late in the evening, after 23.00. Unfortunately, students have not developed a strong habit of planning their work, but habits are known to reduce cognitive load – smaller tasks are done automatically, allowing them to channel energy and internal resources into larger tasks. In other words, when the mind is overloaded and unable to respond fully to what is happening, habits provide an automatic response to specific external stimuli, which is particularly important because stress weakens willpower, causing people to focus on their habits (Wood, 2017, 392, 394; Heitler, 2012). Such stress also encourages the opposite process: the emergence or reinforcement of unhealthy habits (Cummins, 2013).

The answers to questions about young people's sense of purpose, their willingness to study topics that interest them in depth, show that 18 students consider themselves to be purposeful, five are neutral and only three think they are not purposeful. Typically, students in this class organise and run school events, take an active part in various competitions and are active in the school parliament. The willingness of the students to study in depth the subjects they are interested in is also a sign of their interest in learning more about them, as 18 young people attested. Only one pupil did not want to do anything extra, while four respondents indicated that they were rather reluctant. The response to this question shows that it is important to interest students in this class in order to encourage them to do in-depth research on issues of interest to them outside their studies. This conclusion is reinforced by the response to the next statement: 'I believe that learning should be linked to issues that are relevant to me'. Only one pupil indicated that

he/she rather disagreed with this, five students have a neutral attitude, while 20 students have a positive reaction.

15 students like Latvian language lessons, but 7 do not, while only 7 students have an interest in Latvian language outside the learning process, while 17 young people have no such interest. These attitudes indicate that the teaching process at school needs to be more interdisciplinary, and the content of the curriculum needs to be such that it creates interest in the “life” of the language outside lessons and promotes understanding of its importance in society.

The next questions were aimed at finding out about students’ relationships with family members and attitudes towards family history research. The analysis of the data showed that:

- 17 respondents have close relationships with family members, while four do not,
- 19 students think it is important to know who their ancestors were, while five are not interested,
- 20 respondents think that schools should pay more attention to family history research, and only three think it is not necessary.
- The students’ interest in the topics covered by the pilot project and their willingness to research their family history in more depth is also confirmed by the fact that several of them have already attended family history research interest education classes in the previous school year. Summarising the results of the surveys and assessing the persistence of the students’ interest generated by the interest education classes, it can be concluded that the young people’s answers correlate with the results of the public survey and confirm that the authors’ idea of linking family history research with the Latvian language curriculum is justified and feasible.

Description of the series of lessons on family history

In order to implement the idea of integrating family history research into the Latvian language teaching process, original linguistic material was developed, as so far no teaching materials or other resources for language learning have included such topics. In the development of the linguadidactic material, special attention was paid not only to the content, but also to the choice of teaching methods and methodological techniques, as well as the forms of work organisation. The pedagogical aim of the approbation of the linguistic material was not only to create in students a desire to learn about their family history, while deepening their understanding of the Latvian language anthroponym system and thus developing their linguistic and cultural competences, but also to contribute to raising the general level of knowledge by creating teaching situations related to the development of analytical thinking and students’ research competences. In order to achieve the pedagogical goal, set out above, the entire teaching process, as well as each individual lesson, was subordinated to the logical thinking progression developed by Johann Friedrich Herbart – clarifying – associating – systematising – methodising, which was also recognised by D. Laiveniece as a very valuable principle of Latvian language

learning (Herbart, 1806, 69; quoted from Laiveniece, 1997, 8). The teaching methods and methodological techniques chosen for the implementation of the teaching content correspond to the classification of teaching methods proposed by Voldemārs Zelmenis: verbal methods (narration, teaching dialogue), written methods (outline, searching for answers to questions, etc.) and direct cognitive methods (demonstration) (Zelmenis, 2000). It was within this framework that the teaching work was designed, being aware of the purposefulness of the methods and of each form of organisation of the teaching work:

the frontal form of learning organisation “is used when the main core content of the programme is covered. It is particularly valuable when the teacher guides the acquisition of new knowledge through inquiry” (Albrehta 2001, 92),

1) the individual form of learning organisation “is carried out by students to learn to apply knowledge, to build skills and abilities, to fill gaps in knowledge and skills, to deepen them” (Albrehta, 2001, 93),

2) group learning is “particularly useful for the acquisition of new knowledge through inquiry, reinforcement and creative application” (Albrehta, 2001, 93), because pedagogical observation showed that students are often passive in lessons, reluctant to answer the teacher’s questions, and much more likely to do tasks in pairs or groups. It should be noted that some of the students who continue their education in secondary school have completed their primary education in a curriculum designed for students with learning disabilities. It was also important to recognise that the content of the language material should be related to the adolescent’s interests (the emergence of which can also be facilitated by the teacher), age-appropriate topics and problems that he or she understands, “the development of linguistic, logical, critically constructive thinking and the possibilities of forming a sense of language” (Laiveniece, 2003, 266), so that students’ ability to critically evaluate different sources of information, the material offered, as well as to form and express their opinions, to argue them, is improved.

22 lessons were devoted to the content. In the first lesson, students did diagnostic work. The first module was devoted to an introduction to family history research, systematisation of information known in the family, interviewing relatives. During the practical part of the research, the students focused on researching personal names in different contexts:

- find out the origin and distribution of their first and last name in Latvia, to gain experience in working with dictionaries and linguists’ research;
- create a narrative about their name;
- interviewed relatives about their family names, surnames, hypocoristics and nicknames;
- write a biography of yourself or a relative;
- researched what is written in the Cabinet of Ministers’ regulations on the use of personal names, spelling of personal names of other languages;
- recalled the rules of orthography and punctuation that apply to the spelling of personal names;

- researched posts in the *Facebook* Family Researchers group and created their own post asking for advice when searching for information about a relative;
- worked with various databases of deceased persons, looking for information about their relatives;
- find out how public authorities can help with family history research;
- studied various original documents – censuses, church books, manor audits, corpora of ancient texts – to gain insight into how the spelling of personal names has changed over time.

In the final part of the third module, students carried out a scientific investigation, presented the results and answered questions from the audience.

Some of the learning took place using smart devices – mobile phones, laptops. During the work, it was realised that some students' ability to use modern technical devices was weak, so many basic skills were developed by completing tasks in Latvian language lessons. During the pilot work it was also observed that in the first lessons a large number of students were inactive, did not engage in discussions and tried to avoid giving answers.

As a result of this extensive learning activity, the students not only developed their language and speaking skills, their communicative and research skills, but also acquired biographical information about their relatives, some of which was previously unknown in the family. For example, one pupil found out where his grandfather was actually buried by working with a database of the deceased. Of particular interest to the students was finding out the etymology of a word, interviewing relatives; several students admitted that they talked very little to family members on a daily basis and that this exercise had also prompted them to consider studying journalism.

Reading ancient documents, students learnt that in the past people wrote in neat, calligraphic handwriting, which is incomparable to their own difficult-to-read handwriting; they increased their knowledge of Russian and got a brief insight into how family members are called in German, their occupation, date, age, etc. The students also learnt about the spelling of the Latvian language, how place names and personal names were formed, and the influence of German and other languages.

Assessing students' learning achievements is an essential component of the learning process. The lessons dedicated to family history used diagnostic, formative and summative assessment. At the end of the lesson cycle, students' performance was assessed in terms of:

- work in lessons and independent tasks at home;
- the quality of a relative's interview about family names, surnames and nicknames;
- the results of the test on scientific language style posted on uzdevumi.lv or reflections on what you heard at the 81st International Conference "Language and Literature in the Context of Education" at the Faculty of Pedagogy, Psychology and Art, University of Latvia;
- the results of a study on an aspect of Latvian anthroponymy;
- the results of the research work and its defence.

Students scored an average of 14.5 points, or 60.42%, on their homework and homework in family history lessons. The students' performance could have been higher if the discipline had been observed and the homework had been completed as required and handed in on time.

Only 14 out of 26 students interviewed a relative. Several interviews were carefully planned, well thought out and met the interview design criteria. It was particularly interesting to listen to a pupil's interview with her stepfather – he knew the etymology of his first and last name and spoke at length about the origins of his nicknames. 12 students did not complete the task, so the average score for the interview was 4.36 out of 10 possible points, or 43.6%.

14 students completed the extensive test designed by the teacher, while 7 students attended the conference as listeners and 5 students did not complete the task at all. At home, students wrote about the conference, the scientific language style of the presentations, and the lessons learned. They appreciated the opportunity to participate in a scientific conference, to learn many new and interesting things, to gain experience in presenting a scientific paper and answering questions from the audience. The students found the experience very valuable and will certainly be useful in their lessons and in the future. It is also likely that students' participation in conferences, especially when their teacher is presenting the results of their teaching, is important in terms of the perception of the teacher as a researcher. The results of the two tasks were summarised and students scored on average 5.57 out of 10, or 55.7%.

The scientific research and its presentation highlighted not only achievements but also challenges for future learning. As the experience of colleagues and the results of national examinations (see, e.g., Gavriļina & Špūle, 2018) show, many of them are relevant across the country. The biggest difficulty for students was that, on the one hand, they had no experience of how to conduct a scientific investigation, on the other hand, they had not yet developed the habit of reading the rules of the tasks with understanding and doing the work according to the requirements. Although students have been familiarised with the nature of the scientific style already in primary education and have carried out various mini-researches in a number of subjects, the ability to formulate a precise topic, to set a specific research aim and to set corresponding tasks is still not sufficiently developed. The development of the theoretical basis showed that 18 young people had not taken into account what scientific sources were and how they should be used, as they had produced compilations of content copied from various non-scientific sources such as wikipedia.org. In order to prevent this type of situation in the future, it is important to establish uniform rules for the development of scientific literacy in schools and to consistently apply the principles of information acquisition and processing, selection and use of theoretical literature sources (including citation and referencing, bibliographic presentation) in all subjects, both in the development of teaching materials and in students' research work. These skills will help students to avoid disproportionate risks of error and will contribute to the quality of their education and research activities at all stages of their education.

Students also found it difficult to collect, structure and analyse the results. The evaluation of the research papers showed that most students were trying to produce a research paper to meet the minimum requirements, i.e., just to get a pass grade, rather than to achieve the highest possible grade. This attitude correlates with the low motivation level of the students. This approach to research work is, of course, unacceptable, as it aims to promote students' understanding of the nature of research work, to develop their skills in searching for, analysing and interpreting information, and to teach them to express their thoughts and conclusions clearly, precisely and in accordance with the requirements of their chosen language style and speech genre, rather than to obtain the lowest possible pass mark in the easiest possible way. At the secondary stage, it is important to reinforce in students the understanding that the quality and value of research depends on the relevance of the topic chosen, the accuracy of the research methodology and data analysis, and the logic and validity of the conclusions. Students should see research as an opportunity to acquire new skills and knowledge and not just as a compulsory task to be completed in order to achieve a grade. Research and stylistic competence should therefore be developed progressively, according to the level of students' learning, already at the primary stage.

Despite the fact that students were not only informed about the research criteria in several lessons, but also analysed them together with the teacher, most of them were not followed in the work. This only confirms once again the existence of a very serious problem in the modern education system: the teaching process does not purposefully develop regular study habits for students. As experience shows, most homework is done at the last minute before it is due. Consequently, the average grade in class for the research was 40.57 out of 80, or 50.71% (the lowest grade was 18 out of 80, or 22.5%; the highest grade was 68 out of 80, or 85%). For the presentation of the research, students received an average of 13.43 points, or 67.14% (the average score is well below the theoretical possible score, as four students chose not to present their work).

Overall, the assessment of students' written work showed that many of them lacked independent learning, planning, information gathering, summarising and analysis skills. A significant disadvantage is the lack of knowledge of the historical and cultural context. Consequently, additional tasks had to be undertaken to develop both the necessary skills and knowledge and to foster more sustainable learning habits. This is, of course, work that needs to be carried out regularly in the next phase of learning.

However, when comparing the students' initial level of knowledge with the results of the pilot activities, it is clear that all students have improved their knowledge and also improved several skills. While the class average in the diagnostic work was 40.85 per cent, the lesson cycle resulted in 54.46 per cent. The biggest difference between the diagnostic work and the classroom performance assessment was 34 and 35 per cent, because the two students who showed such a strong performance dynamic were very interested in the topic of family history research and worked enthusiastically. One pupil's performance score was 1% lower than in the diagnostic work because he did not submit a relatives' interview, which could have changed the results by about 8–9%.

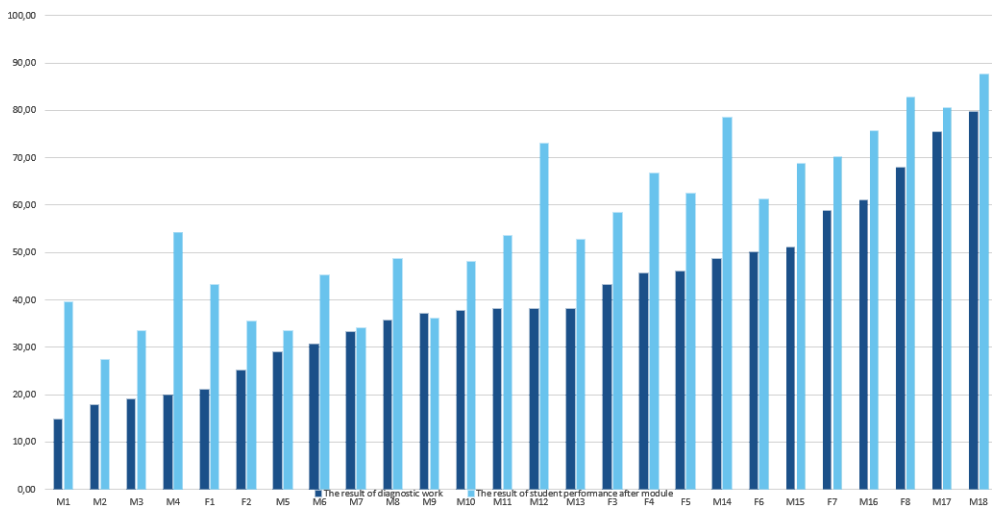


Figure 1 Comparison of diagnostic work and students' performance

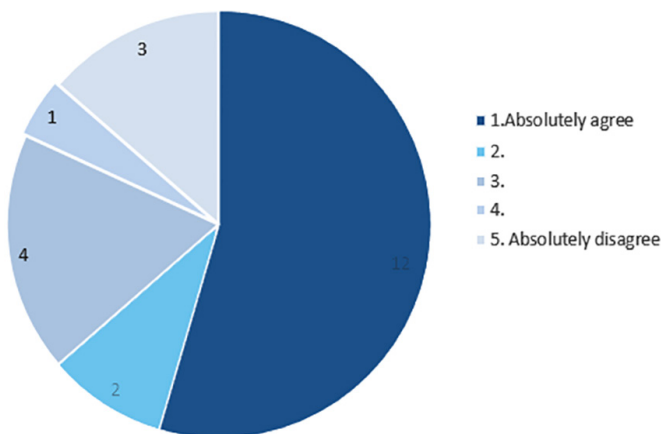


Figure 2 Students' interest in the specialised course "Family History Research"

At the end of the Integrated Curriculum, 22 of the 26 young people took part in a questionnaire survey. The responses to all questions were similar in terms of gender, which confirms the relevance of the topic for both genders. In response to the first question, whether they found the Latvian language teaching process related to the topic of family history more interesting than the everyday content, 77.3% of young people said that the teaching content had become more interesting. 86.4% of students stated that they had learnt many interesting facts about their own name during their studies. Half of the students felt that the exercises improved their contact with family members. 68% of students agreed with the statement that the topics covered in the lessons were related to the topics covered in Latvian in terms of research on personal names and family history. One pupil stated that his family did not support the fact that information about

the pupil's ancestors was obtained in the teaching process. All students agreed that it is important to be able to find information about one's own name and family in various resources. In addition, 64% of students said that the integrated content of family history research covered in Latvian language lessons encouraged them to consider choosing the specialised secondary school course "Family History Research" (see Figure 2). The students' survey shows that diversifying the curriculum and fostering learning motivation is an essential part of the educational process needed to maintain or enhance students' interest in a particular subject.

Conclusions

Today, it is essential to implement content in every education course that contributes to the development of a proficient learner, ensuring that knowledge is acquired in a purposeful, motivated way, skills and habits are developed, and the ability to apply the theoretical and practical experience gained in learning to a variety of life situations is built. "Therefore, one of the key challenges in revising the curriculum is to reduce fragmentation and fragmentation, as well as passive learning, disconnected from real-life situations, and the development of isolated skills. Continuity, systematicity and integrity are the guiding principles on which the new content is based." (School2030)

The integration of family history research into the Latvian language learning process is one of the ways to promote the formation of students' regional and national identity, deepen their understanding of family and national values, traditions and history, create interest in the Latvian language, as well as in the developments in their own community and country.

The results of the surveys show that there is a positive attitude towards family history research in society and the introduction of such material or even a separate course in education would be welcomed.

The integrated learning process can better motivate students to learn Latvian, because during the pilot activity they were more interested in lessons related to family history, admitting that they find more interesting lessons where they can acquire not only theoretical knowledge of Latvian and practical skills, but also additional information about their family and family members. In addition, the students' language and speech skills were developed, their historical and cultural knowledge was broadened, their communicative and research skills were improved, and they acquired useful biographical information about their relatives.

To be more successful, students need to develop strong habits of independent work and the skills of acquiring, collecting and analysing information, as well as age-appropriate linguistic and cultural tasks that promote the exploration of language as a cultural phenomenon, as early as at primary level.

For family history research to be scientifically correct, students need knowledge of history, which is why the subject of history needs to pay much more attention to learning

about Latvian history. The Latvian language curriculum, on the other hand, should include much more linguistic and ethno-linguistic information.

The usefulness of the integrated curriculum module is also demonstrated by the fact that 14 students wished to continue researching the origin and distribution of their family names and expressed a wish to take a specialised course in “Family History Research” in the 11th year of secondary school. 77.3% of young people said that the content of the course had become more interesting. 86.4% of the students indicated that they had learnt many interesting facts about their own name during their studies. Half of the students felt that the assignments improved their contact with family members.

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PUPILS' WRITTEN LANGUAGE IN THE LATVIAN LANGUAGE AND HISTORY STATE EXAMINATIONS IN RIGA IN 2021

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ABSTRACT

The research examines pupils' text creation skills in the Latvian language and history state examinations in 2021. It compares the quality of written language in two examination papers by 15 pupils. The statistical method has been used to evaluate the types of errors in orthography and syntax and establish the frequency of the use of the language means.

Pupils' skills in orthography vary. Only 4 examination papers in Latvian and history do not contain orthographic errors. Writing complex proper names and the use of macrons cause problems for pupils. Similarly, the skills of separate spelling of some words have been underdeveloped. Also, an unjustified lack of a letter or unjustified use of it can be observed. Pupils pay more attention to orthography in the Latvian language examination.

Pupils' skills in syntax are also varied. Syntactical means used in text creation are uniform. In the Latvian language examination papers, 143 instances when coordinated parts of sentence were used have been registered; 78 such instances have been registered in the history examination. In both examinations, a connection of two coordinated parts with the conjunction *un* 'and' was used most frequently, with 78 cases in Latvian and 32 in history. Also, the participial clause, including the undecidable participle with the suffix *-ot* and auslaut *-oties*, was dominant (60% in history, 40% in Latvian). In the third part of the Latvian language examination, insertions were used more often than in the history examination, 63% and 37%, respectively. Other syntactic means were rarely used. It can be concluded that there are no significant differences in the types of orthographic and punctuation errors in the Latvian language and history examination papers; the differences are visible in the choice of language means and their quantity.

Keywords: exams, Latvian language, orthography, syntax, text.

Introduction

The ability to create “a wide variety of sentences and structural and modal constructions” (Kvašite, 2013: 190), observing the norms of orthography and punctuation, signifies the level of intelligence of each individual, a respectful attitude towards language

culture and one's own personality as a quality brand, as a value. At the end of the 12th grade, students must pass a Latvian language exam, including text creation, i.e. they must be able to create a text "in accordance with the author's communicative purpose and the requirements of the functional style and speech genre" (VPSV, 2007), using cultural or literary facts as a basis. From the point of view of language quality, the papers of the centralised examination (CE) in Latvian have been analysed several times (VISC, 2007; VISC, 2012; VISC, 2015; VISC, 2020), paying attention not only to the part of text analysis and the test of basic language skills but also analysing the quality of the essay. Today, there is a widespread opinion that students observe orthography and punctuation norms in Latvian language tests, but orthography and punctuation norms are less observed in tests in other subjects, e.g. geography, history, and economics. The authors of this study will try to test this hypothesis. The study "Pupils' written language in the Latvian language and history state examinations in Riga in 2021" is part of a larger study on the quality of pupils' written language in the Latvian language and history examinations in Latvia. The study was conducted to determine whether students, when writing CE papers in Latvian, pay more attention to spelling and punctuation than in their history CE papers.

The study aims to investigate Latvian language proficiency in text creation in the Latvian language and history CEs. The topicality of the research follows from the achievable results expressed in the Secondary Education Standard: the student knows how to choose the most appropriate and accurate means of spelling, grammar and punctuation for creating an expressive text and also knows how to observe the literary language spelling norms in the texts in all the subjects. (Standard, 2020) If students have mastered the requirements specified in the Standard, then the text created in the Latvian language and history CEs should be of high quality.

Methodology

The research uses the opinions of language didactics theory on language competence (Celce-Murcia, Olshtain, 2000; Daszkiewicz, Wenzel, Kusiak-Pisowacka, 2019), Latvian linguistic studies (Blinkena, 2009; Laugale, Šulce, 2012; Nītiņa, 2013), as well as studies on Latvian pupils' language competence (Gavriļina, Špūle, 2018; Anspoka, Martena, 2021).

The article analyses 15 randomly selected works of pupils in Riga in the 2021 exam session. For the comparison to be correct, the quality of the written language was examined in both exam papers of one student – the Latvian language and history. Hence, the basis of the study is 30 papers (15 text-creation papers in Latvian and 15 text-creation papers in history). Therefore, only the works of pupils who took the history exam were selected because CE in Latvian is mandatory, and CE in history is optional. In Riga, the history exam was held in 40 schools: 29 general education schools and 11 vocational educational institutions. In secondary education institutions (high schools, state gymnasiums, French Lyceum), 12 times fewer pupils took the history exam than in

vocational education institutions (see Table 1). Unfortunately, there is no accurate data about the schools and the pupils whose papers were randomly selected, as all exam papers are coded.

The pupils' performance in the 12th-grade Latvian language and history CE was analysed, assessing spelling and punctuation errors. The 2021 CE in the Latvian language (an opinion; 250 words) and CE in history (task 3 of part 3 – an essay providing argumentation; 200 words) were selected as the source of the research. Error types in both examinations were collected and compared. In analysing the selected works, examples from pupils' examination papers are presented in italics, preserving their style, spelling and punctuation errors.

The evaluation criteria of Latvian language and history CEs papers were compared in order to find out what is common and what is different in the evaluation of the pupils' performance. After the examination of the evaluation criteria for part 3 of the Latvian language CE (Latviešu valoda, 2021), it can be concluded that pupils can receive a total of 34 points: for content (10 points), composition (7 points), language use (3 points), style (3 points), spelling and punctuation errors (10 points). It should be noted that the errors are added together in the evaluation criterion of spelling and punctuation errors (see Table 2).

The examination of the history exam evaluation criteria shows that pupils can receive a total of 12 points: for content (3 points), theory (3 points), facts (3 points), and concepts (3 points). Spelling and punctuation errors are not regarded separately, they are included in the content section (Vēsture, 2021). The criteria for spelling in the history examination are presented in a descriptive form (see Table 3): spelling rules are followed (3 points), spelling rules are followed, but there are some errors caused by inattentiveness (2 points), many spelling errors (1 point), spelling errors do not allow understanding the content (0 points).

Table 1 Number of pupils who took the history examination in Riga (2021)

Educational institutions	Number
secondary education institutions	95
vocational education institutions	1212

Table 2 A fragment of evaluation criteria in the Latvian language CE

Points	0	1	2	3	4	5	6	7	8	9	10
Errors in punct., spelling	19 or more errors	17–18	15–16	13–14	11–12	9–10	7–8	5–6	3–4	2	1

Table 3 A fragment of evaluation criteria in the history CE

Points	Content, structure, logical sequence, content's adequacy to the topic
3	The content is adequate for the selected topic. The content is structured: the text has an introduction, discussion and conclusions. The conclusions are derived from the text. Spelling rules are followed.
2	The content is adequate for the selected topic. The content is presented sequentially, but some parts are carelessly developed: the introductory part is imprecise, the conclusions are superficial and non-specific. Spelling rules are followed, but there are some careless errors.
1	The content is adequate for an aspect of the chosen topic. The content is presented chaotically, the opinion is not justified – the text retells historical facts. Lots of spelling mistakes, but the meaning of the text is understandable. The text is too general and vague.
0	The content matches the topic. Spelling errors make it difficult to understand the content. The principles of tolerance have been violated.

The description of the criteria shows that in history, spelling errors have not been divided into error types, as is the case in the Latvian language examination, where points are awarded based on the number of spelling and punctuation errors. It can be concluded that more attention is paid to the quality of spelling in the Latvian language examination. The authors of this study believe that spelling should be given more value in the history examination as well.

Results and Discussion

A written text is a logically structured, conceptually connected set of statements (VPSV, 2007), therefore writing is one of the most difficult linguistic activities to learn, as it combines several aspects – content, text type, style, spelling (Martena, Laiveniece, Šalme, 2022). Writing a text is an individual process, but the ability to choose and use diverse language means, morphological, lexical and syntactic, according to the norms of oral and written language, is one of the signs of language competence (Daszkiewicz, Wenzel, Kusiak-Pisowacka, 2019). Linguistic competence involves knowledge of the language system, including lexicon, phonology, morphology, and syntax, and the ability to use them qualitatively. An individual's attitude towards language is revealed not only by his social status, level of education, character traits, and attitude towards other people but also by the ability to express and defend their opinion and the ability to influence the opinion of others. Although it cannot be directly observed, it can be inferred from an individual's speech behaviour, speech etiquette, and level of linguistic upbringing (Celce-Murcia, Olshtain, 2000; Daszkiewicz, Wenzel, Kusiak-Pisowacka, 2019).

In the process of researching language competence, an important issue is the orthography of the text, i.e. spelling and punctuation. The ability to observe orthography and punctuation norms in the text is closely related to pupils' knowledge, skills and language culture. It can be used to judge the ability of young people to analyse, describe, reason,

and express their thoughts, opinions, and attitudes towards cultural, literary or historical facts while writing an essay in the Latvian language and history examinations.

Spelling skills

Several types of errors can be distinguished in morphology: ungrounded use of vowels or their absence, lack of consonants, words written incorrectly together and separately, incorrect use of initial capital letters in compound names, and errors in the spelling of verbs and foreign words (see Figure 1).

The number of orthography errors: 25 (41%) in the Latvian language examination and 36 (59%) in the history examination. In total, 7 pupils (47%) wrote the Latvian language examination without spelling mistakes, and 5 pupils (33%) wrote the history examination without spelling mistakes. Only 4 pupils (13%) have no spelling errors in the examination papers, neither in the Latvian language nor in the history CE, while 4 pupils (13%) made a mistake in one of the exams.

Several cases are related to the use of macrons: in three cases, unfounded use of macrons has been found, e.g. *pie dzimis*, *piemērām*, *jūtis*, while the lack of macrons can be observed in spelling the adverbs *tapēc*, *tādejādi*. The largest number of errors, 18 examples with a lack of macrons, were found in the two exam papers of one pupil, e.g. *visparīgi*, *pastavešanas*, *velme*, *brīvības*, *kultura*, *nekadu*, *ietekmejuši*, *ari*, *apkart*, etc., which shows that Latvian is not the pupil's native language. An unjustified lack of a consonant was found in the works of several pupils, e.g. *sauzemes*, *novi(r)zot*, *ekonomisk*, *sācensība*, *tirzniecība*. In the works of four pupils, there are errors in the spelling of adverbs *vēljo projām* and *pēctam*, which should be written separately.

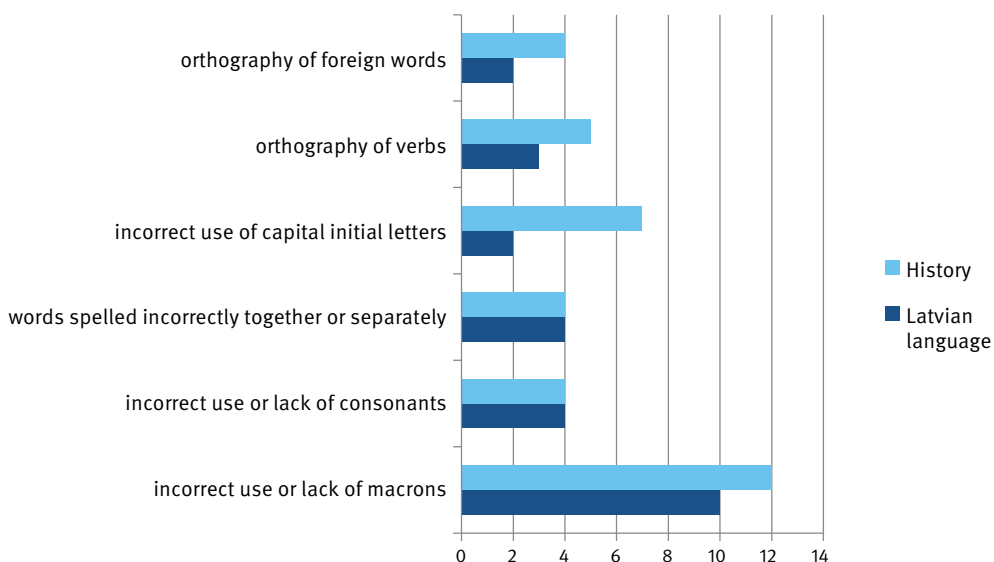


Figure 1 Types of orthography errors in Latvian language and history examinations

Various compound names are used in the history exam, especially names of historical events. Errors are observed in the use of capital letters, where students misspelt the name *Otrais pasaules karš* in 27% of cases: usually, only the first word is capitalised in historical names. It should be recognised here that there is an inconsistency in the spelling of compound names in the Latvian language if the component word is not an input word (Laugale, Šulce, 2012: 58). Both variants *Otrais Pasaules karš/Otrais pasaules karš* have been found in language practice. Under the influence of the English language, 7% of students also capitalise the ethnic name *latvieši*. Capital letters are also unjustifiably used in writing the words *polisu* and *kultūrvide*. Errors were also recorded in the spelling of verbs, e.g. *cīnījās, iznīcināt, izceļās, iepazīstās*. In 20% of cases, pupils in the history examination made a mistake in spelling foreign words *propaganda* and *ideoloģisks*.

Fewer spelling errors were found in the Latvian language examination. However, on the one hand, the number of errors in the Latvian language examination papers of 3 pupils (20%) was higher than in the essay part of the history examination. On the other hand, the number of spelling errors in the history examination papers of 6 pupils (40%) was higher than in the Latvian language examination paper (6:3). The proportion of errors in the works of two students was the same.

Syntax using skill

Several syntactic constructions have been studied in the pupils' works – coordinated parts of sentence, coordinated parts of sentence with a generalising word, participial clauses, insertions and explanatory word groups –, the frequency of their use in the pupils' works and the most frequently detected cases of errors.

The use of coordinated parts of sentence is determined not only by syntactical factors, but also by “extralinguistic factors, namely the diversity of content, thoughts and feelings to be expressed” (Nītiņa, 2013: 802). A total of 142 cases were registered in the Latvian language examination when coordinated parts of the sentence were used (see Figure 2), 78 cases in the history examination (see Figure 3). Therefore, when writing an essay in the Latvian language exam, each pupil uses an average of 9 (4 to 18) coordinated parts of sentence in their text, in the history examination – 5 (1 to 12).

In both examinations, the connection of two coordinated parts of sentence with a conjunction is used most frequently: in Latvian – 78 cases; twice less in the history examination – 32 cases. Although in both subjects, the non-conjunction of two coordinated parts of sentence (v1, v2) and the mixed connection of three coordinated parts of sentence (v1, v2 and v3) are used more, in the 2nd place in terms of frequency is a connection with a disjunctive conjunction *vai*: Latvian CE pupils used this connection of two coordinated parts of sentence in 17 cases. Other cases are sporadic. Pupils rarely use repeated conjunctions *gan–gan, vai– vai* and compound conjunctions *ne tikai v1, bet arī v2*. Although the Latvian language has a wide variety of “means of connecting coordinated parts of sentence” (Nītiņa, 2013: 801) and arrangement techniques, caution can be observed in the use of other conjunctions in pupils' examination papers.

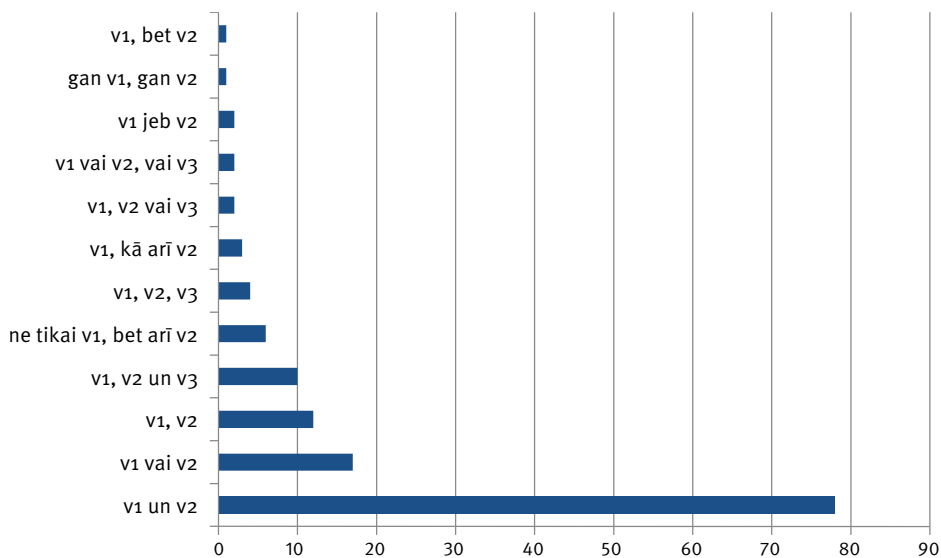


Figure 2 Frequency of use of coordinated parts of sentence in the Latvian language examination

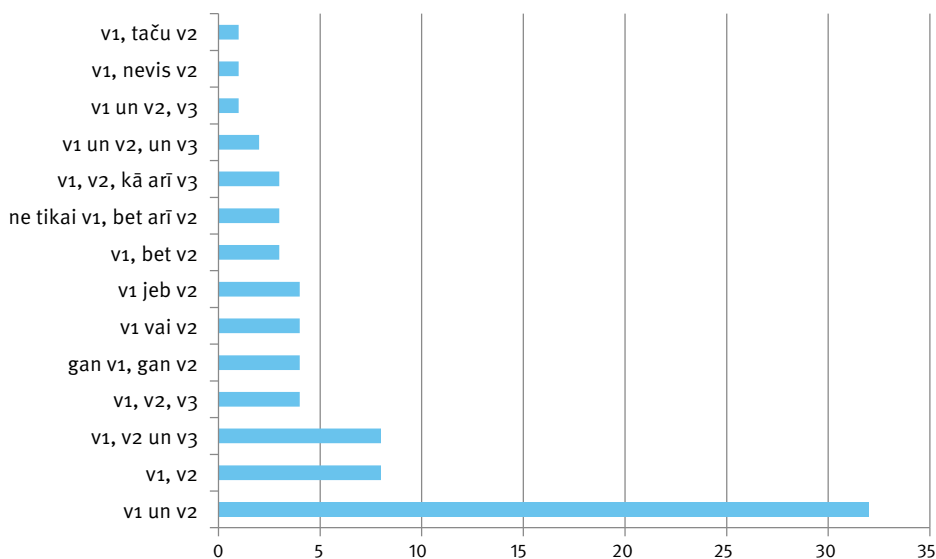


Figure 3 Frequency of use of coordinated parts of sentence in the history examination

A study of the 2018 examination essays showed that pupils make few mistakes when separating coordinated parts of sentence or sentence parts, i.e. on average, 3% of cases (Anspoka, Martena, 2021: 41). In the essays by the pupils of 2021, the number of errors in separating coordinated parts of sentence is also small, i.e. 8 cases (4 in language, 4 in history). In more essays, the conjunction's *un* function in the sentence was not recognised, and a comma before the conjunction was put without justification. These errors should be evaluated as individual cases in pupils' examination papers, not as a general trend.

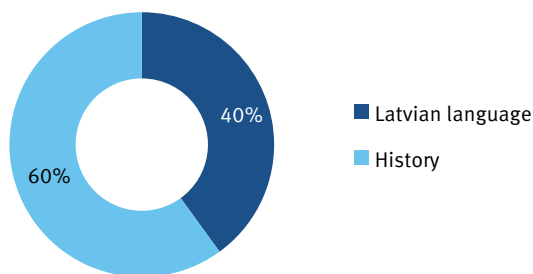


Figure 4 Proportion of the use of participial clause (-ot, -oties)

Few pupils use coordinated parts of sentence in connection with the generalising word. A total of 15 cases have been identified: 8 cases in the Latvian language CE, 7 – in the history CE. Pupils most often use the variant where the generalising word and a series of coordinated parts of sentence are connected by a comparative particle *kā* used after the pronoun *tāds*, e.g. *Izjust cieņu un apbrīnu pret apkārtējo dabu man ir iemācījuši tādi izcili objekti kā Ventas rumba, Kalves dižozols, Ķemeru tīrelis un daudzi citi dabas radīti objekti. / Pat tādas lietas kā koncerta apmeklējums, ballīte daugu lokā vai trakulīga dzīve augstskolas kopmītnēs ir mūsu personības gēnos atstātās kultūras pēdas. / To ietekmē tādi faktori kā ģimene, draugi*, etc. In such constructions, a punctuation mark should not be used before the particle *kā*; therefore, this syntactic construction has been used more frequently.

Conversely, an error was made in a very typical construction when after the generalising word, there is “a detailed list of elements or examples of this general concept” (Blinkena, 2009: 242), and a colon should be used, e.g. *Manu personību ir veidojuši šie darbi “Kalevala”, “Krietnā kareivja Šveika dēkas pasaules karā” [..].* Similarly, coordinated parts of sentence are not separated from the generalising word and other parts of sentence by dashes if the sentence continues, e.g. *Bruņošanās sacensība un militārisma kults bija viena no galvenajām Aukstā kara izpausmēm, jo abas valstis – PSRS un ASV tērēja milzu līdzekļus kodolieroču izgudrošanā un ražošanā [..].* After examining the number of errors in both examinations, when punctuation marks are not used correctly, it can be concluded that it is the same in each examination – 3 cases.

A participial clause is one of the syntactic constructions often used in the Latvian language. Although a participial clause can comprise four participles, only participial clauses using the undeclinable participle with the suffix *-ot* and the ending *-oties* predominate in the pupils’ examination papers. The comparison of the proportions of the use of this participial clause in both examinations (see Figure 4) reveals that it is used more often in the history CE (60% of cases) than in the Latvian language CE (40% of cases).

The study of pupils’ essay texts in 2018 concluded that in 45% of cases, punctuation marks were not used or they were used incorrectly when separating a participial clause (Anspoka, Martena, 2021: 42). In the examination papers of 2021, the error of not separating the participial clause was observed in 10% of cases; in both examinations, Latvian language and history, the number of errors is equal (3 cases in each examination), e.g. (..)

parādās jauna pasaule apgūstot vārdus – valodu. / Tīkmēr Ķīna ar abu pušu palīdzību pacēlusies sāk neatkarīgi veidot savu impēriju / (..) atrodoties citu lielvalstu varā latviešiem sirdīs dega velme pēc brīvības / Vēlāk gan ASV atbildēja izvietojot savas raķetes Turcijā. / (..) bērna prātam attīstoties tas “uzsūc” pēc iespējas vairāk informācijas no apkārtējās vides / Noskatoties šo filmu es, protams, apbrīnoju režisores un radošās komandas darbu, kā arī šīs filmas vēstījumu un mērķi. The reduction in the number of errors can also be objectively conditioned: the number of errors is reduced due to the range of the essay (the range of the Latvian language CE essay in 2021 was 200–250 words, and in 2018 – 350–400 words).

Other participial clauses are very rarely used. In the Latvian language CE, only three cases have been found when the semi-declinable participle with *-dams, -dama* is used as the basis of a participial clause, e.g. *Edmunds Bērzs, būdams būrī, pārdomāja pilnīgi visu savu dzīvi (..), savukārt vēsturē – viens gadījums ar lokāmās darāmās kārtas pagātnes divdabi, piem., Tomēr Ķīna, ar abu pušu palīdzību pacēlusies, sāk neatkarīgi veidot savu impēriju.*

Collateral participial clauses are rarely used in pupils' texts (5 cases total). They are usually connected with a cumulative conjunction *un*, e.g. *Kopumā šāda veida miers atveda uz 3. pasaules valstīm gan iznīcību, gan pārticību, novirzot varas centru no Eiropas un to globalizējot.* In a history examination paper, an error in separating collateral participial clauses was found: *Tā rezultāts ir vairāku krīžu rašanās – sākot ar Berlīni un Korejas karu, un beidzot ar Karību krīzi un Vjetnamu.*

Insertions are syntactic means of language that express “the attitude of the writer” (Nītiņa, 2013: 824). A total of 10 different insertions are used in both examination essays, as *manuprāt, piemēram, protams, pēc manām domām, no vienas puses, no otras puses, kā zināms, iespējams, pirmkārt, bez šaubām.* In part 3 of the Latvian language examination, insertions were used twice as much as in the history examination: 63% and 37%, respectively (see Figure 5).

In order to argue an opinion and emphasise the author's position, views and attitude, most often, i.e. in 45% of cases, pupils in the Latvian language CE use an inserted word *manuprāt* (see Figure 6), e.g. *Manuprāt, kultūra ir izveidojusi mani par emocionālu cilvēku, kurš vēlas palīdzēt citiem / Manuprāt, kultūra ir neatņemama daļa no jaunas personas izaugsmes procesa.* In 27% of cases, an insertion *piemēram* is used, while *protams* is used in 18%. In the history examination, the insertion *protams* is used the most; it is used in 35% of all the insertion uses in the history CE. It is used to confirm some previously known information or mood of a historical period, e.g. *Protams, ka šo 4 gadsimtu laikā Latvija ļoti izmainījās un attīstījās / Protams, ka ne viss bija tik rožaini.* To specify a historical fact or situation, an insertion *piemēram* was used in 30% of cases, e.g. *Šī cīņa izpaudās dažādi, piemēram, atomieroču ražošanā vai visuma izpētes sacensībā, kas sākās 20. gs. 60. gados / Piemēram, Krievijā vēl joprojām ir jūtama ASV nosodoša propaganda.* Since in the history examination, when writing an essay, one has to justify their opinion, the insertion *manuprāt* is used in 19% of cases, e.g. *Manuprāt, šo abu valstu centieni pārspēt vienai otru bija pārspilēti / Manuprāt, Aukstais karš ir nozīmīgs periods vēsturē (..).* The use of other insertions is insignificant.

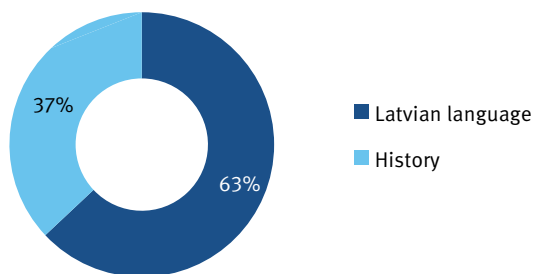


Figure 5 Proportions of insertion use

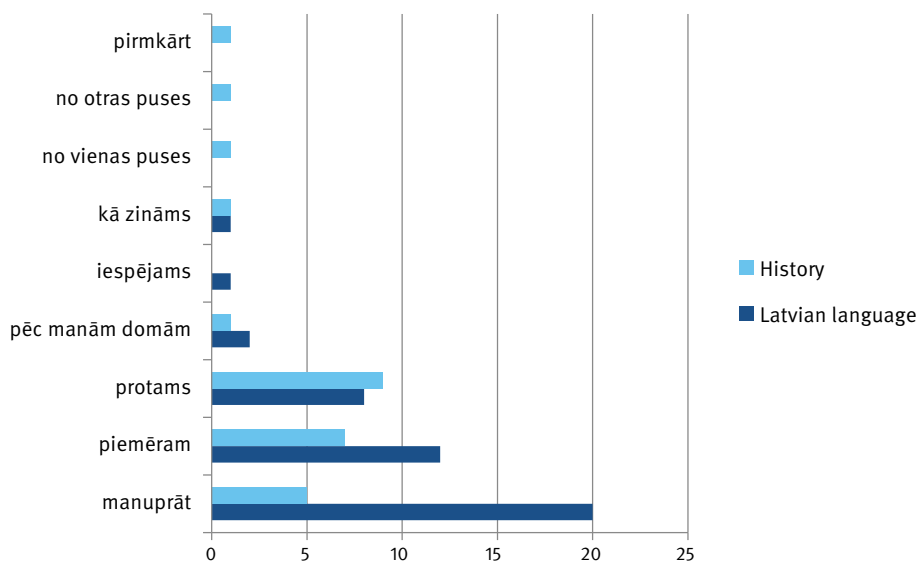


Figure 6 The frequency of insertion use in the Latvian language and history examinations

Most of the time, pupils know how to separate the insertions in the text. Only some cases have been recorded when the insertions were not separated from the rest of the sentence in both the Latvian language and history examinations, e.g. (...) *lasītājs jutīs viņam līdzī un pat iespējams sekos viņa piemēram* / *Kultūra bez šaubām ir strīdīgs jautājums* (...) / *Kā zināms dažādām valstīm un tautām tā [mentalitāte] ir dažāda* (...). In one pupil's examination papers, there is an inconsistency in the use of punctuation marks, separating the insertion *manuprāt* (in the Latvian language CE it is used 5 times: 4 times it is separated correctly, once – incorrectly; in the history CE – 1 incorrect separation of the insertion), e.g. *Manuprāt Aukstais karš bija neizbēgams*. This inconsistency certainly shows a superficial attitude towards the language rather than ignorance. A similar case can be observed with the insertion *pēc manām domām* (the insertion is separated by commas in the Latvian language CE paper, but not separated in the history CE paper).

Pupils quite successfully use insertions in their texts, especially in history essays, which “express a less important explanation or an additional remark by the author about

the content of the sentence” (VPSV, 2007: 151), e.g. (..) *no 13. gs. beigām līdz 1561. gadam latvieši atradās tiešā vācu (vēlāk – vācbaltiešu) pakļautībā / Lai gan šis process pilnībā Latvijas teritorijā tika apstādīnāts 1861. g. (dzimtbūšanas atcelšana visā Krievijas imp.), daudzi latvieši vēl pat līdz 1. pasaules kara beigām bija bezzemnieki (..) / Starp abu bloku valstīm (pārsvārā PSRS un ASV) valdīja tehnoloģiska sāncensība, lai pierādītu attiecīga režīma tehnoloģisko attīstību un pārākumu.* From the point of view of form and content, such explanations are useful, creating a good impression of the author’s knowledge.

Pupils rarely use such syntactic constructions as explanatory word groups because they have to know the language facts precisely – which introductory words should be separated from the explanatory word group and which should not. In the examination papers, there are both correctly separated explanatory words groups, e.g. *Manuprāt, kultūra, it īpaši literatūra, dzeja, mūzika un māksla, spēj mainīt cilvēka domāšanu, dzīves redzējumu un veicināt viņa personības izaugsmi / Uzskatu, ka daudzie procesi kultūrā, piemēram, tabu tēmu aktualizēšana, dzejas konceptualizācija, jāsaista ar pārmaiņām sabiedrībā / Viens no latviešu kultūras stūrakmeņiem ir dzeja, konkrētāk, Raiņa, Aspazijas, Jāņa Jaunsudrabiņa un citu autoru darbi* and sentences with errors, e.g. *Viss, kam var atrast likumus, precīzāk, likumsakarības ir kulturāls.* In history examination papers, an explanatory word group with an introductory word is used very rarely. In these cases, non-compliance with punctuation norms was usually found, e.g. *Bijušajās koloniālajās valstīs, piemēram, Francijā nav nekas neparasts sastapt neeiropēidās rases pilsoņus, kuru senči emigrējuši uz Franciju.* Explanatory word groups are a syntactic means of language that can specify a part of a broader concept, describe it, explain it, or even comment on it, thereby supplementing the content and creating an argumentative use of language.

Analysis of the ability of high school pupils to follow orthography and punctuation norms and comparison of the obtained data with previous studies (Gavriļina, Špūle, 2018; Anspoka, Martena, 2021) leads to the conclusion that the level of Latvian language competence of high school pupils has not improved much, but no negative trend can be observed. After studying the two examination papers of one student (more specifically, the essays), the authors concluded that there is no significant difference in language quality in the Latvian language paper and history paper. If the pupil knows the rules and norms of the language and follows them in the Latvian language examination, they will use these skills in both examinations. Therefore, the hypothesis that in the history examination papers, pupils will have a more superficial attitude towards language norms was not confirmed. However, another trend was revealed in the research – pupils do not choose to use diverse means of language, morphological, lexical and syntactic, in the examination papers. Instead, uniform syntactic constructions are used. And there may be a practical explanation for this – by using simpler language means, including uniform syntactic constructions, it is possible to make fewer errors and get a better result in the examination.

Conclusions

No statistically significant differences exist in the use of orthography and punctuation in pupils' centralised examination papers in the Latvian language or history in Riga. At the end of secondary school, in the examination papers of pupils in Riga, the most errors are found in the use of macrons, initial capital letters, the incorrect spelling of words together or separately, unjustified use of a consonant or its loss. The reason is both ignorance of the grammar and punctuation laws and carelessness.

Pupils' punctuation skills are solid; punctuation marks are used in both subjects' examination papers, and the number of errors is equal. In the pupils' works, uniform syntactic language means have been found, such as the connection of two coordinated parts of sentence with a conjunction *un*, the use of participial clauses with the participle *-ot*, and the use of the insertion *manuprāt*. Caution is observed in the use of more complex syntactic constructions.

It is necessary to actualise the inclusion of more complex and diverse syntactic constructions in the text structure and the possibility of awarding an additional point in the examinations in the *language use* criterion.

Authors' Note

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TEACHING AND STUDYING TRANSLATION: A DUAL APPROACH

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ABSTRACT

When translation is considered in the context of university studies, the key questions – how to teach and how to study translation – become two closely related perspectives, equally essential for teachers of translation. This close association between the perspectives of the teacher and the student is also linked to the requirement to be aware of the decision-making routines used by student translators. Teachers need to anticipate potential issues and equip students with problem-solving methods; in general terms, this means a specific way of thinking and acting for translators. Though highly individual, there are some common features and approaches. This paper is aimed at providing, based on brief references to theoretical literature, analytic insights into several aspects of teaching translation in tertiary education that make an essential contribution to enhanced competence of student translators. It does this by examining, first, the primary aspects of translation studies and translation to be discussed with students; second, a number of the most important approaches and techniques for ensuring productive studies; and third, illustrative translation units. The paper covers some key terminological, contextual, co-textual, and editorial considerations for developing student awareness regarding the prerequisites for efficient translation procedures and for quality translations. In practical terms, tertiary translation studies should be aimed at undertaking course activities that ensure advancement of students' competence, including general background knowledge and specific skills. Structured theoretical and analytical insights into translation and ready-made sets of priorities and approaches save time for students in understanding the essence of translation and the factors that determine the quality of the target language-for-special-purposes or literary text. In particular, discussions should emphasise interpretative aspects, the poeticity of text, function-based, process-oriented, and product-based approaches, the technique of key focus areas, ways of encouraging flexibility and avoiding literal translation, contextual and co-textual considerations, and text revision.

Keywords: *studying translation, teaching translation, translation pedagogy, translation quality, translation studies*

Introduction

In pedagogical and didactic considerations regarding translation studies where key questions include how to teach and how to study translation efficiently, teaching and studying are not opposing positions. Instead, these perspectives have similar roles and form an ‘interface’ type relationship. Moreover, in every new translation of an LSP (language for special purposes) or literary text, teachers of translation who are also practitioners become students approaching the task from a ‘zero’ position. The close association between the perspectives of teachers and students also follows from the need to understand the decision-making processes of student translators by applying the method of anticipation to proactively highlight potential issues and equip students with efficient problem-solving methods. The problem-solving techniques imply that translators have a specific way of thinking and acting – i.e., a competence-based model for processing source text through inference, use of linguistic resources and techniques, intuitive use of language, and production of a quality target text by applying creative and re-creative text-building actions. A translator’s work includes selection and use of specific lexical units, syntactic constructions, references, and assistant materials in the context of uncertainty caused, for instance, by insufficient information, a typical feature of any text. Thus, special importance should also be assigned to getting a ‘feel’ for the language and developing a skill-based awareness of restrictions and limits in search of balanced text manipulations.

The paper is aimed at analysing, based on a brief review of theoretical literature, some of those aspects of teaching translation in tertiary education which, as proved by practical experience, have substantial importance in enhancing the competence of student translators when they process source and target texts.

Background of the author in the above context is threefold: as a university student of translation completing a doctoral thesis on poetry translation; as a translator of various texts ranging from printer manuals to essays written by Joseph Brodsky and a few poetry translations; and as a teacher of translation at university for ten years. At the university, the courses of the author have included literary translation and translation of LSP texts (commerce texts, legal texts, EU texts). Each of these roles has contributed to outlining a set of minimum skills and models of actions, which are either important to or determine the potential outcome in absolute terms.

Methodology

By empirically analysing, first, the primary aspects inherent in translation studies and in translation itself to be covered in course activities with translation students; second, the typical approaches and techniques that may ensure more productive studies; and, third, illustrative translation units, this paper presents a discussion of certain key terminological, contextual, co-textual, and editorial considerations that are essential in developing student awareness of the main prerequisites of efficient and quality

translation. The analysis is also a result of observations of how students act, either during in-class translations or during discussion of translations, where their comments suggest the aspects they consider to be important and where the teacher's input is to emphasise additional factors and perspectives in addressing the source and target texts. Thus, the method includes empirical analysis of student translation procedures, choices and decision-making processes; some conclusions are also based on observations of student actions.

The translation units used in this paper as illustrations of such considerations are sourced from published literary translations, student translations of LSP or literary texts, and from literary texts that have not yet been translated but suit discussion needs. Similarly to in-class procedures where the training context sometimes makes the aspect of authorship irrelevant (except, in most cases, in literary translation), only some of the translation units and examples analysed in this paper include specific indication of the source and author. As the discussion includes an element of criticism, the name of the translator who has presented an arguable translation is not relevant – the emphases is on the discussion of the context, implications, and alternatives. Those readers who wish to identify authorship details may do so based on the information and clues provided in this paper.

The scope of the study sets certain limitations: it does not cover error typologies and metrics, psychological aspects, in-class routines, or types of interactive communication between the teacher and students. Furthermore, this study does not include considerations regarding the cooperation of translators with editors and publishers. Each of these subjects requires separate discussion.

Discussion and results

Theoretical insights as structured shortcuts to competence

Regarding the question of whether translation theory may be of any use in translation practice and in translator training courses, the discussion raises the issue which is similar to the question of whether it is possible to teach creative writing – whether it is possible to actually *become* a writer. The highlighted word is a key aspect of consideration. The author has completed the journey of becoming a translator both through academic studies and daily translation practice. It may be easily assumed that practice is what has driven the process, but the contribution of academic discussion of translation is much more complicated to grasp, analyse, and define. Nevertheless, reflection and analytical thoughts on the essence of translation, including different ways in which the process and procedures of translation are structured and classified, contribute to deeper insights and understanding and, thus, both directly and indirectly, toward more prepared translation specialists and later professionals, enhancing translation quality.

The initial practical standpoints regarding the aims and tasks of tertiary translation studies are apparent: by undertaking certain activities, to enhance students' competence in translation in terms of their general background knowledge and a set of skills. This

also implies that studies should empower further professional development in the post-graduate period.

The opposing positions that “translators are born, not made” or “made, not born” (Gile, 2009, 7) only possess value in their use as attractive ‘eye-catchers’ – while talents and gifts are important in every human endeavour, translation is not magic but hard work, where mastery requires intense practice (in most cases, years of intense practice), which means further opportunity and challenge as no translator can ever reach the ‘destination’ where all problems can be easily solved and quality issues have become irrelevant.

Related to this, an inclusive idea is shifting the emphasis from teaching students how to translate to helping them to become better translators, more specifically:

- a. to provide a qualification in literary translation;
- b. to provide students with the means to speculate on, to discuss, and to carry out research into literary translation;
- c. to ensure a competence that assists in establishing contacts with other literary translators and with organisations, publishers, and academics in the field;
- d. to help students to translate better (Boase-Beier, 1998, 33–34).

The value of theoretical insights for students lies in suggesting ready-made key ideas and sets of priorities and approaches that do not require students themselves to carry out time-consuming empirical research.

Time is indeed a key aspect. It is not possible to dwell on details during the discussion, especially with regard to theoretical considerations. A useful technique may be selection of primary concepts for discussion: language and speech; source/target text; source/target language; the concept of language contacts and their impact; text as a verbalised expression of culture (including its non-verbal representations) and its aspects of standardisation on the one hand and invention and rule-breaking on the other; text types; textuality; genres, registers, and respective features; style and poetics (or poeticity (García-Berrio 1992); meaning and sense (for instance, L’vovskaya, 2018); (non-)equivalence; target audience; context; co-text; foreignisation and domestication (Venuti, 1995); overt and covert translation (House, 2015); localisation; direct translation (including borrowing, calque, and literal translation) and oblique translation, including transposition (grammatical changes without changing the sense) and modulation (semantic changes without changing the sense) (Munday, 2001); cohesion and coherence; obligatory and optional shifts (van der Broeck, 2014,), and so on.

At this point, an example is included of how, in a concise manner, the meaning and sense of a text could be discussed in the context of translation, by only noting keystone theoretical ideas:

Premise: the semantics of a text derive from the interaction of meanings of various elements (words, grammatical forms, sentence structures, prosody) – i.e., meaning is not related only to words but to all units of linguistic context; every unit is related to others (L’vovskaya, 2018, 50). Meanwhile, the sense of a text is a contextual phenomenon; it is also formed by non-verbal circumstances or extra-linguistic factors.

Main principles in translation: (1) the same sense may be conveyed via various meanings; and (2) the semantic meaning of the text may be manipulated without detriment to the sense (ibid., 52–53).

This implies that the semantic meaning of a text is not a clear indication of its sense and that formal equivalence, even when it potentially exists, does not guarantee attainment of communicative equivalence (ibid., 54).

A text's sense is an extra-linguistic and subjective category determined by an individual's motive and purpose of communication in a specific setting, and the relationship of linguistic meaning and sense is similar to that of the philosophical concepts of form and content (ibid., 50–51). The communicative situation motivates, determines, and actuates the sense of the text (ibid., 61).

Special attention should be paid to text interpretation and its subjectivity where the concepts of direct and implicit information, as well as of its balance, stand out as key to contextualised consideration of the source and target texts. For instance, translation studies should enhance students' capacity to provide a different level of interpretative 'inputs' in literary text processing when compared with LSP texts, as interpretive acts in literary and non-literary (instrumental) texts are distinct (Kharmandar, 2016).

As regards translation quality, a complex concept in translation research and a question to which students usually expect clear answers during practical translation courses, theoretical inputs could include comments on main theoretical ideas (Bittner, 2020; House, 2015; Reiss, 2000 to mention just a few). However, practical examples highlighted during translation discussion are usually more important as actual issues, while contextual examples help to understand cause–effect relationships and the respective techniques and solutions faster than any exhaustive lists of classification of theories on translation quality assessment or types of errors. In this regard, a time-saving activity is the so-called chapter readings, where students are assigned to read specific parts of publications on subjects discussed in class.

An important aspect of theoretical discussions is bringing them close to translation practice (most of the seminal and important publications in translation studies tend to also employ this practice-oriented approach). For instance, when considering argumentation-based translation quality assessment (Kharmandar, 2016), another, to some extent related, perspective on the discussion of literary texts and the quality of their translations could be what is called the argumentation of poetics. Within this perspective, text are embodiments of specific features (created and/or attained by the author through application of certain techniques and verbal and non-verbal 'tools') that ensure the text's multifaceted aesthetic quality. These qualities of the text may also be considered from the point of view of the text's 'persuasiveness', an aspect directly related to the concept of reader response. The importance of this aspect may best be observed in a situation when students lack respective awareness and translate, for instance, a subtle, emotional tone of a literary text in a highly technical manner by looking into what words are used and not what they actually convey.

It is important to discuss actions prior to the translation phase. For instance, in translation of LSP texts, the tough deadlines and the respective ‘deadline-was-yesterday’ routine suggests that it is not always possible to first read, as textbooks on translation suggest, the whole source text and undertake thorough pre-translation analysis. It is more important that translators of LSP texts quickly look through the source text to determine whether they are actually able to translate it and to produce a quality target text; to consider terminology, reference sources, their hierarchy and reliability, and so on. Instead, in literary translation, initial steps include getting acquainted with the text’s world, its features, and the specific techniques and devices used by the author, as these preparations are essential prerequisites of translation quality. It should be noted, however, that reference materials can also be useful in literary translation. For instance, sometimes students spend time considering transliteration in a complex case of proper name, though the author has already been translated into the target language and the standard variant is available (except when the transliteration is obviously incorrect).

The approach of ‘stepping back’ and looking at the text from a distance to grasp the context and tone may bring important benefits. Theoretical discussion is another form of step-back technique used to consider, in a condensed, structured manner, the nature of language, (literary) text, culture(s), and translation. In various practical implementations, this stepping back ensures the ability to see the big picture, an important aspect that is also discussed further in the paper. In other words, contextualisation is key to meaningfulness, both in theoretical and practical discussion of translation and in the translation process. When false friends of the translator – words of another language which misleadingly, through apparent associations, suggest a ‘transparent’ translation – are discussed, it is important to not just mention them and list typical examples but to outline the linguistic, extralinguistic, and interlingual context of this phenomenon. When the subject is synthetic and analytic languages, contextualisation suggests comments on the translation implications, for instance, translation from an analytic language (English) to a synthetic language (Latvian, Russian) may mean syntactic changes in view of the fundamentally different linguistic means and techniques by which grammatical relationships are formed. When asymmetry is first discussed in the context of language typologies, common and different grammatical and lexical features need to be addressed, followed by an indication of the respective translation techniques, including creative solutions either by using one’s own language resources or borrowing other; then, relevant concepts would include calques, domestication versus foreignisation, localisation, and so on.

The aspects of cultural, social, and textual mediation, bridging, and transfer may be addressed using the concept of nodal point (Bush, 1998), as it highlights both the aspect of relationships and connections and the aspect of the textual forces that are formed by these connections. The translator’s task is to maintain, to a practicable extent, the relationships, forces, and their balance. In a broader context, this networking aspect is also related to an awareness that literary texts embody the quintessence of a language and the literary representations of a culture (ibid, 4). These premises, and not specific

linguistic manipulations, represent the essence both of what translation is and of what its main substance or work material is.

This standpoint is illustrated by the situation observed with every new group of translation students, of whom many are surprised and, in a way, frustrated when they notice that practical translation courses do not specifically and directly contribute to their foreign language skills. When insights into theoretical concepts, creative and aesthetic features of language and writing, and intuitive, imaginative use of language are discussed during classes, it is necessary to explain, first, that interrogating, exercising, and extending competence in translation, especially literary translation, implies specific activities and routines that are fundamentally different from the ways in which knowledge is acquired, for instance, in natural sciences, and, second, that translation studies are not the same as language studies. It should also be noted that students are similarly surprised when they learn that every translator ‘starts’ with their mother tongue as it is, in most cases, the target language, and target language skills need to be at the utmost level of excellence.

The above considerations suggest the importance of a structured study curriculum, which, in a perfect world, should start with an introductory course on translation theories followed by courses in literature and creative writing, in order to equip students with the background knowledge and skills that are essential in literary translation. Past studies suggest, from the perspective of students, ‘shortcuts’ for informed actions to acquire translation skills more rapidly and to fully realise their potential; however, specific intellectual criteria must also be met and translators should possess certain personality features. The alternative road, one without theoretical (and practical) instruction, may involve much groping in the dark and time-consuming learning by trial and error (Gile, 2009). This is the perspective where both the theory *for* translation and theory *about* translation (Round, 1998, 19) contribute to structured expectations; in other words, students are provided insights into the main potential problem areas that need special attention and scrutiny in every translation task.

Making the complicated simple

A valuable method that may help students to link themselves to the specific world of translation is highlighting the everyday character of translation inherent in all communicative acts, in all messages, written, oral or implied. Further, this may be extended to the idea of communication as text, thus illustrating that textual experience and competence is something students already possess even if they are not passionate readers or skilled literary translators. Simple everyday dialogues illustrate interaction based on the exchange of direct and, most importantly, implicit information that individuals are able to decode, interpret, and understand. The temptation of the incomplete, unsaid, and hidden is illustrated by aesthetic enjoyment of scenes of mist and fog, and of detective stories. All texts both highlight and hide information.

Another example of making the complicated simple is the importance of context, illustrated in discussing the potential quality of advice when a translator receives a cell

phone message from a friend who asks how to translate a word without any reference to the context – the translator would, at best, be able to suggest translation variants.

Class activities should preferably also be aimed at developing students' ability to use language freely and creatively, similarly to written practice courses where students are assigned creative writing tasks that involve use of different registers or an element of rule breaking, where a 'mistake' is not a mistake or the usually unacceptable is appropriate. For instance, they might be asked to use, in a balanced manner, colloquial speech units, including slang. These activities provide links with the new and unexpected, otherness, texts where the norm is stepping across the established standards and 'correct' boundaries – aspects of high importance when literary texts are considered. This also helps to understand the specific nature of the concept of 'mistake' when using a language: in simple terms, this implies the use of such linguistic techniques or means which are contextually inappropriate for the specific purpose and needs.

More generally, the combined formats of function-based, process-oriented, and product-based approaches in translation training, including the theory discussion phase, provide distinct and attainable benefits, such as translation strategies (overall action plans) and tactics (decision-making in case of difficulties). In this context, teachers are suggested to focus on the process and discuss linguistic acceptability and standards of fidelity in more general terms rather than focusing only on the product (student translation), and on the reasons for errors or good choices rather than on the specific choices made by the students (Gile, 2009; González Davies, 2005).

Individual versus pair work versus group work

Studies show that translation courses feature both in-class translations and translations that are done at home and later discussed in class; the proportions of individual/pair/group work in in-class formats also varies (Ulrych, 2005, 15).

Each format has specific inputs and benefits. Initially, the focus could be on pair or group work to generate shared insights, discussion of translation variants with peers, and joint decision-making, all of which ensure an opportunity to experience and compare different viewpoints regarding the same text unit, technique, or linguistic means. Ideally, students would be divided so that pairs and groups include students of diverse backgrounds and capacities; this contributes to dissemination of knowledge. It is important to supervise the procedures applied by students so that there are no passive members. Another risk is dominance of one opinion, which precludes discussion, sharing, and learning how to develop decision-making criteria when several translation variants are suggested. As variants represent an essential aspect of and in translation (and embody the concept of translation problems), the ability to see several variants for every unit and the skill of paraphrasing are as important as mastery of the mother tongue or of the target language. Thus, pair/group work is another shortcut to enhanced competence. These two formats also encourage a relaxed atmosphere. Subjectively, the author prefers pair tasks over group work as the latter poses the risk of losing focus. The second phase is individual work in class or at home; however, this phase could also include mixed formats.

While different practices are used in translation discussion (for instance, ‘translation defence’, where every student defends their translation by explaining the references used and decisions made), the author prefers joint discussion of anonymous translation variants presented on a screen. Again, a risk is that only some students actively engage and others remain silent, though this could be solved by directly addressing every student in the class.

As to the level of involvement of the teacher, there are two considerations: the ideal world, and actual practice based on what is possible within challenging time limitations. In general terms, the author agrees with the position that teacher’s function during translation discussion should be limited to indication of the type of mistakes made, while correction should be the task of students; the teacher reviews translation variants and this cycle is repeated until an adequate translation is obtained (L’vovskaya, 2018). This procedure is efficient in counteracting the readiness of students to accept a variant too quickly without duly considering other acceptable options. However, an important shortcoming of this method is that it is excessively time-consuming. In a course of sixteen classes (1.5 hours each), this would mean discussion of a very small number of translations; thus, the discussion procedures will require compromise and adjustment depending on the specific features and backgrounds of the group and general circumstances.

The next part of the paper includes brief comments on practical aspects essential in developing students’ ability to think about the source and target texts, tasks, and activities in the context of translation, or the ‘translator-type thinking’ that is always relevant. For instance, a useful approach is the technique of ‘red indicator lights’ – every translator should develop a list of primary aspects that need their special attention in every translation task, including:

- a. Word order (e.g., *un turpat 70 gadus vēlāk nomira* – in Latvian, *turpat* means ‘in the same place’ and, in colloquial use, ‘almost’, thus the word order may cause confusion, one possible solution is: *septiņdesmit gadus vēlāk turpat nomira* (in English, literally: seventy years later [he] he died there).
- b. Alignment of word endings (in case the target language is a synthetic one) or problems in syntactic relationships (e.g., *strīdu gadījumā, kas saistīti* (in English, literally: in dispute case which are related [to]) – the issue of syntactically aligning the singular noun *gadījums* and the plural verb *saistīti* though in fact the verb is related to the plural Latvian word *strīdi* (disputes)); *aptuveni divu no 56 kodolreaktoru jauda* (the issue of syntactic relationship which is here excessively complicated; a more preferable variant: *jauda divos no 56 kodolreaktoriem* (in English, literally: power I two of 56 nuclear reactors); *braucam pa rajonu, kurš atzarojies no miestīņa, kopš neesmu te bijusi* (in English, literally: [we] cross an area that’s spread out from the village since I haven’t been here) – here time clause *kopš...* (since...) is related to the respective verb *atzarojies* (is spread out), not noun *village* which is not a preferable syntactic option; a suggested variant would be: *braucam pa rajonu, kurš no miestīņa atzarojies, kopš neesmu te bijusi*.

- c. Ensuring that, in Latvian, syntactically related units are placed as close together as possible (which is not always necessary or possible, for instance, in English). However, when this requirement cannot be fulfilled in the sentence, respective restructuring is needed to ensure easier perception by readers (e.g., *arī pie pilsētiņas, kurai braucam cauri, luksoforiem diedelē žēlastības dāvanas* – here syntactically directly (through a genitive) related units *pie pilsētiņas* and *luksoforiem* are separated by a clause; a solution is making the relationship less direct, for instance: *arī pilsētiņā, kurai braucam cauri, pie luksoforiem diedelē žēlastības dāvanas*).
- d. Where a part of a complex sentence is disintegrated and stands apart from other parts or items in the sentence.
- e. Wordiness (e.g., *pēc brīža mēs kāpsim ~~auģšā~~ Prāgas kalnā* – this part of the sentence may be easily understood without the deleted word).
- f. Typing errors, most importantly with regard to surnames and numbers.

Problem first, solution next

In most cases, when asked to comment upon the problem with regard to an item or sentence in the translation context, student translators tend to jump to the solutions and explain what could be done. It requires some effort to convince them that the logical order is not a formal procedure but could bring efficiency benefits. Clear indication of the problem is sometimes half of the solution – without first identifying what must be fixed, it may turn out that we either spend time addressing irrelevant issues, provide inadequate solutions, or miss something out. The ‘problem first’ perspective also helps to develop structured problem-solving techniques and procedures that depend on recognisable precedent-based patterns and scenarios.

Understand the source sentence, forget the source sentence

When the translator starts the actual translation of a text, a unit of attention is the source-text sentence. It is unlikely that a quality translation of a sentence could be produced when the translator does not understand it. While several techniques may be applied (for example, splitting the sentence up into meaningful translation units, or using explanatory dictionaries), productive solutions also include (1) a close reading of the sentence, several times, paying attention to every detail and potential clue to relationships of sentence/meaning units; (2) making certain that the semantic functions of grammatical means and techniques are clear – in student translations, many issues arise related to not understanding sentence grammar (sometimes even minor items can suggest important information (e.g., *on the shores of the Hudson* – while there is a river and several lakes in various U.S. states named Hudson, the definite article suggests that here it is the river); (3) again, the step-back approach to look at the sentence, its cause-effect relationships and other aspects from a distance, by also applying the technique of ‘imagining’ the situation in the sentence, which can be particularly useful in uncovering the context and implications.

Sometimes, ‘imagining’ is an unreliable resource – for instance, when a translator deals with a specialised lexis or when specific technical details are discussed: *a perimeter of chain-link fencing backed with lengths of green screen*. While specialised dictionaries are certainly helpful, here ‘imagining’ also implies visualising. For this purpose, resources such as Google Pictures can be helpful.

As soon as this phase is completed and the translator understands the sentence, they should, in a way, ‘forget’ about it. At this point, the focus shifts toward the target side – language, culture, context, text, sentence, its words and syntactic constructions. It is important not to be the ‘slave’ of the source text and source sentence; this is, however, frequently observed to be the case in student translations where problems arise around the difficulty transferring words and their collocations in exactly the way they are presented in the source sentence.

‘Caged, no ambition’ versus ‘sailing in terra nullius’ or the level of freedom in translation

Susan Bernofsky (2013, 232) noted how much freedom translators are required to exercise in order to translate in a “faithful” way. Translations by students typically represent two opposite trends – either they serve the source sentence too directly and literally, or they are excessively ‘free’ in manipulating the source material and ‘the free birds get lost’. While the latter is especially unacceptable, for instance, in translation of legal texts, a balanced approach is needed in every translation, including literary translation. Even most experienced translators would hardly be able to explain, in a reasonable way, the ‘right’ limits of freedom and, even more so, ways of attaining this balance. It is a matter of practice, experience, and talent. However, some clues can be identified based on examples from student translations.

In a narrow sense, literal (or close) translation or mistranslation at the level of lexis, including terms, may be a reasonable first level of attention (here again, as a cross-reference, the concept of false friends of translator could be mentioned). For instance, an illustrative example is the translation in a Latvian tourism brochure written in English, which featured *free-air stage* for the Latvian lexical unit *brīvdabas skatuve* (‘open-air stage’). Another example is the Latvian informal term *brīvie ūdeņi* for which, on several occasions, the translation *free waters* has been observed instead of the more acceptable ‘international waters’, ‘high seas’, ‘no man’s land’, etc.

At the lexical level, students often fall into the trap of the so-called ‘standard’ or the most typical translation – in other words, the translation variant that is usually the first meaning indicated in lexicographic sources. Consequently, in the sentence *Emerging from colonial rules, many developing countries faced low and unstable prices* students typically translate *colonial rules* as *koloniālie noteikumi* (‘colonial regulations’), as the standard Latvian translation for *rule* is *noteikums*. However, even before examination of lexicographic sources, students could be urged to consider other contextual translations; for instance, the translation of *Soviet rule* (typically, *padomju vara, padomju režīms*). Similarly, the English word *session*, which is a seemingly simple case

for translation, could be a useful prompt for asking students to suggest, without using lexicographic references, Latvian translation variants, which include *sanāksme, sēde, sesija, apspriede* (similarly, English synonyms for *session* include *meeting, sitting, discussion*, etc.); for the verb *imply* – *ietver, paredz, nozīmē, izriet* (in English these include *mean, suggest, envisage* etc.), etc. Utilising the richness of the translator's own vocabulary is, first, time-saving, as it is not always necessary to look up dictionaries, and, second, may actually determine the ability to produce the best translation, as dictionary variants (especially with regard to synonyms) are limited and do not provide the diversity needed, for instance, in literary translation.

Another typical lexical issue is student confusion about semantic differences in plural form uses of nouns, which are typically singular in English (e.g., *business* and *businesses, development* and *developments, control* and *controls*).

In most cases, this part of a sentence – *the company hardly benefited from these schemes* – is translated, with minor variations, quite literally, as: *uzņēmums neguva īpašu labumu no šīm shēmām*. Though the translation is generally acceptable, it is important to encourage students to consider other modulations, for instance, *uzņēmuma ieguvums no shēmām bija nebūtisks/nebija liels/bija niecīgs* (in English, literally: company's benefit from the schemes was insignificant/quite small), depending on the context.

Useful in-class activities to increase flexibility and avoid literal translations could include paraphrasing tasks, which require more considerable manipulation without changing the sense of the sentence and without decreasing translation quality.

In this context, translator competence means insistent application of, first, the check-the-dictionary-twice approach (sometimes similes can be useful: while historians look up historiographic sources, translators/terminologists analyse data available in lexicographic sources) and, second, clarifying, to the extent possible, the indications of the freedom potential and its limits, starting from the general text-type/genre/style/register aspect up to the specific indicators within the sentence, paragraph, and text.

However, it is also important to explain another perspective regarding literal and 'free' translation, particularly in prose translation: a translation that is verbally close to the source text does not mean that the translation process and the respective selection and decision-making procedures are based on a simplified, literal approach. The acceptability of a literal translation may be a result of a detailed contrastive analysis.

'The trap of the face value' or the approach of 'positive or beneficial doubts'

The need for the translator to challenge their first idea of the meaning of the source text unit or what the translation is can be illustrated by two examples.

A common issue is the ability to identify potential false friends of translator in their various forms. An efficient technique for this is consulting dictionaries. More generally, potential problem areas could be identified as those that require special attention *per se*, for instance, a culture-specific lexis and nominations whose form seemingly 'suggests' the translation.

Misleading implications may also be presented by place names. The toponym *Aleksandrovskiy sad* (*Alexander Garden*) is translated in the following ways in one of the English translations of the poem *Christmas Ballad* by Joseph Brodsky: *Moscow's Aleksandrov Park*. The context suggests, however, that (1) this toponym actually refers both to Moscow and, implicitly, Saint-Petersburg; (2) the Alexander Garden should not be confused with another location in this city, the Alexander Park. By translating the source-text toponym as Alexander Garden, the implicit ambiguity would be preserved in view of the fact that Moscow has a similarly named location (typically translated as “Alexander Garden”, not “Alexander Park”). By adding more specific information (*Moscow's Aleksandrov Park*), the balance of explicit and implicit information in the text is upset. Neither of the cities is explicitly named in the poem – an intentional choice by the author (see further in Veckrācis, 2020, 224).

In the sentence *My sister threw upon the door so that it banged against the little console table she kept by the entrance* the specific item *console table* was translated in a literal manner: *konsoles galdiņš*, yet contextualisation could suggest, through the domestication perspective, the translation *žurnālgaldiņš*. Similarly, the Latvian translation *Es izvilku telefonu un piezvanīju ātrajiem* (literally: ‘I took out my phone and called the ambulance’) of the English source-text sentence *I took out my phone and called 911*, is domestication, due to the fact that the emergency phone number in Latvia is different and *ātrie* is a typical usage in similar situations.

Another potential pitfall can be a misleading analogy. First, it should be noted that an essential element of the discussion of LSP text translation is the aspect of terminology, terms, specialised lexis, and identification of their use in the source text, as these units require special attention and processing techniques that are fundamentally different from those applied to general lexis.

In a class, most of the students translated the legal term *just enrichment* in a literal manner: *taisnīga iedzīvošanās*. The problem arises from the differences in polysemic meanings. In English, the word *enrichment* may refer to both positive and negative processes, as illustrated by its uses (*data enrichment*, *personal enrichment*, *uranium enrichment*, etc.), including legal terms *just/unjust enrichment*. However, in Latvian, the legal term *iedzīvošanās* is only used in the context of misconduct; for instance, *atprasījums iedzīvošanās dēļ* (‘reclaim due to enrichment’), *nepamatota iedzīvošanās* (‘unjustified enrichment’), *nelikumīga iedzīvošanās* (‘illicit enrichment’), *netaisna iedzīvošanās* (‘unjust enrichment’), *iedzīvošanās uz dienesta stāvokļa rēķina* (‘graft’). Thus, *taisnīga iedzīvošanās* is a translation caused by a false analogy. In this case, students should be asked to devise other translation variants, such as *taisnīgs labklājības pieaugums* (literally, ‘just increase in wellbeing’).

From another perspective, semantic hypertrophy has been observed as an increasingly common linguistic phenomenon in Latvian due to the inference related to the new dominant contact language, English. Despite various meanings of the English verb *develop*, depending on the area and context of its use, Latvians tend to use a single translation for all of these: *attīstīt* (*develop a country* → *attīstīt valsti*; *develop a product* → *attīstīt*

produktu instead of *izstrādāt produktu*) (Baldunčiks, 2015, 280–281). The same observation applies to *product* and *produkts*, where students could be urged to use other variants in Latvian (*prece, izstrādājums, ražojums, darinājums*, etc. (similarly, in English, these include *goods, manufacture, commodity*, etc.).

Again, the first step is not being satisfied with one's initial idea about the potential correct translation. An element of doubt and an everyday approach of double-checking help to identify potentially serious mistakes in simple translation situations. This is a key task in translation studies – helping students become accustomed to the application of these routines in every translation and even in every writing activity. For instance, many issues are related to the unwillingness of students to consult explanatory dictionaries and thesauruses, based on an attitude that either 'I know my native language' or 'I write what seems to be approximately correct', which is not a reliable technique.

Contextual and co-textual considerations

When it comes to the actual translation activity, mastery in translation means, to a large extent, mastery of choice – a skill that is closely related to situational and communicative context (the non-verbal 'environment' of an utterance) and to the linguistic co-text (the linguistic circumstances around or in the close vicinity of an item). In many cases, restructuring (standard procedures include transposition and/or modulation) is needed to make an utterance or sentence 'sound good', i.e., there is a degree of interlingual asymmetry. In this way, using the transposition technique, the English sentence *remembering itself was injury anew* (in Latvian, literally: 'pati atcerēšanās bija jauns ievainojums') becomes *pati atcerēšanās [viņu] ievainoja no jauna* (in English, literally: 'remembering itself again injured [him]').

A typical example of co-textual considerations is avoiding same-stem words placed next to each other or close to each other within a sentence or utterance (*iezīme nozīmēja* – two adjacent words of the same stem *-zīm-*), as this is considered inappropriate style in Latvian, except where there are specific needs or a lack of options. Another example of co-textual considerations is: *Bija laiks, kad mēs ar puisiem gājām turp paēst, kad visu nakti bijām ballējušies*. Except when two adjacent same-type clauses (here: *kad... kad*) are intended to be parallel structures (coordinate homogeneous parts of sentence), they add clumsiness to the sentence and restructuring is needed; for instance: *Savulaik mēs ar puisiem gājām turp paēst, kad visu nakti bijām ballējušies*.

Due to co-textual considerations, this part of a translated sentence – *vismaz viņa rokas ir viedas, tās kustas pār mani kā aklā rokas* – needs restructuring, as it features excessive use of Latvian words in *-a(ā)s* form and the word *rokas* is used twice within the same sentence, which is typically accepted only either for stylistic purposes or when the repetition cannot be avoided.

The necessity for modulation can be illustrated by a potential literal Latvian translation of a unit from an essay written by Joseph Brodsky: *all the naval might that Russia has amassed today* – *visa jūras varenība, ko Krievija tagad ir uzaudzējusi*. The main 'problem area' is *jūras varenība* (in English, literally: power of the sea, mightiness of

the sea), which does not make sense in Latvian and can be misleading. A variant after modulation is: *Krievija, kas kļuvusi par varenu jūras valsti* (in English, literally: Russia which has become a mighty naval country)

Contextual considerations are necessary in the translation of this part of a sentence: *in slips death with scythe, hammer, and sickle* (in Latvian: ‘āmurs un sirpis’) – in Latvian, these two Soviet symbols depicted on the Soviet flag are typically referred to as ‘sirpis un āmurs’ (sickle and hammer), and much more rarely in the opposite order. This means that the order of words should also be changed in the Latvian translation.

This seemingly simple sentence in an essay written by Joseph Brodsky brings up some complex considerations: *she looked positively stunning*. Lexicographic sources explain that the English adverb *positively* is ‘used to emphasise the truth of a statement, especially when this is surprising or when it contrasts with a previous statement’ (see www.oxfordlearnersdictionaries.com/definition/english/positively). Apparently, a literal translation (*pozitīvi satriecoša*) is not appropriate – in Latvian the word *pozitīvs* does not possess the necessary meaning. A translation variant could be: *viņa izskatījās – un par to nebija nekādu šaubu – satriecoši* (in English, literally: ‘she looked – and there was no doubt about this – stunning’). However, knowing the specific context or implications of Brodsky’s style and his use of the ‘economy of language’ approach, where lexical elaboration is allowed only when it carries poetic weight, a more likely translation is, for instance: *viņa izskatījās absolūti satriecoši* (in English, literally: ‘she looked absolutely stunning’).

‘Zoom in, zoom out and step forward, step back’, or translation as an iterative activity

The previous discussion of choice in translation and the co-textual and contextual implications are, in more general terms, related to the big/small picture of the text, which is further linked with the importance of ‘picture updates’. Translation is, in many regards, an iterative activity. In simple terms, this means the sequence word-sentence-paragraph-text is considered in both directions. A sentence is translated by keeping an eye to the previous unit, paragraph, and part of the text while also looking forward to the further parts of the text. The next step again requires the same procedure with continuous ‘updates’ – alignment, substitution of words in larger translation units, and new paraphrased variants in view of the features of their relationships. Text is a verbal illustration of the concept of networking, and no element may be regarded or processed in isolation from the others. It is at this point that theoretical concepts like cogency, coherence, and cohesion (González Davies, 2004) become ‘practical’ and require contextualised explanation and application. Students are usually predisposed to handling separate micro-text units and items but developing their ability to keep the big textual picture in sight needs additional instruction and training, with the provision of meaningful examples that demonstrate the importance of these procedures.

Consideration of the big/small picture is also a prerequisite for a balanced approach. The requirement of balance and compensation derives from the basic translation

techniques. A typical translation technique suggests that a stylistically marked source-text unit needs a stylistically marked unit in the target text. The implications of balance and compensation further require that, first, the stylistic features and intensity of these features should be preserved at the level observed in the source text and, second, whenever a stylistically marked unit is not available or is inappropriate in the target context, the stylistic element is provided in another text unit in compensation. Another option is to choose a stylistic resource of another type. Similarly, the balance of implicit and explicit information should be preserved or addressed through specific compensation techniques when some interlingual asymmetry is observed.

Revision – the task of to-be-or-not-to-be importance

If there were gods who decide the fates of translators, a god sitting next to Zeus the Translator would certainly be the God of Revision. This can be explained based on personal experience. It has never occurred to the author that he would not make corrections when proofreading and revising the translation – there are no prospects for a quality translation when there is no text revision. This also means that when young translators assess, especially during the early phase of their careers, their capability to translate a text within a time limit, they should also include the time needed for thorough revision work.

Revision techniques vary according to personal preferences and routines. There are few people who are able, without special training, to maintain the required level of attention throughout a large amount of text. Aside from other important aspects of revision, this also needs some consideration. Students usually mention that change of activity, even for a short time, is an efficient technique to regain focus when they return to revision. Some read the page from bottom to top – by using this technique, the illogical flow of the text helps them to remain focused. Most importantly, every translator should have a clear idea of how to ensure quality in proofreading and revision.

Another source of complications is the fact that it is considerably more difficult to notice one's own mistakes than those in a text written or translated by somebody else. Thus, another procedure in an ideal translator's routine would be giving the text to a competent peer for them to check the translation. Those peers would, however, also need to solve the problem of maintained focus. A technique the author uses and suggests to students is reading, as thoroughly as possible, every sentence immediately after it is translated. This way, the translator still has a clear idea of the context in the source text and needs to focus on that one sentence. Though this by no means implies that the final revision of the whole translation could be omitted, it does mean that some mistakes and misspelling issues will already have been resolved.

Ambiguity in assessment – a brief note

Students are naturally quite sensitive to translation quality assessment. It is common for lecturers to be reproached for unclear criteria, even when they are listed either at the beginning of the course or for every specific text. Clear-cut criteria are essential but

it would be pseudo-clarity to propose that assessment of the quality of language use in general, or in its translation contexts, implies black-and-white mistake classification with respective grades. How do you quantify the weight of a student's attitude felt in the translated text in various direct and indirect ways? Attitude is, particularly in the training phase, a key indicator of a student's potential to become a good translator who produces quality translations, even if the specific text includes some mistakes and errors. Attitude is an important 'implicit' component of the quality of a student's work, which needs at least some credit. Indeed, the same mistake in student translations of the same source text may have different implications regarding the quality of their work and commitment. This needs to the extent possible, clear explanation. My experience shows that after being introduced to this consideration, students understand it, but they are not always themselves aware of this aspect.

Conclusions

In an inclusive idea about how to teach and how to study translation, the two perspectives of teaching and studying are not opposing positions but instead form a close 'interface' type relationship.

Structured theoretical reflection and analytical insights into translation contribute, in a condensed, time-saving way, to a more in-depth understanding of the nature of translation, an essential condition for producing quality target texts. Theoretical ideas suggest ready-made sets of priorities and approaches. A useful technique may be the selection of primary concepts for discussion by further elaborating on and explaining their practical, contextual relevance.

A special emphasis in in-class discussion should be placed on interpretative aspects, including a text's direct and implicit information, as well as on its balance; these interpretations are key to a contextualised analysis of the source text and translation.

Argumentation of poetics is another perspective that explains the verbal and non-verbal 'fabric' of a text. Texts comprise specific features that inform the text's aesthetic quality; these qualities ensure the text's aesthetic strength which determines, to some extent, the reader's response. The importance of this perspective is illustrated by situations when students translate a text with disregard for its aesthetic features, thus making inappropriate lexical choices (for instance, excessively neutral or formal, 'correct' lexis) and applying other techniques that are detrimental to translation quality.

The approach of looking at the text as if from a distance may ensure additional insights into the text's world. Meanwhile, theoretical discussion is a way to grasp the big picture and to consider language, (literary) text, culture(s), and translation in an inclusive manner. Another perspective from which to obtain the big picture is a well-structured study curriculum, which should equip, through a specific course sequence and follow-up phases, students with background competence.

In-class discussions usually employ combined formats of function-based, process-oriented, and product-based approaches that also explain practical translation strategies and

specific tactics for each text. Individual and pair work bring distinct benefits suggesting preference for varied in-class formats.

A useful approach is the technique of ‘red indicator lights’; these are aspects and tasks that every translator lists among the key focus areas in every translation. Beneficial activities to encourage flexibility and avoid literal translation techniques include paraphrasing tasks, which require sentence-level manipulation without changing the sense of the text and without decreasing translation quality. In this context, translator competence means application of the double-checking technique to avoid a misleading perception of the text and inappropriate ‘freedom’ (unnecessary or unacceptable manipulations), and second, identifying, to the extent possible, the indications of the potential and limits of freedom.

The choices and selections made by translators are related to situational and communicative context and to the linguistic co-text, particularly when any interlingual asymmetry is identified. Co-textual and contextual considerations are typically based on the big/small picture of the text and, more narrowly, sentence and further updates of the actual ‘situation’ in the text.

A task of translation studies is encouraging the application of those techniques which productively ensure quality in the form of everyday routines, another perspective of the iterative nature both of translation studies and translation itself.

Clearly defined quality assessment criteria are an essential consideration when student translations are discussed. However, assessment of the quality of language use in general or in a translation also involves certain factors that can hardly be examined within typical typologies of translation mistakes and errors. For instance, attitude, which can be felt in student translations, reveals, in a specific and indispensable way, a student’s potential. Though less apparent in the translation, it is still an important indicator of commitment and the value of translation in the training context.

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EASY LANGUAGE IN THE CONTEXT OF MODERN PEDAGOGY

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ABSTRACT

The idea of language simplification roots back to the beginning of the 18th century, and the significance of understandable and accessible information has gradually increased. Although Easy language development is closely linked to the Plain Language Movement, these are two distinct concepts.

Easy language is present in Latvia since the 1990-s; however, its development is still insufficient. Although Easy language is primarily meant for adults, it can be useful for children, too. Moreover, it can provide significant support in both general and special education. Nevertheless, teachers' understanding of Easy language as a tool and their ability to deliberately apply it is presumably low. Therefore, the aim of the study is to find out whether teachers in Latvia are familiar with the concept of Easy language, how often and what materials in Easy language they use, and how important Easy language, or in other words understandable outlining principles are in the teaching and learning process.

To fulfil the tasks of the study, a bibliographic research method was applied, describing the previous research in the field as well as published teaching resources in Easy Latvian. To explore teachers' attitudes and knowledge of Easy Latvian, the quantitative method was used – i.e., an anonymous online questionnaire for general and special education teachers was created. The questionnaire had 500 eligible respondents.

The study showed that information about Easy language in Latvia is insufficient, and the concept itself is still linked to a stigma. Nevertheless, teachers are willing to learn more about Easy language, and one third of the questionnaire respondents believe that teachers should be trained during their studies. Besides developing new materials and offering training opportunities, significant attention should be paid to promoting each Easy language-related activity.

Keywords: *accessible education, Easy language, general education, special education, teachers' attitudes*

Introduction

The idea of language simplification roots back to the beginning of the 18th century, when Swedish King Charles XII passed an ordinance: “His Majesty the King requires

that the Royal Chancellery in all written documents endeavor to write in clear and plain Swedish and not to use, as far as possible, foreign words” (Ehrenberg-Sundin, 2004). Sweden was also the place where Easy language started its development and later spread across Europe – it has been promoted since the late 1960s (Bohman, 2021: 528).

Although Easy language development is closely linked to the Plain Language Movement (ibid.), these are two distinct concepts. Plain language, also called ‘layman’s terms’, is “simple language that anyone can understand” (Merriam-Webster). American lexicographer Bryan Garner says: “Plain English is typically quite interesting to read. It’s robust and direct – the opposite of gaudy, pretentious language. You achieve plain English when you use the simplest, most straightforward way of expressing an idea. You can still choose interesting words. But you’ll avoid fancy ones that have everyday replacements meaning precisely the same thing” (Garner, 2013: 14). Plain language has a broad target audience and ensures a shorter time for reading and a clearly understandable message. It delivers all the information without exploiting complicated constructions, specific terminology, and exaggerated lexicon.

Easy language, on the other hand, has a narrower, but more diverse target audience – “it is aimed at people who find it difficult to understand standard language” (Lindholm, Vanhatalo, 2021: 11). It is deliberately and often heavily simplified on all levels: content, grammar, lexicon (ibid.: 19). Easy language delivers only the most important information, and besides language-related requirements, the visual modalities such as the font, letter size, line spacing, and pictures are also of paramount importance. The most important reason for creating a text in Easy language is information accessibility for people with perceptual disorders or temporal need for simpler language. Thus, normally, an Easy language text is also validated in the target audience.

Although Easy language is considered to be a tool for adults, its principles can be also applied to children and incorporated into the teaching process. In Latvia, seven Easy language target groups have been determined: people with intellectual disabilities, people with psychosocial disabilities, people with dyslexia, people with hearing impairment or loss, people after a stroke or brain injuries, seniors, and immigrants (Anča et al., 2021). All of these except seniors can apply to both adults and children.

“Easy language is meant for people with learning disabilities, including disabilities that used to be called intellectual development disorders” (Sproģe, Tūbele, 2021: 491). Easy language has been used in special education schools, but with changes in Easy language target groups in European regulations, its significance increases also in general education (Anča, Meļņika, 2021). Yet “the inclusion of people with disabilities in education is still problematic and suffers [...] general inequalities in the achievement of high educational qualifications. [...] People suffering from sensory and learning disabilities often have limited literacy, are under-educated, and can only access content successfully if it is specifically adapted to their needs. Enhancing the potential of this large population group and giving it the means to function properly and contribute to society is in order” (Perego, 2021: 276).

In special education, Easy language principles are of use as the teaching materials are developed according to the children’s individual needs. Following the principles helps

create a text understandable to a child. “Pupils with intellectual development disorders are the group that requires the most attention, as they have no use for learning materials that are in no way adapted” (Sproģe, Tūbele, 2021: 493). Professor Sarmīte Tūbele claims that materials for children with intellectual disabilities should be easy-to-perceive and understandable, which means they can be considered as written in Easy language (Tūbele, 2021). However, since the first Easy Latvian guidelines were published just one and a half year ago, special education teachers base the materials on their teaching experience, not complex interdisciplinary research combining education, neurolinguistics, psycholinguistics, and sociology (Liepa, Polinska, 2021: 5). Dr. Dina Bethere points out that there is even no specific research carried out on Easy language and education (Bethere, 2021). The first description of Easy and Plain languages in a scientific, multidisciplinary context in Latvia was created in 2021 by professors Ieva Sproģe and Sarmīte Tūbele (Sproģe, Tūbele, 2021: 488).

Since 2020, Easy Language Agency offers a short introductory course for the teachers of the Latvian language “Easy Language as a Tool for Teachers in Creating Inclusive Study Environment and Providing Accessible Curriculum” (valoda.lv). In 2020, 29 teachers completed the training, and the number over the years is growing. Still, the 12-hour course can provide only a general insight into Easy language, and “adapting a complicated text or [...] making it easy to read is truly not simple” (Sproģe, Tūbele, 2021: 495). Thus, each teacher after completing the course should develop their skills in practice, which again requires additional resources and deepened interest of the person itself.

Nevertheless, there are several useful books and exercise books for children with perceptual disorders and learning difficulties published in Latvia. Significant is the work of Gaisma Special Education Boarding Primary School teachers Aelita Žučkova, Dagnija Rubiķe, and Ilona Laizāne – since 2001, they have developed a book series for children on important everyday topics: “Esmu tīrs” (“I am Clean”), “Mans apģērbs” (“My Clothing”), “Mana istaba” (“My Room”), “Es ārpus mājas” (“Outside my Home”), “Mana nauda” (“My Money”), “Es jau varu!” (“I Already Can!”), “Esmu tīrs un kārtīgs” (“I am Clean and Tidy”)¹. In 2003, the society *Papardes Zieds* published three books on sexual education for adolescents: “Ieva”, “Aleksis”, and “Ieva un Aleksis”.

Recently, the National Center for Education (NCE) has contributed to study materials in Easy language. In 2021, by the order of the NCE within the European Social Fund (ESF) project “Competency-based approach in the curriculum”, Liepāja University’s team developed a series of teaching resources for pupils with severe intellectual disabilities for integrative learning of Latvian, Natural sciences, Social sciences, and Design and technologies. The series includes five sets of books and exercise books for pupils from the 1st to 9th grade: Latvian and Natural sciences; Natural sciences, Latvian, Social sciences, and Mathematics; Latvian and Social sciences; Mathematics and Social sciences; Design and technologies, Natural sciences, and Social sciences (LiepU, 2021: 2). Although not labelled as such, the resources are based on Easy language principles regarding language use as

¹ For the full list of the books and exercise books developed in the school, visit: <https://www.gaismasskola.lv/par-mums/pedagogu-atbalsta-centrs/latvija/>

well as visual modalities – larger fonts, clear pictures, reduced amount of information on a page, etc.

In 2022, within the project “Competency-based approach in the curriculum”, NCE launched the first materials labelled as resources in Easy language with the disclaimer that the main target group for these materials is pupils with dyslexia, dysgraphia, and dyscalculia; the secondary target groups are pupils with the migration background and pupils whose native language is not Latvian – from the 7th to 9th grade (Skola2030). Therefore, the resources cover only two Easy language target groups and 3 grades out of 12.

The project is still ongoing, and the teaching resources will be adapted for the following subjects: Latvian, Latvian in minority education, Social sciences, Latvian and world history, Visual arts, Literature, Chemistry, Physics, Biology, Geography, Mathematics, Design and technologies, Computer sciences, Engineering sciences, and Sports and health. Currently, less than half of the results have been published (Skola2030).

Although the concept of Easy language has been present in Latvia since 1990-ies, its development has not been sufficient. There are very few published materials and notwithstanding Easy language usefulness, the concept itself is linked to stigmas. While new materials are still being elaborated on, teachers could apply their own Easy language knowledge to facilitate the study process as “accessible informational content is needed, in a large variety of situations, for people with or without disabilities or impairments” (Simon et al., 2022: 61). However, teachers’ understanding of Easy language as a tool and their ability to deliberately apply it is presumably low. Therefore, the aim of the study is to find out whether teachers in Latvia are familiar with the concept of Easy language, how often and what materials in Easy language they use, and how important Easy language, or in other words understandable outlining principles are in the teaching and learning process.

Methodology

For this article, the bibliographic research method was applied, describing the previous research in the field as well as published teaching resources in Easy Latvian. From the perspective of sociolinguistics, the study looks at language use in society and language as a tool to provide an inclusive environment. In the context of pedagogy, the study provides an insight into the use of accessible information and understandable communication not only in special education but in education in general as today’s society aims toward inclusive classrooms. In such a case, Easy language and its principles become a meaningful tool for teachers and a significant aid for pupils.

To explore teachers’ attitudes and knowledge of Easy Latvian, the quantitative method for the study was selected. To clarify the necessary information, an anonymous online questionnaire for general and special education teachers was created. The questionnaire consisted of 9 questions about the use of Easy language in education. The questionnaire was active for two weeks, and it was distributed on social media and via email.

After indicating the branch of education (general or special) they work at, the teachers were asked whether they know what Easy language is. If the respondent was familiar with the concept, they were guided through 6 questions to share their opinion on Easy language usefulness in general and special education and their experience with resources in Easy language, including those of the NCE. Respondents who were not familiar with the concept were directed straight to question 8 asking about the respondent's preferred channels of learning about Easy language. Finally, the respondents were asked to evaluate the importance of the following eight principles in teacher's work (using a scale from 1 to 4, where 1 – not important at all, 2 – not very important, 3 – quite important, and 4 – very important): to explain the tasks in an understandable manner, to teach the pupil to divide the task into smaller tasks, to encourage the pupil to concentrate on one activity at a time, to be able to rephrase if a pupil has difficulty to understand, to avoid complicated foreign words, to complement the study material with pictures, and to use grammatically correct language. These principles form the base of Easy language (Liepa, Polinska, 2021), but that was not explicitly announced to the respondents. The questionnaire was conducted in compliance with all ethical principles.

Results

The questionnaire was answered by 538 respondents. 38 respondents were excluded from the analysis: 20 respondents were professional education teachers, 6 were higher education teachers, and 12 respondents represented other educational directions: diaspora (1), Montessori (1), tutoring (2), adult education (2), social educator without specifying the type of education (2), music therapy (1), speech therapy (1), and students (2). The excluded data could be considered representative.

Of the eligible respondents, 340 were general education (GE) teachers and 160 worked in special education (SpE). The reduced number of the latter is explained by the overall number of teachers in Latvia – in the school year 2021/2022, there were 26 386 general education teachers and only 1894 special education teachers (VIIS).

The respondents were asked whether they know what Easy language is. Almost a quarter of the respondents ($n = 115$; where 99 were GE teachers and 16 were SpE teachers) had never heard of it, and a similar amount ($n = 119$; 89 GE, 30 SpE) had heard of the term but did not know what it means. 20% of the respondents ($n = 98$; 81 GE, 17 SpE) claimed they knew what Easy language is but did not use it, and 34% of the respondents ($n = 166$; 72 GE, 94 SpE) were familiar with the concept and used it in their work. The percentage ratio of respondents' awareness of the concept is shown in Figure 1 below.

Questions 3 to 7 were asked only to those respondents who were familiar with Easy language ($n = 266$). First, teachers were asked whether Easy language principles can facilitate the teaching and learning process. An absolute majority (90%, $n = 240$) answered that every student sometimes needs information in Easy language, 9% ($n = 23$, 20 GE, 3 SpE) claimed that this can be helpful only for pupils in special education, and 1% ($n = 3$; 1 GE, 2 SpE) believed that Easy language cannot be of help in school.

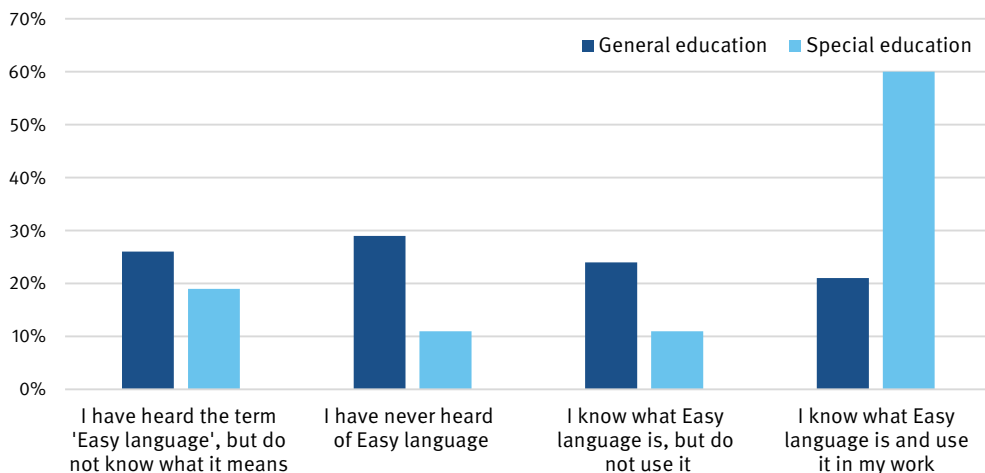


Figure 1 Respondents' ($n = 500$) awareness of Easy language in general and special education

Question 4 clarified the use of Easy language materials at school. 38% ($n = 101$; 55 GE, 45 SpE) claimed that each teacher creates their own resources, 26% ($n = 70$; 19 GE, 51 SpE) share their experience and materials with colleagues, 11% ($n = 29$; 26 GE, 3 SpE) do not use Easy language resources due to lack of knowledge, and 20% ($n = 52$; 41 GE, 11 SpE) do not have time to prepare them. 5% ($n = 12$) chose the answer "Other", indicating different individual experiences such as "others do not have the desire to participate", "Easy language depletes language and hinders the development of deepened creative thinking", "Our school provides materials in Easy language for the teachers", "I do not use resources in Easy language in order not to lower the quality", "there is no need in our school for such resources", "I sometimes use Easy language to speak with parents".

Question 5 asked particularly about the use of the materials developed within the project "Competency-based approach in the curriculum"/Skola2030, leading to Question 6 or Question 7 if Question 5 was answered with 'no' or 'yes' respectively. Of 266 teachers, 204 (121 GE, 83 SpE) did not use the mentioned materials, which means the prepared resources used less than a quarter, or 24% ($n = 62$; 32 GE; 33 SpE). Asked to specify the reason for not using the materials (Q6), 35% ($n = 72$; 49 GE, 23 SpE) did not know such materials existed, 7% ($n = 14$; 8 GE; 6 SpE) claimed the materials are not useful or are of bad quality, 16% ($n = 33$; 30 GE, 3 SpE) said there are no target group children in their school or class, 27% ($n = 54$; 24 GE, 30 SpE) acknowledged that the materials are suited for pupils of another age group, and 15% ($n = 31$; 11 GE, 20 SpE) answered with the option "Other", 5 of them specifying that the materials are not suited for pupils with severe intellectual disabilities or non-verbal pupils, 3 specifying that the materials still need to be adapted for their pupils, and other answers included claims as "I have not learned to use them meaningfully", "there are no materials for my subject", "finding the materials [in the system] takes too much time", "the access to the materials is very obscure and complicated, and the information is scarce".

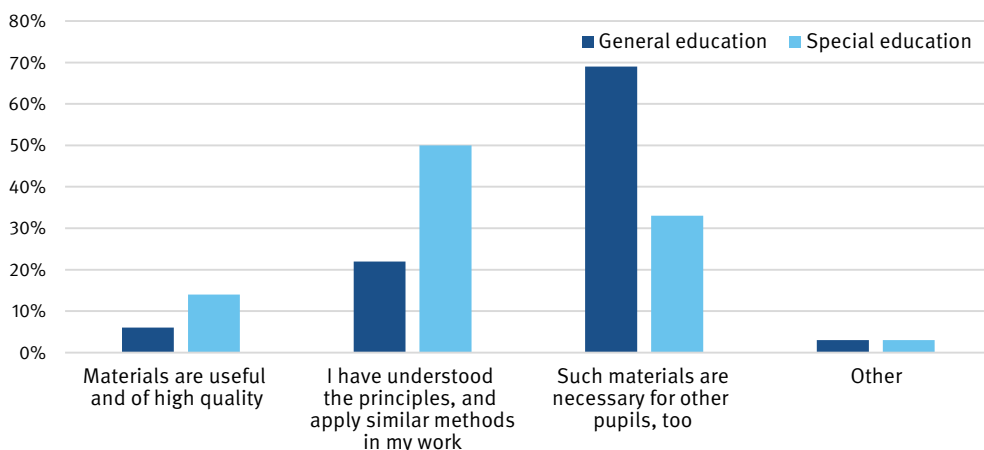


Figure 2 Respondents' ($n = 62$) opinion about Skola2030 materials in Easy language for pupils with dyslexia, dysgraphia, dyscalculia

The remaining 62 teachers, who used Skola2030 materials, were asked to share their opinions about the materials' quality (Q7). 10% ($n = 6$; 2 GE, 4 SpE) said that materials are useful and of high quality, 36% ($n = 22$; 7 GE, 15 SpE) claimed that they have used the materials to understand the principles, which are then applied in teachers' work, 52% ($n = 32$; 22 GE, 11 SpE) acknowledged that other pupils would need such materials, too, and 3% ($n = 2$) chose the answer "Other", specifying that the materials are of poor quality (1 GE) and that they complement the Skola2030 resources with their own (1 SpE). The percentual ratio for the answers in the general education group and special education group is shown in Figure 2.

Q8 asked all respondents ($n = 500$) where they would like to learn more about Easy language. The option "such information should be included in higher education curricula for teachers" was chosen by 27% ($n = 134$) of respondents, 45% ($n = 228$) claimed they would willingly attend a course to learn Easy language principles, 17% ($n = 86$) would rather choose reading an Easy language handbook, and 4% ($n = 18$; 16 GE, 2 SpE) did not want to know anything about Easy language. 7% of respondents ($n = 34$) selected the option "Other", often indicating that they cannot answer the question if they do not know what Easy language is. Other answers included explanations such as "I have no specific preferences [for learning Easy language]", "I would read the information on the Internet", "I would watch a YouTube video on Easy language", "I would not like that society becomes blunt, unable to think, with unsteady attention, which unfortunately has been observable during the last decade."

The final question (Q9) asked the respondents to evaluate the importance of eight basic Easy language principles in teachers' work without explicitly indicating that the mentioned principles are of Easy language. The majority of the respondents acknowledged that all eight principles are quite important or very important, with these answers ranging from 94% (the principle of avoiding complicated foreign words) to 100% (the principle of explaining the tasks in an understandable manner). 8% ($n = 41$; 33 GE, 7 SpE) evaluated the principle of **explaining the tasks in an understandable manner**

as quite important, while 92% ($n = 459$; 307 GE, 152 SpE) marked it as very important. The principle of **teaching the pupil to divide a task into smaller tasks** was marked as very important in 63% ($n = 315$; 199 GE, 116 SpE) of cases, quite important in 36% ($n = 179$; 136 GE, 113 SpE), not very important in 1% ($n = 5$; 5 GE, 0 SpE) of cases, and 1 respondent (SpE) marked it as not at all important. An equal number of overall respondents (48%; $n = 238$) evaluated the principle of **encouraging the pupil to concentrate on one activity at a time** as quite important (172 GE, 66 SpE) or very important (150 GE, 88 SpE), whereas 4.4% ($n = 22$; 16 GE, 6 SpE) evaluated it as not very important, and 2 respondents (GE) – as not at all important. The **ability to rephrase if a pupil has difficulty to understand** was recognized as very important by 86% ($n = 430$; 285 GE, 145 SpE) of respondents, as quite important by 13% ($n = 66$; 52 GE, 14 SpE), as not very important by 0.6% ($n = 3$; 3 GE, 0 SpE), and as not at all important by 1 respondent (SpE). 85% ($n = 426$; 290 GE, 136 SpE) claimed that **creating a logical and structured outline** is very important, 14.6% ($n = 73$; 49 GE, 24 SpE) claimed that it is quite important, whereas 1 respondent claimed it is not very important (GE). 54% ($n = 268$; 165 GE, 103 SpE) said that it is very important to **avoid complicated foreign words**, 40% ($n = 201$; 152 GE, 49 SpE) evaluated it as quite important, 5% ($n = 27$, 20 GE; 7 SpE) marked this principle as not very important, whereas 1% ($n = 4$; 3 GE, 1 SpE) said it is not at all important. 64% ($n = 322$; 200 GE, 122 SpE) of the respondents consider **complementing the study materials with pictures** being very important, 32% ($n = 162$; 131 GE, 31 SpE) as being quite important, 3% ($n = 15$; 8 GE, 7 SpE) considered the principle as not very important, and 1 respondent (GE) – not at all important. Finally, 76% ($n = 381$; 260 GE, 121 SpE) and 22% ($n = 109$; 73 GE, 36 SpE) claimed that **using grammatically correct language** is very important and quite important respectively, and 2% ($n = 10$; 7 GE, 3 SpE) marked it as not very important principle.

The data for all eight principles overall are represented in Figure 3 below.

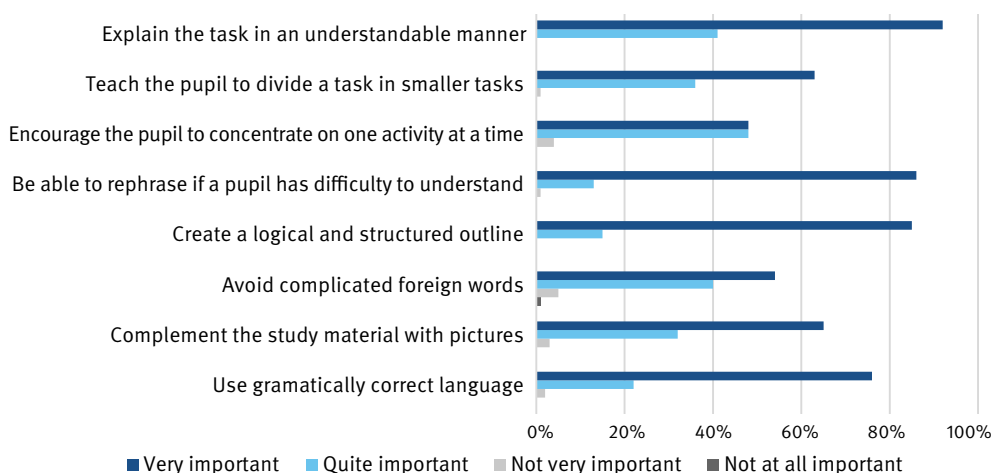


Figure 3 Respondents' ($n = 500$) level of agreement with the importance of eight basic Easy language principles in teachers' work

Discussion

The first question highlighted that almost a quarter of the teachers had never heard of Easy language, and a similar amount have heard the term without understanding it. 20% of the respondents who were familiar with Easy language had not found it useful in their classrooms, and that might suggest of narrow presumptions, which from one point of view is supported by the claims later in the questionnaire that “Easy language depletes language and hinders the development of deepened creative thinking” and “I do not use resources in Easy language in order not to lower the quality”. Noteworthy that special education teachers were more aware of the concept, and 60% used Easy language in the study process, while in general education so did only 21% of teachers.

The vast majority of the respondents who knew what Easy language is acknowledged that every student at some point needs information in Easy language, which corresponds to the results of the comparative study on Easy language acceptance in the participating countries of the project “Promoting Easy Language for Social Inclusion” – the study showed that 59% of the inhabitants of Latvia believe that Easy language can be necessary for every person, and 87% recognized that they at some point of their lives have had difficulties understanding the presented text (PERLSI, 2022: 12–13).

Answers to Question 4 highlight the lack of knowledge and time to adapt the resources for pupils in need. Nevertheless, teachers’ willingness to share their experience with their colleagues (70 teachers, or 26% of those who were familiar with Easy language, 14% of all respondents) should be commended.

Responses on the use of Skola2030 resources point out that developing the materials is not sufficient and promoting the resources is as significant as preparing them. Only 62 teachers (12% of the respondents, 23% of the teachers familiar with Easy language) had used the prepared materials, and one third of the rest indicated that they did not know about these resources. Q6 also showed the necessity to cover other target groups as about one fourth of the respondents recognized that materials are suited for another age group, and there were several teachers who acknowledged that the resources are not of use for pupils with severe intellectual disabilities or non-verbal pupils. This corresponds to Q7, where half of the respondents chose to tick the answer “Such materials are necessary for other pupils, too”. Q7 marks another tendency – teachers used the prepared materials to understand the principles and then chose to develop their own materials instead of using the ready ones, which confirms the idea of insufficient overall knowledge of Easy language set out at the beginning of the article.

Q8 reveals teachers’ interest to learn more about Easy language – only 4% ($n = 18$) claimed they do not want to know anything about Easy language, while 27% believed that every teacher-to-become should be trained in Easy language while studying, and 46% expressed their readiness to attend a course on Easy language. The answers also reflected the recent tendency to learn remotely and independently as 17% would choose reading guidelines and several teachers would willingly use the information published on the Internet.

The final question showed that actually, all basic Easy language principles are of paramount importance in every classroom and that Easy language is not something very narrow or specific. In the questionnaire, the principles were deliberately left without the claim of being Easy language basis to encourage the respondents to evaluate them as such. There is a possibility that marking them as Easy language principles would gather different results, but such an option should be evaluated in further research on attitudes. It is noteworthy that every question in the questionnaire from different angles reflected the lack of information, while some answers also revealed still existing stigma. Nevertheless, combining the desire to teach the pupils in the most effective way with an ability to deliberately apply Easy language as a tool when that might be of use, could provide a useful aid in achieving the best results in every classroom regardless of whether it is a general or special education class.

Conclusions

- Only half of the survey respondents know what Easy language is, and only 34% use it in their work, mainly special education teachers.
- The stigma that Easy language can lower academic achievements and that it depletes the language as well as hinders creative thinking is still present.
- The majority of teachers are willing to learn more about Easy language, and almost one third believe that it should be included in the university curricula.
- Resources in Easy language are necessary for different target groups. Taking into account the prolonged period of preparation and the wide variety of target groups, it would be more efficient to train teachers so that they are able to effectively apply Easy language principles and themselves prepare materials necessary exactly for their pupils.
- Significant attention should be paid to the promotion of the prepared resources as well as Easy language as such – first, to reduce the existing stigma, second, to justify the funding invested in the field, and third, to provide a useful tool for facilitating the teaching and learning process.

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SECONDARY SCHOOL LEVEL CREATIVE TASKS FOR STUDYING POETRY

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ABSTRACT

The present study endeavors to analyze the challenges encountered by readers when interpreting poetry, and the development of their creative potential. Voluminous decoding of poetry texts is possible in the learning process if creative process is offered, which in turn enables to look for new ways of reading and explore comprehension labyrinths. Literature studies at secondary school require the development of creative task taxonomy, which would assist the reader – student to explore their creative potential and develop it deliberately. Creativity is beneficial in any area and can enrich every aspect of one's life. It is not an inherent gift but a mastered ability to see the world, interact with it and respond accordingly. The main components of creativity can be categorised in two groups: cognitive (divergent thinking, general knowledge and thinking skills) and personality (focusing on the task and determination to complete it, motivation, tolerance towards the unknown) components. The prerequisites for creativity are connected with the educator's attitude and expectations, as well as the ability to create a suitable environment, situations, learning tasks, because without them neither creative thinking nor action can be manifested. The educator is the initiator as well as the facilitator of the creative process, thinking and action. Based on the study of poetry of A. Čaks at secondary school, the article introduces the requirements and criteria for the development of creative tasks.

The aim of the research is, based on the study of A. Čaks' poetry in secondary school, to identify the conditions and criteria for developing creative tasks. The study was conducted using qualitative content analysis of students' works and a case study as the research methods. The results of the case study indicate that when the teacher creates an appropriate environment and atmosphere, students are offered various creative tasks, and students can choose them according to their abilities, students willingly engage in the performance of various creative tasks. The developed methodological framework for introducing A. Čaks' poetry is original and unprecedented in the history of literature methodology. The developed methodology can be used for the study of the personality and creative work of a specific poet (A. Čaks) as well as adapted and adjusted for the study of other writers. The ideas can be used by both practising and future literature teachers. The developed methodological framework and its results have been presented to prospective educators in the course "Methods of Teaching Latvian Literature," educators in various continuing education courses, and at the scientific conference of the University of Latvia. Educators have highly appreciated the developed materials.

Keywords: *creative potential, study of poetry at secondary school, creative thinking, creative tasks*

The strongest are those who seek the new.

B. Björnsson (1832–1910, Norwegian writer)

Introduction

The ever-changing world requires that people have well-developed creative thinking skills in order to be able to deal with any non-standard situation, suggesting that attitudes towards creativity are changing with the evolution of humanity. In the 21st century, intellectual abilities alone are not enough for people to adapt successfully to the social environment and experience personal growth, which is why theories on the development of creativity and the problems associated with it have been studied more intensively over the last decades. In education, the development of a child's potential for creativity has also become an issue, especially in the humanities. In every period of child development, special attention is paid to how thinking develops, but from adolescence onwards, the development of creative thinking needs a great deal of attention provided that at this point the child encounters the challenges of self-determination. Awareness and development of the potential for creativity is a condition for the development of a mentally healthy personality. Among the many components of creativity, in this article the authors will focus on the characterisation of the capacity for creative thinking, which can be developed in all children if the teacher has pedagogical creativity.

The aim of the research was to determine how students discover their creative activities in literature and what criteria guide their creative endeavors.

The following research methods were applied: literature analysis, content analysis of students' works, self-experience analysis, a case study. Questionnaire for students was used as the data collection method.

Developing the Potential for Creativity

In the society, the situations can still be faced in which the concept of creativity is used to describe the professional activities of some adults – in a certain professional field, they have excelled thanks to their innovative inventions, such as Picasso's art, Mozart's music, Goethe's literary works, etc. There are countless definitions of creativity, most of which have in common the originality of the idea and the usefulness of the result. Creativity is a complex theoretical construct, it is not transparent in the actual genesis of a new product, it is multidimensional, because creative activity can take place at almost any moment, and it can involve activities ranging from the smallest to large-scale projects. When thinking about a child's creativity, it is most accurate to use the term 'creativity potential' to refer to the set of characteristics of an individual that determine to some extent the individual's propensity to generate new ideas, inventions, art objects, insights or products (Sternberg, Lubart, 1999). The dualism of creativity – potential and actual. The potential for creativity is characterised by an individual's predispositions, which are expressed as a readiness to discover one's creative thinking abilities, to gain real experience in conditions that allow for the expression of creative activity.

Education experts believe that creativity is not sufficiently promoted in the learning process and that such problems cannot be solved in the absence of a common definition of creativity in curricula, which makes it difficult to find solutions to a number of problems in practice, such as how it should be “treated” in the learning process; how not to overload the curriculum so as not to reduce the opportunities for innovative learning (Ferrari, Cachia, & Punie, 2009). The creative thinking definition posed in the OECD Programme for International Student Assessment (OECD PISA) 2021 for 15 year olds states that it is the competence to engage productively in the generation, evaluation and development of ideas, resulting in original and effective solutions, both in gaining knowledge and in powerful imaginative expressions. Although creativity is still considered a new construct in education, creative thinking involves the ability to generate unusual ideas, to quickly break away from traditional patterns of thinking and to solve problem situations. A consistent definition of creativity, methodological ideas for the teacher – conditions for a successful search for solutions to develop a child’s creative potential. Therefore, any dialogue between stakeholders in the field of education is crucial, in which a common understanding of the promotion of creativity in education can be discussed and found.

Creativity as the research object has three versions – as a creative person (looking for answers whether there are certain personal characteristics of creative persons), as a creative thinking process (what processes are involved in creative activity and thinking), as a product (what output can be viewed as creative). Creativity research also seeks to explore the environmental conditions that influence creative processes and creative people and in what ways.

If a teaching process is innovative and the teacher is able to find new methods, content and tasks that include opportunities for students to develop their creative thinking skills, the child can discover his or her potential for creativity and the possibilities the world has to offer. Every child is born with the capacity to think creatively, so society and education must nurture this fragile capacity provided that the key to future innovation lies in nurturing and developing children’s creative thinking skills. Creativity in education is becoming a major challenge; this is an important pedagogical concept for the future.

As researchers have pointed out, learning often tends to favour standardisation over uniqueness (Beghetto, 2007b), thus encouraging reproduction rather than creative thinking. Research also provides information about contradictions in teachers’ conceptions of creativity. It is believed that if teachers are aware of the value of creativity, they themselves feel more strongly the need to be creative and are thus able to foster children’s creative potential (Fasko, 2001 & Beghetto 2007a). Children can gain experience in creative thinking if they engage in it consciously and purposefully, as the potential for creativity develops over a sufficiently long period of time. Creativity is not a single ability, but a complex of intellect and personality traits, and a person’s general life position. Creativity is not reducible to a single psychological quality or innate creative ability, or to one particular type of activity. Its training in one type of activity leads to its stronger expression in other ways.

Learning activities can incorporate the development of creative thinking skills, as long as the child engages in new and personally meaningful learning tasks. Teachers and parents make sure that the child can demonstrate flexibility of thinking and novelty of ideas frequently enough. Children ‘invent’ something new often when they encounter, in the words of the Swiss psychologist and philosopher Jean Piaget (2002), that ‘to understand is to invent’: they find new and different ways of making new connections between existing and new knowledge, thus gaining a fuller understanding of the study content.

In the field of education, creativity is not a simple, homogeneous trait, but a construct that includes personality and cognitive components. There have been many attempts to ‘develop integrative models’, e.g. Mumford (2003, 107), but the most holistic view of creativity is provided by Urban’s Components Model of Creativity (Urban, 1996, 2004, 2012, 2014). Creative education must be responsibly grounded in a theory that allows a true appreciation of the complexity of the individual. Urban’s model of the components of creativity includes both cognitive and personality components. The cognitive components are: divergent thinking and action; general knowledge and thinking skills; domain-specific knowledge and skills. Personality components include task focus and commitment; motivation and motives; openness and tolerance of ambiguity.

Divergent thinking and acting is a component that has been commonly associated with creativity since Guilford’s (1950) theory of the characteristics of thinking: sensitivity to problems, fluency, flexibility, originality, restructuring and elaboration. The starting point and precondition for the creative thinking process is sensitivity to problems and the ability to see them. For most children, questions are natural; the ability to question is closely linked to the child’s natural curiosity, the urge to explore and to know. Divergent thinking depends on perception and general, deep knowledge and reasoning abilities. Quick perception and processing of information, well-developed memory are prerequisites for fluid, flexible and associative thinking. Redefinitions, reconstructions of problems must be analysed and evaluated for their usefulness. Analysis, reasoning and logical thinking are necessary to gather and prepare information at the beginning of the creativity process, which is completed at the end with an evaluation, in order to start developing the creative idea. Divergent thinking alone will not lead to excellence in the development of an idea or product; specific knowledge and skills in a particular area are required.

In recent years, there has been an increasing focus on specific knowledge as a prerequisite for generating creative ideas and products, especially when the aim is to produce outstanding, original results. Both psychologists and educators seek answers to questions about the development of creativity in students (Vessey & Mumford, 2012; Haager & Baudson, 2019).

Amabile (1983) consider domain-specific skills to be the foundation of creative thinking, noting that in many fields it even requires many years of preparation. If knowledge of the task is lacking, reliable and original insights cannot be obtained. The acquisition of the necessary comprehensive and detailed specific knowledge and skills is not possible without focus and perseverance, a commitment to the task. It is necessary to be able to

keep the problem in focus for a long period of time with varying intensity. Motivation is needed to be able to acquire, analyse and evaluate information. Amabile (1996) points out that intrinsic motivation is important and is formed from the individual's response to the essential features of the task. External factors such as expectations of evaluation or reward, or lack of choice about one's involvement in the task, can have a negative impact. Every child has an innate need for novelty, curiosity, exploration and knowledge, but frequently this is inadvertently suppressed by the parental or educational environment.

Another component of the dialectical relationship related to task implementation focus is openness and tolerance of ambiguity – the ability to step back, to change the way one thinks, to delay too quick solutions or to control one's dominant way of thinking. Autonomy of thought at certain times, willingness to seek distant associations and tolerance of the uncertain are crucial.

K. K. Urban's creativity components model consists of six interrelated components, which are described in three dimensions: the individual; the group or immediate environmental context; the societal or historical or global dimension, demonstrating that the environment can influence both the creativity process and the creative product. The individual dimension describes the individual, subjective aspect of creativity, how the components of creativity manifest themselves in a given environment and situation in relation to given materials and opportunities for expression. Creativity is an indicator of the quality of life of an individual and it is meaningful for the individual. The dimension of the group or immediate environment describes the interaction of the family, peer, school and education system environments with the six components of creativity. This environment is a context that describes how the creative process and personality can be activated and facilitated, how individual creativity is expressed and how it can be used for the benefit of a social group and influence elements of that environment. The societal, historical, global dimension describes the general, cultural and historical context in which creativity may be valued as important and supported according to existing values in a given time and environment, or, conversely, seen as unimportant and discouraged.

Challenges for the Reader in Interpreting Literary Works

Reading a literary work requires the reader to “study” the text precisely, slowly and carefully. Especially a reader of poetry must invest time and patience in every sentence and combination of words. It is also possible to read the same passage, the same text, over and over again. Reading literary works in the study process must be immune to the tendency to speed up reading and to reading as much as possible. It is intellectual reading that asks questions and moves forward with cognitive interest. Informed reading is oriented towards cognition, not entertainment.

The reading process depends on the genre of the literary work: poetry is the most deliberately read, because its language is multi-layered, even if the text is not large. Conscious reading is also necessary in drama texts, which seem more difficult to understand because of their dialogue. Long prose texts are the most difficult to read, especially if

the novel or story is not exciting. The more unfamiliar a text is to the reader, the more it is necessary to read it slowly, step by step, gaining an understanding of the text and of oneself as a reader (Skalberga, 2012).

Counscious reading requires methodological techniques that facilitate it. Such reading is closely linked to other types of activity, such as writing, commenting, filming, performing. In the methodological concept of deliberate reading, it is essential to maintain both a focus on the text and on the reader's interests (Paefgen, 2003). For the teacher, the primary concern is not the literary work, but the pupil's perception and comprehension of the problems and his or her response to the literary interpretations of the world. If the pupil has limited (specialist) knowledge, then this is taken seriously, and sometimes the pupil's perceptual problems have to remain at the centre of the teaching process. It is essential to motivate the pupil to read literary works and to organise the learning process so that there are as many such activities as possible. Oral, written, scenic, musical, drawing activities are mostly planned for individual creative thinking and representation of subjective understanding. The teacher should be familiar with a wide range of methods so that pupils have many and varied opportunities to demonstrate both their primary, spontaneous understanding of the text and to articulate their understanding of the text in its historical context. Literary forms of writing or other forms of creative tasks are preferred, which enable pupils to respond more freely and creatively to what they have read.

Günter Waldmann (1926–2020), a German educator, linguist and philosopher, developed a five-stage model for understanding literary texts. The main aim of his research was to understand the ways in which literary texts are understood. Using ideas from structural, post-structural, radical-constructivist, reception aesthetics, and semiotics, he gained insights into the processes that must take place in the reader if they are to understand a literary work (Table 1).

Table 1 A Model for Understanding Literary Texts (after Günter Waldmann)

Preparatory stage	Preparing to take on the role of a reader	How to introduce aesthetic reading?
1. Reading comprehension (linking to current awareness)	Reading and perception of a literary work depends on the reader's thinking skills, reading motivation, the type of literary work	How to make perception easier or more difficult, so as to create barriers to superficial reading?
2. Subjective understanding of a literary work	Subjective perception (individual) using imagination	How to develop an imagination that supports reading comprehension?
3. Literary work as a text	Literary features of a text (transforming the understanding of a literary work)	How to help perceive and explore poetic textual structures?
4. The literary work in its historical context	Integrating a literary work into a general context	How to formulate understanding of a literary work using knowledge of cultural, socio-historical influences?

G. Waldman has developed a model that reflects a learning process centred on the pupil's understanding of a literary work, which must be designed in such a way that all the stages of understanding are implemented; it happens gradually – ideally in stages. Approaches to understanding a literary work are found which reveal how to help the reader to acquire the necessary experience and help creative thinking to develop. The preparatory stage includes tasks that allow the reader to tune in to the text; even for complex texts, this can be achieved through playful, productive texts or literary games.

Reading and understanding literary texts is the first stage, where you need to find a way to slow, careful reading (delaying reading so as not to interfere with comprehension, but to enhance it), for example, you can “dissassemble” a poetic text and then reconstruct it in order to go deeper and understand the original version. The second stage involves the subjective concretisation of the text read, which is impossible without an awareness of one's own life experience, and the subjective ‘appropriation’ of what one has read in one's imagination. To develop the imagination, the types of tasks can be those related to the concretisation of a literary work in visual ways or creative writing about actions, characters, place, time (clarify, continue, invent, narrate). Imagination is the basis for visual-imaginative thinking and allows one to navigate situations where problem-solving is needed.

To understand a literary work, it is necessary to understand its specific form, structures, features – to identify their meaning, including external and internal intertextuality (see in relation to other literary texts). This can be achieved through tasks that invite to intervene in the text and change it (plot, characters, form of language) by altering, shortening, adding to, destroying it in order to feel the original effect and meaning of the text.

The study of a literary work outside the text is the final stage that helps to understand its meaning and to ascertain the overall understanding by relating it to one's individual and social experience and to the knowledge acquired about culture, history, society and the relationship between the literary work. This stage is labour-intensive, but the outcome should not be purely analytical; a variety of creative projects, parodies, even films can be developed if students have the skills (Skalberga 2012).

Methodology and Results

The following methods are used in the research: literature analysis, content analysis of students' works, self-experience analysis, a case study. Questionnaire for students was used as the data collection method.

The scientific and methodological literature was analyzed. A student survey (conducted via WhatsApp chat) was carried out to determine what they understand by creative tasks. The responses of the students, summarized in Table 2, align with the findings in the scientific literature regarding creative tasks and criteria for creativity. In this section, the creative works developed by students were analyzed.

The study is based on Big Idea 3 of the competency-based curriculum for cultural awareness and self-expression in the arts: the creative process, inspired by the cultural

context and societal needs, broadens cultural experiences, generates new ideas and innovations (Cabinet Office, 2019 <https://likumi.lv/ta/id/309597>). Creative activity can manifest itself in any area of life and culture, as well as in the field of education, through the interpretation and structuring of new information and knowledge, analyzing situations from various perspectives, problem-solving, project planning, essay writing, creating advertising slogans, crosswords, products, devices, designs, or artwork, inventing suitable methods or techniques for a task, games, and experiments. (Briška, Kalēja-Gasparoviča, 2020, 15). According to it, students carry out a creative collaborative project or artistic new work in their chosen art form to create new artistic value that grounds personal attitudes in aesthetic and ethical categories, construct solutions to their ideas in practical action, present the result and progress of the creative process, and reflect on their performance (Cabinet Office, 2019 Outcome 3.1; <https://likumi.lv/ta/id/309597>).

The aim of the research was to find out how students discover their creativity in literature, what are the criteria of students' creativity. The research was conducted in Riga XX Secondary School in 2 stages (October 2021, October 2022). Forty-eight 11a (two humanities classes) and 30 11b (general education class) students aged 16–17 participated in the study. Before the teacher designed the creative tasks, it was established (via whatsapp chat) what the pupils thought were the criteria for creative work, according to their previous experience. The most important answers are summarised in Table 2. The purpose of the study and the nature of respondents' participation were explained. The participants' privacy was protected and their responses remained confidential. This involves collecting anonymous data, using coding systems, and storing data securely. Participants should be assured that their individual responses will not be disclosed without their consent. No personally identifiable information was collected.

As shown in the table, students believe that creative work is based on knowledge acquired through learning. Only when a topic has been thoroughly explored does a student have the opportunity to show his or her interpretation, to create an original, unique piece of work, to discover his or her talent. The data from the survey and the pupils' answers are in line with the theoretical literature on fostering creativity.

In accordance with one of the principles of the arrangement of the content of the teaching of literary methodology, namely the principle of topicality (the study of works of fiction corresponds with relevant events in the nature, people and especially the nation) and the idea expressed in the history of the development of literary methodology that a writer's work should be studied when his memorial day is celebrated (Stikute, 2011). On teaching works of literature, a conversation about the writer is thematically planned for October, when the poet A. Čaks (A. Čaks) has his birthday (October, 27th). October is the month of A. Čaks (A. Čaks), and the Museum organises various events during this month: a scientific conference and readings, the celebration of the poet's birthday. That is why, before completing their assignments and creative work, a study excursion to the Čaks (Čaks) Museum was organized, where they got to know the personality of the writer, the environment in which the poet lived and worked, and listened to a narration by the museum guide. Before learning about the poet's personality and

Table 2 Students' answers – criteria for creative work

A creative task	A creative work
A task in which the main goal is to express oneself creatively and to develop and express one's personality in an artistic way.	Creative work requires you to stop and concentrate on your thoughts and knowledge on a given topic and represent it in a way that communicates what you want to say about the topic in a creative way.
A task that requires more than a basic knowledge of the subject. It requires creativity, which requires more than just understanding and summarising information.	A work that gives you the opportunity to show your originality and interpretation. A freer style. There are no limits to how the work can be done.
A way of expression that is not based on learning, but on understanding and feeling in order to improve the work.	Work that allows people to express themselves creatively and freely on a particular topic.
A task that requires to pose one's own interpretation of known information, to create original content, to reveal one's own thoughts.	A work that takes time and personal contribution, that is creative, that is born out of people's individual views and their own artistic vision, which is very different for everyone. That's what makes creative work special. They will never be the same.
A task that allows you to express yourself without being confined to certain boundaries.	A work where you can express your knowledge in an unconventional way and create new ideas.
Work that asks you to look at a topic or problem from different perspectives, and then come up with an original solution or innovation.	A work that involves free thinking and allows people to express themselves and showcase their talents.
Creative work is an opportunity given to us to express ourselves within a certain theme, reflecting our perception and knowledge of that theme.	A work that involves free thinking and allows people to express themselves and showcase their talents. Work that requires you to look at a topic or problem from different perspectives and then come up with an original solution or creativity.
A task in which the student reflects his/her knowledge in a creative way (drawing, posters, infographics, etc.).	Creative work is an opportunity given to us to express ourselves within a certain theme, reflecting our perception and knowledge of that theme.
A task that allows you to express your artistic abilities and demonstrate your knowledge of the subject.	Creative work – a specific task, the outcome of which is unique for each person performing it.

work, pupils were given tasks (feedback) to complete during their visit to the museum and in their literature lessons. Students were instructed to divide into groups of 4, they could work in pairs and, if they wished, individually. The pupils were familiarised with the tasks to be carried out in the process of learning about the personality and poetry of A. Čaks (A. Čaks).

1. Read the poetry of A. Čaks (A. Čaks) and look for lines that reveal a particular poetic image or motive. Students were offered both poetic motives and poetic images, but they could also choose their own. The number of poems to be read and analysed was set. The group had to come up with a “chakic” title according to the theme of the poem.

2. Since images such as signs, posters, advertisements, etc. often appear in the poetry of A. Chaks (A. Čaks), in order to make a connection with the poetry of A. Čaks – what was heard, seen, experienced in the museum – after visiting the museum, one had to create his own museum announcement, advertisement, sign, poster, etc.
3. Produce a creative work (video, film, collage, poster, presentation, drawing, cartoon, sketch, infographic, poetry performance, etc.) that reveals the chosen poetic image or poetic motive, so as to convince the teacher and classmates that poetry has been read, studied, explored. The main “tool” for all the works was the poetry of A. Chaks (A. Čaks).
4. Write a “Dedication to Riga” using lines from poetry by A. Chaks (A. Čaks) (dedication, song, self-composed poem, dance, etc.).

After the visit to the museum, literature lessons were spent reading, analysing and studying the poetry of A. Chaks (A. Čaks), getting to know the poetic images and means of artistic expression in it. Since the subject of literature belongs to the field of cultural awareness and self-expression in art, the teacher should observe the inter-subject links when planning lessons. Therefore, during the lessons the pupils had the opportunity to enjoy and feel the songs with words by A. Chaks (A. Čaks) performed by various musicians and actors (Uldis Stabulnieks, Viktors Lapčenoks, Imants Skrastiņš, Niks Matvejevs, etc.), as well as to listen to A. Chaks’ poetry performed by actors (Mārtiņš Vilsons, Artis Robežnieks, Vilis Daudziņš, etc.). If students have acquired sufficient knowledge about the writer and his work, have the support of their classmates and teacher, have a stimulating environment, and are not given precise instructions on what the outcome should be, then they have the opportunity to express themselves creatively. The pupils’ revealed that the outcome is unique for each pupil.

The tasks were refined and expanded at each successive stage according to the age, class and environment of the pupils and their interests.

The analysis of the study process revealed that students were able to work together in groups of four, thus improving and developing their cooperation skills. In line with the requirements, the pupils had come up with interesting group names that emphasised their knowledge of the poetic characters (‘Kiosks’, ‘Nomales’ wives’, ‘Moon kiosk’) [“(Kioskiši”, “Nomales sievas”, “Mēness kiosks”)], and special colours in poetry (“The Yellow Young Ladies”, “The Yellow Tram”) [“(Dzeltēnās jaunkundzes”, “Dzeltēnais tramvajs”)], and the themes of poetry (“The Taste of Riga”, “The Mindless Lovers”) [“(Rīgas garša”, “Bezprātīgie milētāji”)], as well as about the poet himself and some important events in his life (“The Mounts”, “A. Chaks’ Girls”, “Dear Leontine”) [“(Paugurēni”, “A. Čaka meitenes”, “Mīļā Leontīne”)].

The creative works developed by the students were varied and diverse: the board game “Get to know Alexander Chaks!” (see Figure 1, Figure 2), videoskits on various poetic motives, the film “Dinner with Alexander Chaks” (pupils took on the roles of the poet and his friends). “Chaks’ City Outskirts”, poetry composition “A Walk Along A. Chaks’ street” with elements of theatre game (students dressed up appropriately and took on the poetry characters, found appropriate visual design and A. Chak’s poetry, found

the appropriate background music), presentations on different poetic motives, collages, interpretation of individual poems, a Twitter account for A. Chak and even a Minecraft game “Explore the A. Chaks Museum!”. For the “Dedication to Riga” assignment, students composed their own poems, created poems they found in Chaks’ poetry, and selected and collaged their favourite lines of poetry.

Students’ works were analyzed based on the following criteria: innovation, originality, unconventional solutions, willingness to experiment, creativity, creative intuition, rich imagination, inspiration, and adaptability. (Bebre, 1997).

The students’ works and their analysis revealed that they were engaged with the process, the work and the result gave them pleasure, satisfaction and pride. The insight of the writer, educator and literary methodologist Ernest Aistars (1899–1998) was fully confirmed: “Work without interest is torture rather than learning.” (Stikute, 2011, p. 53.) Ideas were not repeated and the works were original, interesting, artistic. Some groups involved their classmates in the work, asking them to guess the motives of the poems read by A. Chak, to group the poems by characters, to look for poetic images in the collage.

Discussion

The research was inspired by daily work with students in a secondary school. It is widely acknowledged that a teacher has to self-analyse his/her work from time to time and write a self-assessment. This is required by the Cabinet Regulations, the Skola2030 project and the requirements of the particular educational institution. The pedagogical heritage of literary methodology states that a teacher’s work is evidenced by the work produced by his/her pupils, so it is useful for a teacher to receive feedback from pupils from time to time on their collaborative work. In the daily teaching process, it is crucial for the literature teacher that the pupils enjoy their work and have the opportunity to express themselves intellectually, emotionally and creatively in a variety of ways. This has been emphasised in his research by Jānis Rudzītis, who points out that we learn a work of art as a specially created aesthetic value, and its reception creates pleasure. In this process, the creative energy of the perceiver, the joy of being able to appreciate the creative potential of the artist, of mastering and co-creating a work of art, of one’s own spiritual activity, should be particularly emphasised. That is why a work of art can neither be taught nor learnt. Pupils, in collaboration with the teacher, can learn it, get to know it (Rudzītis, 2000, 48, 49). Literature learning is seen as a psychic process and outcome, and often the process itself is more important than the results to be obtained and evaluated.

The experience of creativity and attitudes (evaluative activity) is of particular importance in the full acquisition (perception, analysis and interpretation) of a work of fiction as a work of art, the formation of which is impossible without the reader’s involvement in a dialogue with the work and its author. Fostering pupils’ creativity is undoubtedly one of the tasks of the literature syllabus. Researchers in creativity theories acknowledge that the expression of creativity is facilitated by the environment, a motivating atmosphere,

the teacher's ability to offer pupils a variety of varied tasks, unprecedented situations and choices, and finding one's own way in doing them. The teacher can use a variety of pedagogical tools in the framework of lessons to stimulate pupils' cognitive, creative, emotional and value-oriented activities. A pupil may have all the inner resources to think creatively, but without a supportive environment, creativity may not come out. The teacher's role is to help pupils become aware of their inner resources in order to facilitate their self-actualisation. One of the teacher's tasks is therefore to create a stimulating and supportive environment in the classroom. Teachers must also be imaginative and creative in order to unleash and develop creativity in their pupils.

A creative personality is an asset for our society and can be built by unlocking and developing creativity. Creating a stimulating learning atmosphere in the classroom is what humanistic pedagogy and psychology have called 'facilitation', or activation and communication between the participants in the process. The knowledge and ways of doing that are acquired, applied by example and in new situations (exercises, learning tasks), develop skills and abilities, including the experience of creativity, mainly by developing the intellectual senses. Such learning experiences are necessary but not sufficient. By diversifying and integrating these pedagogical stimuli, pupils engage in co-creation. It is a personal, individual, engaged process, and at the same time a reader's self-discovery. The creative activity is manifested in the ability of each individual to experience and understand a work of verbal art in a different way, to present his/her own opinion, to justify it, to defend it, and at the same time to be tolerant towards the thoughts of others.

Knowledge and skills are necessary for the mastery of the content of the subject of literature; but learning can take place if pupils know and are capable of, but the truths they understand do not become an asset to their personality; such learning is pragmatic and does little for the artistic education of pupils.

Conclusions

In order for students to engage in various creative tasks and develop their creative abilities, several factors are crucial: a knowledge base, a supportive environment, a motivating atmosphere, and the teacher's personality. Students can be offered creative tasks once they have accumulated sufficient knowledge about the writer, their personality, poetic motifs, and specifics. Therefore, before students were assigned creative tasks, an excursion to A. Čaks' museum was organized, and during literature classes, poetry, various motifs, poetic characters, and poetic language were introduced and analyzed. Only then were creative tasks presented, allowing students to independently explore, evaluate, and responsibly use others' ideas, as well as propose their own, to inspire others to use the acquired knowledge effectively and skillfully, in new, unprecedented situations, experiment, interpret, create, implement their ideas, and come up with new solutions so that the ideas developed by students could inspire others.

In secondary education at all levels (basic, optimal, and advanced), it is important to offer students the content of literature studies in a way that allows them, using their

acquired knowledge and skills about the writer and the specific literary work, to creatively, interestingly, diversely, and according to their abilities and interests, turn the process of literature acquaintance into joy and adventure, rather than causing dislike. Only by systematically and purposefully developing creativity can students gain experience and strengthen their abilities to use it independently in various learning areas, including complex and unpredictable situations.

The conducted study indicates that if a teacher creates an appropriate environment and atmosphere, offers students various and diverse creative tasks, and allows students to choose tasks according to their abilities, students willingly engage in the performance of various creative tasks. In the process of literature education, the teacher's personality and the ability to think creatively are of great importance. Only under the influence of a creative teacher can students fully develop their creativity in various fields of activity and expression. Therefore, for a literature teacher, as a subject that deals with the art of words, it is advisable to avoid conventional situations and strive to find unprecedented ones that can be created both in imagination and in reality. The teacher's task is to help students recognize their inner resources to promote their self-realization.

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INTRODUCTION OF REGIONAL VARIETIES OF LATVIAN LANGUAGE IN SECONDARY SCHOOL

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ABSTRACT

Language, including local varieties, is an important component of national identity – subdialects and dialects, as well as Latgalian written language promote awareness and strengthening of regional identity and enrich the national language as a whole. Therefore, it is important that attention is paid to all language varieties.

During the last decades regional varieties of Latvian language have not received sufficient coverage in learning content – there is either no information about them in learning materials or it is minimal. As a result, students not only do not acquire necessary linguistic, cultural and historical knowledge but also their language skills are not being fully developed.

The article describes an experience that was gained in Latvian language classes while using developed lingvodidactic material to promote an understanding of regionalist issues.

In the study, surveys, content analysis and case study methods were used. In trial operation it was determined that 10th-grade students do not have knowledge about regional varieties of the Latvian language, their history and importance in the development of Latvian language. Using the developed lingvodidactic material, students' knowledge of Latvian dialects, subdialects and the Latgalian written language has improved. The ability to recognize differences between dialects and to acquire necessary information has improved as well as interest in the regional diversity of the Latvian language has been created which promoted development of an overall respectful attitude towards the Latvian language.

The study results are consistent with conclusions from other studies and demonstrate consequences of imperfections in learning content which negatively affect students' consciousness of national and cultural identity. The situation can be significantly improved by including students' age-appropriate lingvodidactic material in the Latvian language learning content.

Keywords: *dialects, Latgalian written language, learning content, regional studies, subdialects*

Introduction

The linguistic landscape of Latvia is characterized by the coexistence of different languages, as the basic main principle of the Latvian language policy is that “the Latvian language is the state language in Latvia and the state guarantees Latvian minorities

the opportunity to preserve, develop and use their languages in certain functions” (Kļava, 2011, 16). Consequently, the inhabitants of Latvia are mostly bilingual or multilingual. In Latvia, more than 90% of the students surveyed communicate in two or more languages on a daily basis (Kļava & Rozenvalde, 2021, 54). As the Latvian language developed in time and space, its various forms were created – both regional and the standard language with its everyday colloquial variant, as well as sociolects. The Latvian language has three dialects: The Central dialect (also Middle dialect), Livonic dialect and High Latvian dialect. They historically altogether contain 512 subdialects. Central dialect is spoken in central Vidzeme, Zemgale and in Southern Courland and is the basis of Standard Latvian. Livonic dialect is spoken in Northern Courland and Northwestern Vidzeme. High Latvian dialect is spoken in Eastern Vidzeme, Sēlija and Latgale (see Kurzemniece et al., 2022). Latgalian written language – a historical variety of Latvian – has existed since the 18th century and is based on the subdialects spoken in southern Latgale (Stafecka, 2017).

Livonic dialect has been influenced by the language of Livonians – autochthon population of Latvia. Livonian language belongs to the Finnic branch of the Uralic language family and is one of the critically endangered languages.

Latvian diglossia or polyglossia is formed due to the fact that most people use not only the standard language and at least one foreign language, but also use the native dialect along with the standard language, especially rural residents of the older and middle generation. In Latgale, some people use the Latgalian written language, especially when reading books and publications in the press. Therefore, it is important that during the learning process, due attention is paid to getting to know all the varieties of the Latvian language. Marta Rudzīte believed that society as a whole should be aware that idioms are the main source of the history of our language, knowledge of them contributes to the development of literary language norms and the creation of terms (Rudzīte, 2005, 17). On the other hand, the historical significance of the Latgalian written language and, consequently, the need to familiarize society with its history is revealed in the recognition that “the Latgalian written language, which began in 1753 with translations of the gospels, in the course of history ... have played an important role in the preservation of Latvian identity, including local forms in the Latgale region” (Stafecka, 2017, 64), since “Latgalian writing, despite the ban on printing and the Russification policy, has been an important pillar of Latvian identity for centuries.” (Sperga, 2011, 22–23).

It should be remembered that the result achieved in civic education is also manifested in the students’ attitude towards themselves, other people, society as a whole, and the country (Jurs & Samuseviča, 2020), and the attitude towards the mother tongue is essential in the formation of local and national identity. Therefore, it seems all the more incomprehensible that in the Latvian language teaching materials published in the 21st century, regional issues are either not mentioned at all, or just a few paragraphs are devoted to them in a couple of textbooks for primary and secondary education (Vulāne & Stikute, 2016). Moreover, unlike in other countries (see, e.g., Cheshire et al., 1989; Adger, Wolfram & Christian, 2007), these issues have not even been discussed among Latvian

education specialists for years, although, as Mortad-Serir Ilhem points out “.. the tendency to devalue the child’s first language or to sideline it may make him lose confidence and become feeble in his/her powers in speech.” (Ilhem, 2013).

Ignoring the importance of the native dialect in a child’s development comes into conflict with the conclusions of modern linguists, especially sociolinguists in a number of countries, about the need to familiarize and even use regional dialects at school (Tulasiewicz & Adams, 1998; Adger et al., 2007; Holms, 2013; Tegegne, 2015, 2016). This has led to a situation where parents in many families avoid using their subdialect in communication. In education, whether students will be provided with the opportunity to become more familiar with the regional varieties of the Latvian language actually depends only on the teacher’s desire to develop appropriate materials and include them in the syllabus, which, given the overload of Latvian language and literature teachers, is a significant problem.

The purpose of this study was to find out the opinion of Latvian language teachers and secondary school students about the need to include the aforementioned topics in the curriculum and to assess the suitability of the developed language didactic material for the development of the linguistic competence of secondary school students by getting to know the regional varieties of the Latvian language.

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Methodology

To identify the problem in the syllabus, a content analysis was carried out (Krippendorff, 2004) in order to investigate the requirements set out in the standards for the subject “Latvian language” for familiarization with dialects and the written language of Latgale and plans for implementation of the stated aims within the exemplary programs, availability of relevant content in the educational medium and other resources.

In order to get as complete an idea as possible about the context of acquaintance with regional varieties of the Latvian language, the positions of sociolinguistics and linguo-didactics, the motives of teachers and students to delve into the proposed topic or ignore it, a case analysis was used (Merriam, 1998; Yin, 2003; Neuman, 2003).

In order to find out the consequences of shortcomings in the curriculum, secondary school students and teachers of the Latvian language were asked to fill out an anonymous and voluntary questionnaire.

The sample for the study was random. Teachers and pupils were surveyed remotely through a web survey. Potential participants – teachers of Latvian language and literature from the cultural regions of Vidzeme, Latgale, Selija, Zemgale, and Kurzeme – were informed about the survey in two ways: (a) by sending an e-mail to secondary schools with a link to the survey and an invitation to fill it out, along with encouragement for students to do the same; (b) by posting the survey and an invitation to fill it out on social networks.

The questionnaire included both content and filter questions, as well as closed and open questions. All respondents were required to indicate the cultural and historical region (Vidzeme, Latgale, Sēlija, Zemgale or Kurzeme) in which the school is located, students were also required to indicate the class they study in, and teachers were required to provide information about which class group they work in and what their work experience is. The questionnaires were filled in by 125 students and 100 teachers.

Pilot activities took place in one of the secondary schools in Vidzeme from 28 February 2022 to 2 May 2022 in the 10th grade, where there are 17 students. A nine-hour cycle was developed during which students were introduced to the regional varieties of the Latvian language and the results obtained were analysed.

Results

Regional language forms in the teaching content of the Latvian language in the 20th century

The inclusion of questions of general linguistics in the content of teaching the Latvian language in accordance with the age characteristics of students is a necessary component of the development of their linguistic intelligence (Gardner, 2011) and language competence when getting acquainted with regional forms of the language, which contributes to the study of the history and cultural experience of the relevant community, the awareness and strengthening of regional identity, thereby opening the way to the cultural heritage of the whole nation, enriches the ability of students to better understand works of art and other texts, as well as to express themselves in standard language at a higher level.

Issues of general linguistics have been dealt with in the Latvian language curriculum since the first half of the 20th century, with a compact overview of the history of the Latvian language, a comparison with related languages, as well as dialects and inflections (see, e.g., Endzelīns & Mīlenbachs, 1907, 1921; Ramāns, 1928). In the 1940s and 1960s, questions about regional forms were not included in school curricula and textbooks. An exception is the textbook edition of Anna Tirzmalā and Zigrīda Degļava, which contains information about the history of the Latvian language, the Baltic languages and their kinship, as well as about language researchers (Tirzmalā & Degļava, 1945, 4–6). It was only in 1963 that a secondary school textbook, which was published and then republished, again included brief information about the history of the Latvian language, dialects and linguists (Freidenfelds et al., 1963). A somewhat broader description of dialects and subdialects can be found in the textbook of the Latvian language “*Latviešu valoda 10.–12. klasei (Latvian language for grades 10–12.)*” (Apinis et al., 1988), but in the 20th century the only textbook that describes not only the dialects of the Latvian language, but also provides the most important information about the second Latvian writing tradition was published in the late 1990s under the title “*Latviešu valoda 10.–12. klasei (Latvian language for grades 10–12)*” (Kušķis et al., 1998, 10–30, 55–59).

Regional language forms in the teaching content of the Latvian language in the 21st century

At the level of primary and secondary education, the choice of the curriculum is determined by the standard of the subject based on which the programs are composed, therefore, the standards and sample programmes of the subject “Latvian language”, developed at the beginning of this century, as well as the standards of the Latvian language, exemplary programs and study materials under the *Skola2030* project (*Education 2030 Agenda*) were analysed.

The standard of the primary education developed at the beginning of the 21st century with later amendments (*Noteikumi par valsts pamatizglītības...*, 2014) does not mention the regional varieties of the Latvian language, while the standard of general secondary education (*Noteikumi par valsts vispārējās vidējās...*, 2013) stipulates that students should know the differences between the Latvian literary language and dialects of the Latvian language (for more details, see Vulāne & Stikute, 2016), however, the authors of the textbooks mostly did not follow the aforementioned standard.

In the period from 2016 to 2023, within the framework of the project “Competency-Based Approach to the Curriculum” (*Skola2030*), implemented by the State Education Content Centre, new standards for primary and secondary education in all subjects were developed and implemented. Sample programmes and fragmented learning materials were also prepared.

The State Primary Education Standard (*Noteikumi par valsts pamatizglītības...*, 2018) does not define any achievable result related to familiarization with regional varieties of the Latvian language. In the sample programme for learning the Latvian language (Lazdiņa & Šalme, 2018), the dialectal lexicon is briefly mentioned in the 9th grade in the cinematic language topic (Laiveniece, 2018, 261), learning through which students should be able to determine which words belong to which dialects, despite not having previously learned anything about dialects and subdialects.

During the secondary school stage, students should become much more familiar with the regional varieties of the Latvian language, as well as acquiring an idea of the Livonian language. The State Secondary Education Standard also states that students should be able to identify and distinguish between the Latvian literary language, dialects and colloquial language, creating an understanding of the diversity of the Latvian language and its use, describe the language situation in Latvia by analysing the Law on the State Language, learn about the status of the Latgalian written language and Livonian language, analyse the reflection of modern forms of the Latvian language – sociolect and regiolect – in literary works and make judgments about how and why the authors use the diverse Latvian language in works of art (*Noteikumi par valsts vispārējās vidējās...*, 2019).

The authors of the sample programme for learning the Latvian language (Lazdiņa et al., 2021) assumed that secondary school students would become familiar with the dialects of the Latvian language and the Latgalian written language by learning the topic “Diversity of the Latvian language”. If it is adequately covered in the curriculum, students could actually gain the necessary experience in learning the regional varieties of the Latvian language.

Among the educational materials published in the 21st century, two publications containing minimal information about the regional varieties of the Latvian language can be mentioned: the Latvian language textbook for grade 9, providing a brief overview of the dialects and Latgalian written language (Suhanova et al., 2005, 17–19), and “Latviešu valoda 9. klasei (*Latvian language for grade 9*)”, in which the dialects of the Latvian language are named and indicated on the map, while their brief description is also given (Veckāgana, 2014, 15–20). This book is still actively used in schools, including in the classes involved in the pilot activity. In addition, the main features of the dialects are transparently summarized on the website uzdevumi.lv. However, students have too little material to develop an understanding of the regional varieties of the Latvian language. In general, it can be concluded that the dialects of the Latvian language are treated superficially and fragmentarily in grade 9 of primary school. Even less attention is paid to the Latgalian written language, although the Law on the State Language stipulates that the state ensures the preservation, protection and development of the Latgalian written language as a historic form of the Latvian language (*Valsts valodas likums*, 1999). As Dite Liepa points out, this means “various opportunities for the development of this type of language, both in terms of linguistic research ... and in the field of education (for example, the inclusion of information about the Latgalian written language in the curriculum of schools and universities, support in the development of teaching and learning methods, study courses in universities and optional lessons in secondary schools)” (Liepa, 2016, 226).

The textbook “Latviešu valoda 11. klasei (*Latvian language for grade 11*)” is available for secondary school students on the e-media māconis.lv, it briefly describes the dialects of the Latvian language (Šūpola et al., 2010, 120–123), but only those students who use “Latviešu valodu vidusskolām, 1 (*Latvian language for secondary schools, 1*)” (Dalbiņa & Lāčauniece, 2010, 25–26) are able to get an idea of the Latgalian written language.

However, this does not mean that the teacher will not have materials to create the curriculum, because the issues of geolinguistics and Latvian linguistics are widely studied in Latvian linguistics. A rich literary material has been collected, descriptions of literature, collections of texts, dictionaries, monographs, scientific articles, as well as four volumes of the “Latviešu valodas dialektu atlants” (*Atlas of the Latvian Dialects*) and “Baltu valodu atlants” (*Atlas of the Baltic Languages*), an electronic book “Valodas rokasgrāmata” (*Language Textbook*), and “Lingvistiskā karte” (*Linguistic Map*) are available to students as educational aids in learning of the Latgalian written language. However, the adaptation of these materials for use in schools takes a lot of time, therefore, as experience shows, students either do not get acquainted with the regional varieties of the Latvian language at all or get only a superficial theoretical insight. This is a serious problem that has not been addressed in the education system for decades.

Results of the questionnaire of teachers

To find out what teachers’ experiences and opinions are as regards introducing the regional diversity of the Latvian language at school, a questionnaire was prepared

that included seven closed and five open questions. As already mentioned, 100 respondents from all cultural and historical regions of Latvia took part in the questionnaire (see Fig. 1) – 44% of teachers from Vidzeme, 27% from Latgale, 17% from Zemgale and 12% from Kurzeme.

76 teachers have been providing students with materials on the regional diversity of the Latvian language, 61% of them in grade 10, 49.4% in grade 9, 35.1% in grade 5 and 27.3% in grade 11. Several teachers indicated different grade groups as the teachers work with different curricula and have different experience.

Most teachers (62%) believe that this topic should be updated in all grade groups, but 20% of teachers believe that it should only be included in the secondary school curriculum. 8% of the respondents believe that regional varieties of the language should be introduced in grades 4–6, but 10% of the teachers surveyed believe that this topic should be discussed in grades 7–9. We have to agree with those teachers who believe that already at the stage of the primary education, students should be introduced to the regional varieties of the Latvian language in an age-appropriate way. This topic is completely ignored in the curriculum of teaching Latvian as a state language in minority schools, which is not considered a good solution. According to bachelor’s research conducted by the teacher Jete Zumente (Zumente, 2023), students from minority backgrounds can also successfully become interested in getting to know regional varieties of the Latvian language, thereby enriching their knowledge of the language and the country and its culture.

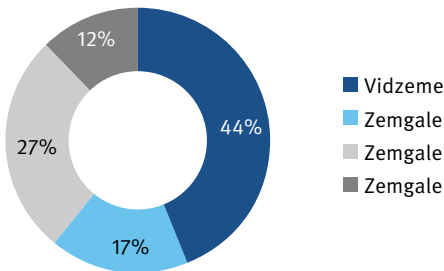


Figure 1 Regions represented by respondents

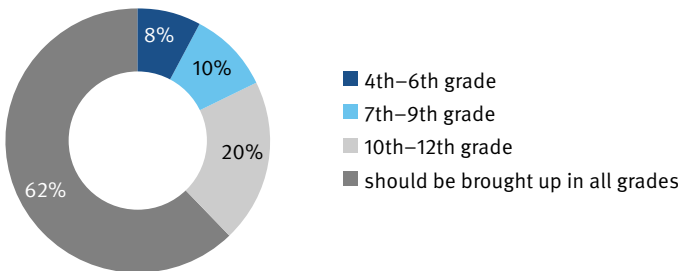


Figure 2 Age of learning about regional varieties, suggested by teachers

To successfully create an educational medium, it is important to determine both the amount of linguistic information that can be included in the teaching content, and the specific knowledge and skills that students can learn. Therefore, teachers were asked about the scope of the curriculum. 43% of the respondents believe that students should be able to name all dialects of the Latvian language and know their territorial distribution and main features. 24% of the teachers surveyed believe that, in addition to this, they should also be aware of the origin of dialects and be able to determine the dialect a subdialect belongs to. 30% of the respondents stated that it is enough to know what the notions a dialect and a subdialect mean and that they exist in the language. Some respondents (3%) have demonstrated specific knowledge and skills.

When asked how deeply one should know the Latgalian written language (Latgalian written language (LWL)) at school, 31% of the respondents indicated that students should know what the Latgalian written language is, how it was formed, where it is used, what is its significance in the cultural space of Latvia, while 17% of the teachers believe that they should know what LWL is, where it is used, what its main features are. A quarter (25%) of the teachers surveyed believe that it is enough if students know what the LWL is. On the other hand, 19% of the teachers stated that students should have an idea of the Latgalian written language, its history and be able to read a text written in it. It is significant that 12 of the respondents who chose this answer work in one of the schools in Latgale. Unfortunately, among the respondents there were also those who believe that the Latgalian written language should be taught only in schools in Latgale (5%) and that there is no such Latgalian written language at all, there is only a dialect (3%). Such an answer clearly underlines the consequences of the inadequacy of the curriculum, since this is the opinion of a fairly wide part of society (Vulāne & Šmatova, 2021).

The teachers were also asked to express their opinion on the suitability of an educational medium for learning the study topic. 46% of the respondents consider the information about regional varieties available in educational materials to be insufficient, 22% believe that there is almost enough information, 15% of the respondents say that there is enough information, 5% consider that there is no information at all, but no one believes that there is too much information provided. Obviously, there are two reasons for this diversity of opinion: (1) different learning resources are used, (2) there is a disagreement about how broadly these issues should be presented in the learning content. It should be noted that there is no correlation between the opinion on the sufficiency of information and the extent to which issues of regional diversity should be considered. It is indicative that five respondents who consider the information to be sufficient, use a wider range of learning resources, combining several books, including textbooks on the LWL.

Answering the question about which textbooks were used to study the regional varieties of the Latvian language, the teachers mostly indicated that it was a textbook (36%), more often mentioning the textbooks of the Latvian language under the title “Valodas labirinti. Latviešu valoda 9. klasei (*Labyrinths of language. Latvian language for grade 9*)” (Vanaga & Babrāne, 2006) and “Latviešu valoda 9. klasei (*Latvian language for grade 9*)” (Veckāgana 2014). The book “Latviešu valoda 10.–12. klasei (*Latvian language for grades 10–12*)” (Apinis et al., 1988) was also mentioned as a very informative teaching

aid. Only two respondents indicated *Skola2030* resources. 3 (3%) teachers in Latgale also use the LWL teaching aids. Presumably they teach the LWL as an optional course at school. Only 8 (8%) teachers admitted that they have to prepare everything themselves.

When asked whether other resources were used to study this topic, the majority of respondents (87%) answered in the affirmative. Mainly various electronic resources, folk songs, literary works, the program “Dzirdi balsis ar Kārli Kazāku” (*Hear voices with Kārlis Kazāks*) etc. were mentioned. Only two respondents indicated Atlases of Latvian dialects, and one mentioned dialect dictionaries.

When asked whether it is necessary to get acquainted with the works of Latgalian writers in terms of the literature content, 71% of the respondents answered in the affirmative, but 16% of teachers do not consider it necessary. 13% of teachers could not answer this question.

When asked whether efforts should be made to preserve the Latvian language dialects, the main answer (91% of the respondents) was that the dialects should definitely be preserved, as they are evidence of history, our intangible heritage, uniqueness, individuality and our roots. Seven teachers indicated that nothing should be artificially preserved, but two of them also emphasized that while it is now important to preserve the literary language, the dialects are not a priority issue today.

In order for the dialects to be preserved, the essential rule is that people use them in their daily speech. 72% of the respondents are convinced that parents should communicate with their children in their native language, as this is the only way to preserve national identity. Six of them added that it is important to speak literally correctly, so students should avoid dialectal interference in the standard language. 28% of respondents believe that this is a family choice and no one should influence this decision.

Results of the questionnaire of students

To determine the knowledge of students about the issue under study, a questionnaire was created, which was filled in by 125 students. 79% of students from Vidzeme, 9% from Zemgale, 7% from Kurzeme and 5% from Latgale participated in the questionnaire. Of these, 42.4% study in grade 11, 36.8% in grade 10, and 20.8% in grade 12.

88% of respondents indicated that they knew about the regional varieties of the Latvian language, 6% said that they did not know anything, another 6% answered that they did not remember.

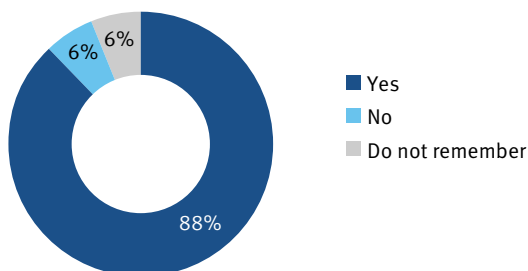


Figure 3 The number of students who have learned about regional varieties of the Latvian language

The superficiality of knowledge is confirmed by the answers and the next question, where the students had to write what a dialect is. 46% of the respondents answered that a dialect is a type of language, and about half of them indicated that it is characteristic of a certain locality/region. 18% of the students surveyed stated that a dialect is a collection of related subdialects, 14% of the respondents explained that this is a specific manner of speaking/style. 12% of the students explained the concept of a dialect as *language peculiarities in a certain region*. The answers of 27% of the respondents were incorrect, for example, six students associated the dialect with belonging to a social group, four of them named the peculiarities of writing and grammar. There were also answers that *a dialect is a form of a subdialect, different inflections of words, changes in stress, a language with different endings*, etc. Nine students indicated that they did not know or could not formulate an explanation of the dialect.

26% of the students described a subdialect as a type of language spoken in a small area, while 19% of the respondents said it was a more detailed subdivision of a dialect. 13% of the respondents answered that a subdialect is a special inflection of words, accent or emphasis, another 13% believed that *a subdialect is a feature of using the language, a special way of communicating*, etc. 12% of the students admitted that they do not know what a subdialect is, but 17% of the respondents' answers are completely wrong, for example, that a subdialect *is a region in which a dialect is used, characteristics of a dialect*, etc. So, only 46% of the students have a vague idea of what a subdialect is, but most have little or no understanding of it.

When answering the question why dialects and subdialects appear in the language, the students generally confirmed that they understand the reasons for their occurrence, but in general, answers were very general and only partially correct. Only one respondent had the exact answer: *Subdialects usually appear due to specific geographic, economic, or political conditions. The subdialects of the Latvian language appeared due to economic and political conditions – during serfdom, Latvian peasants were not allowed to leave the territory of their manor*. The majority (26%) of the students said that they did not know the answer, 18% of them answered that the differences arise due to geographical reasons, 14% of those surveyed believe that a combination of several conditions contributes to the regional diversity of the language, and 16% considered the influence of neighbouring countries to be the main reason. 17% of the respondents believe that the reason lies in historical circumstances, without specifying them, but 6% of the students mentioned social isolation, and 3% of them stated that the dialects of the Latvian language appeared under the influence of ancient tribal languages.

68% of the students know that there are about 500 subdialects of the Latvian language, the rest stated a much smaller number.

Knowledge of the division of dialects of the Latvian language is also imperfect. Only 49% of the students correctly marked all the dialects from the proposed options (*Central, Livonic and High Latvian*). Many of them chose the option *Latgale [Latgalian], Kurzemian or Vidzemian*. Apparently, students associated the names of dialects with the names of Latvia's cultural and historical regions Vidzeme, Kurzeme, Zemgale, Latgale not to

dialects. Only 48% of the respondents were able to correctly indicate the territorial distribution of dialects on the map. The most characteristic mistakes were the naming of the Livonic dialect as the *Livonian* or *Curonian* dialect, and the High Latvian dialect as the *Latgalian* dialect.

The ability of students to see dialect features in the text was also tested. The Middle dialect was recognized by 56% of the respondents, the Livonic dialect by 37%, and the High Latvian dialect was correctly named by 53% of the students. 6% of the respondents called the Livonic dialect the *Livonian* dialect, and 26% of the respondents called the High Latvian dialect the *Latgalian* or *Latgale* dialect. So, in general, the students saw the signs of the High Latvian dialect better, even though some of them used the wrong name for it.

The students' knowledge of the second written tradition of the Latvian language is the weakest of all. Only 13 respondents (10.4%) were able to accurately name the Latvian literary and LWL, eight more (6.4%) respondents answered inaccurately, mentioning the Latvian, Lower Latvian or literary and Latgalian languages, the rest of the respondents (83.2%) did not give any answer.

Answering the question of how widely one should know the Latgalian written language at school, the majority (35%) of the respondents believed that it is necessary to know how it was formed, where it is used and what is its significance in the cultural space of Latvia. 25% of the students believe that it is enough to know what the LWL is, what its features are and where it is used. 21% of the respondents stated that they should know what the LWL is in general, while 10% believed that there is no need to learn anything about the LWL, since it applies only to schools in Latgale. 9% of the students answered that there is no such language, there is only a dialect.

Respondents were asked to express their opinion on whether they should try to preserve the Latvian language's subdialects. 63% of the students believed that the subdialects of the Latvian language should be preserved, as it is our cultural heritage, they demonstrate the uniqueness and diversity of the language and are of historical value. Some students (4%) noted that the subdialects were interesting. 8% of respondents believed that the subdialects are of value, but they should not be preserved, because the language should be allowed to change. 5% admit that the subdialects should be preserved, but have not justified their opinion. 9% of the respondents believe that the dialects definitely should not be preserved, since it does not make sense to preserve them, and 11% of the students did not have any opinion on this issue.

At the end of the questionnaire, students were asked to write what they would like to know about the regional diversity of the Latvian language. 45% of the students showed no interest in learning more about the regional varieties of the Latvian language. 20% of the respondents would like to know more about their origin and history, and 19% of the students would like to know only general information about regional varieties. 5% of the respondents are interested in their value today and their change over time. Only 4% of respondents showed a deep interest in the Latgalian written language, while 7% of the students did not answer the question.

However, these results cannot be generalized as the population surveyed was too limited, and not all regions were equally represented. It can be seen that most of the answers were given by teachers who look at the topic under study in the learning process, and by students who have learned something about the regional variants of the Latvian language.

Although the surveys were filled out by a small number of respondents, they shed light on several issues. Both teachers and students passively engage in surveys when they are conducted remotely.

Responses from teachers indicate that:

- at least the participating teachers in the study are aware of the necessity to provide students with an understanding of the diversity of the Latvian language, the significance of each of its forms,
- there is an acute need for teaching materials that fully incorporate modern content about Latvian language dialects and varieties, Latgalian written language, Livonian language...
- accessibility to scholarly works, including resources digitized in the Latvian National Library, needs to be ensured so that teachers can not only educate themselves but also use suitable materials in the teaching process,
- audio recordings and other resources that would enhance the enrichment of teaching content with language materials are necessary.

Responses from students reveal that:

- they have a desire to better understand the diversity of the Latvian language and an inertia in enriching their knowledge at the same time,
- there is inadequacy in superficial knowledge of facts about the Latvian language and understanding of industry-specific terminology,
- there is superficial knowledge and inadequacy in understanding Latvian history.

As the authors' experience shows, a significant reason is that the subject matter of the research is not allocated enough time in the teaching process. Moreover, getting acquainted with the regional varieties of the Latvian language usually has a sporadic nature – in a specific class, students are provided with a general overview of Latvian language dialects, not even mentioning Latgalian written language, which doesn't create interest and a desire to learn more, explore the history of dialects, their distinctive features, modern-day usage, etc.

Diversifying teaching materials not only with scholarly texts but also with contemporary audiovisual resources (songs, broadcasts, etc.) and establishing interdisciplinary connections with history and social sciences could generate greater interest and understanding of the regional diversity of the language.

Results of the pilot activities

In a study of the grade 10 students participating in the pilot activities, it was found that the students learned the topic of regional diversity in grade 9, however, as they admit, they do not remember anything. It is important that the students' interests and the choice of future profession also affect their motivation for learning. They do not consider

the Latvian language as a subject that could be of great importance in the planned professional field. This attitude stems from the prevailing stereotype in a large part of society that a good knowledge of the language is necessary only for specialists in the humanities sector, and results in corresponding academic performance, putting the Latvian language in last place in terms of the average score across all academic subjects. This aspect was taken into account when developing the content for the teaching process, in order to be able to promote interest in the students for whom the Latvian language is not of value. When assessing the students' knowledge of Latvian dialects and the Latvian written language, it was found that they lack factual knowledge, as most of them do not know what a dialect or subdialect is, or what the reasons are for their appearance. Only four students were able to correctly mark the territorial distribution of dialects on the map, but no one was able to name two writing traditions of the Latvian language. Only two students mentioned the Latvian literary language as one of the written traditions. When evaluating the answers of the students in percentage terms, an average score of 38.59% was obtained, which indicates a poor knowledge of regional varieties of the Latvian language.

Seven lessons were devoted to getting to know the regional varieties of the Latvian language, during which the students acquired knowledge about the dialects of the Latvian language and the Latvian written language, developed the ability to work with relevant texts and dialect maps, search and collect information, collaborate, discuss and present their achievements.

Using linguistic and historical information, maps and a fragment from the documentary "Baltu ciltis" (*Baltic tribes*), the students learned about the origin of the Latvian language and its dialects and subdialects. The students were very interested in the historical aspect, since they did not know anything about the Baltic tribes, their entry into the territory of Latvia and the Livonian tribe, tribal languages, etc. This indicates that this topic should definitely be more widely learned during the history lessons and is one of the ways to excite interest in the language.

Five lessons were devoted to getting to know the dialects and subdialects of the Latvian language. The students were provided with theoretical information, various audio-visual materials, the authentic sounding subdialects from the audio CD (Leikuma & Mežs, 2015) and songs from the cycle of programs "Dzirdi balsis ar Kārli Kazāku" (*Hear voices with Kārlis Kazāks*). In order for the learning content to be learned more fully, it is important that the students are active, so both productive and reproductive as well as interactive and creative tasks were developed, dialect maps were studied, information was searched in scientific literature and on various websites, written online discussion was created, etc.

An important part of the cycle of lessons was group work, during which it was necessary to study one of the groups of dialects of the Latvian language using scientific literature, dialect maps, find relevant examples in fiction or folklore materials, and then present the work done.

A separate lesson was devoted to getting acquainted with the Latgalian written language, which, of course, is not enough, but the students got an idea of the second written

tradition of our language, its importance in preserving Latvianness in Latgale during difficult stages of history. At the same time, they got acquainted with various resources and websites where more information could be obtained, which was completely new for the students. The fact that the Latgalian written language is widely used today in various fields was also highlighted.

In the process of learning, the concepts of the *Livonian language* and the *Livonic dialect* were mixed up, more difficulties were caused by the High Latvian dialect, which is most different from the Middle dialect and the standard language, as well as other tasks.

At the end of the cycle of lessons, the students wrote a control work, which, in terms of content, resonated with the diagnostic work. As a result, there has been a positive trend seen – the average score for the class was 67.35%. Thus, students' knowledge of the regional varieties of the Latvian language has reached at least a sufficient level. In the diagnostic work, there were much better results in the tasks in which knowledge about the causes, distribution, and features of the emergence of dialects and subdialects had to be demonstrated.

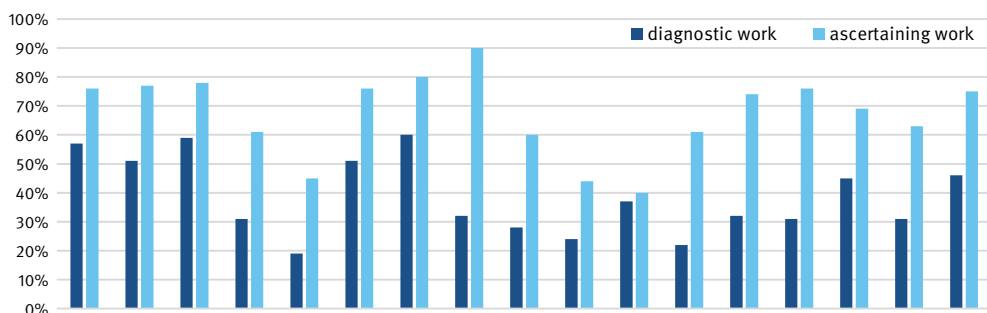


Figure 4 Results of diagnostic and control work

The opinion of the students about the meaning of the subdialects has also changed. If at the beginning of the pilot activities, only 11 students believed that the subdialects should be preserved, at the end of the lessons cycle already 16 students recognized the value of regional varieties of the Latvian language.

Approbation of language and didactic material proves that the best way to learn is to do it yourself, but knowledge is also needed. Particularly valuable was the group work, during which the students did their own research on a group of subdialects. It is important to have clear performance criteria and specify the sources to be used. The work done up front and the teacher's narration is also of great importance. With mini-lectures, both the content and the sequence and volume of information are controlled, which is especially important when there is a lot of information and time is limited. Taking into account the course of the learning process, it can be concluded that the High Latvian dialect is the most difficult one for the students to understand and is less familiar to them, moreover, the students do not want to use scientific literature as it is in a language they do not understand. This means that already at the stage of primary education, the students

should begin to form the habit of obtaining information from scientific sources, deepening their knowledge in secondary school. The ability of students to purposefully obtain factual information and critically evaluate it, make a list of references and references used needs improvement. It is desirable to include relevant cultural and historical information, audio-visual language materials, dialect maps in the teaching content, as this arouses interest among students and contributes to the desire to learn.

Conclusions

The results of the study resonate with the findings of other studies and clearly show the consequences of the shortcomings of the curriculum, which negatively affect the students' awareness of their national and cultural identity. In order to develop students' understanding of the regional diversity of the Latvian language, regular work is required at all stages of learning. Linguistic and cultural-historical information appropriate to the age of students should be included in the Latvian language teaching curriculum already at the stage of primary education, not only about the common national language but also about development, changes and linguistic and cultural-historical significance of its regional subdialects, expanding this topic into the secondary education curriculum.

In-service teacher education programs should offer various language didactic materials that would facilitate learning of the topic under study in Latvian language lessons. In addition, this topic should be updated not only in relation to languages, but also to other subjects, especially history and literature, creating a connection between subjects.

The students' achievements in using appropriate language didactic material in a cycle of seven lessons show its suitability for getting acquainted with the regional variants of the Latvian language. The students involved in the pilot activities improved their knowledge of the regional variants of the Latvian language to at least a sufficient level, as the average score improved by 28.68%. The opinion of students about the importance of linguistic diversity has changed – if at the beginning only 65% of the students believed that the regional varieties of the Latvian language are our cultural value, then by the end of the pilot project 94% did so. Since the students are reluctant to use scientific literature because it seems incomprehensible, appropriate linguists' works should be deliberately included in the teaching content, as well as papers and fragments of papers of other researchers in order to develop the scientific language of students and encourage them to work with scientific texts. It is also necessary to improve the ability of students to find scientifically correct sources of information, analyse them and internalize new knowledge, develop the ability to create references and compile a reference list.

In order to achieve good learning outcomes, it is important to develop teaching aids that contain both the necessary theoretical information and appropriate tasks for better familiarization with the regional varieties of the Latvian language, including the incorporation of audiovisual materials. The topic of Latvian language regional diversity should be revisited multiple times during the elementary and secondary school stage; it can also be integrated with other topics, thereby reinforcing and deepening knowledge. Meanwhile,

establishing interdisciplinary connections with other subjects (history, social sciences) would enable the comprehension of historical and social correlations in the development of language.

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INTEGRATING LANGUAGE POLICY IN EDUCATIONAL PROGRAMMES: THE INTERNATIONAL DECADE OF INDIGENOUS LANGUAGES FOR LANGUAGE AWARENESS

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ABSTRACT

The project “Competency-based approach in the curriculum” (*School 2030*) initiates changes in learning approach in order to develop value-based knowledge, skills and attitudes. In the domain “Languages” as well as in the domains “Social and Civil Skills”, “Cultural awareness and self-expression in art” the interrelation between languages and the importance of language and culture in the process of identity formation should be highlighted in all educational programmes. Taking into account the need for new content, the aim of the study is to analyze sources for additional information. Public opinion on language issues is largely developing under the influence of global trends and movements. Therefore current activities in international arena may be used for promoting positive language attitudes. *The International Decade of Indigenous Languages (2022–2032)* (IDIL) proclaimed by the UN offers a unique opportunity to provide information not only about endangered indigenous languages, but also about the efforts of communities and international organizations to preserve and develop all languages as an integral part of the world's cultural heritage. The primary focus for IDIL activities in Latvia is the Livonian language, the language of the indigenous (autochthonous) population in Latvia. However, the IDIL can help to implement the goals of language policy in Latvia, not only raising awareness about Livonian but also reminding people of the importance of using and developing the Latvian language as a part of global linguistic diversity. The paper provides conclusions on reflection of global language processes and ideas for implementation of IDIL issues in various educational programmes.

Keywords: *indigenous languages, language attitudes, language education, the Latvian language, the Livonian language*

Introduction

The United Nations General Assembly has proclaimed the period 2022–2032 as the *International Decade of Indigenous Languages* (IDIL). The goal of this initiative is “to draw attention to the urgent need to preserve, revitalize and promote all languages

and to create greater awareness of the importance of linguistic diversity and multilingualism and of their contribution to self-empowerment, sustainable development, good governance, respect for human rights, as well as the importance of cultural diversity and biodiversity, interculturality, intercultural dialogue and peace education in building open, inclusive, democratic and participatory societies” (Global Action Plan, 2022, 9). Undoubtedly, the information about the world’s linguistic diversity and its future prospects can be considered as a valuable and important part of the knowledge pool of every human being. People in the Baltic States also experience interest in indigenous languages, mostly as a part of lesser-known “exotic” cultures and worldviews. From this point of view the IDIL is “everyone’s Decade” (Ibid., 20) because it presents a unique possibility to raise awareness not only about other, mostly endangered, languages, but also about the efforts of communities and international organizations to maintain and to develop all languages as an inseparable part of world’s cultural heritage.

However, there is another added value of this Decade apart from this informative function. The IDIL tasks and elements of campaigns may be overtly or covertly integrated in the language policy guidelines and legislation in most of countries. The present contribution provides some ideas of the importance of the IDIL for our region and the ways the IDIL could help to implement the goals of new approach to education. E.g. there are mentions of Livonian in *Regulations Regarding the State General Secondary Education Standard and Model General Secondary Education Programmes* (see Noteikumi, 2019), but no teaching materials and information sources exist. The research provides basic information for teachers to be used in language classroom.

Methodology

This paper presents a theoretical and analytical study aimed at improving education content for basic and secondary education, with a focus on global linguistic processes. By raising awareness of language diversity through the education system, this study aims to contribute to the implementation of the *State Language Policy Guidelines (2021–2027)* (Par valsts valodas politikas pamatnostādņēm, 2021). The research questions addressed in this study are derived from actual challenges for language and education policy-makers, namely: 1) How can the idea of IDIL be effectively integrated into the education process? 2) Which aspects of the IDIL should be included in the curriculum to promote positive language attitudes towards global multilingualism, as well as the full-blooded functioning of Latvian as the sole Official State Language? To answer these questions, this study provides an analysis of language attitudes, information on the IDIL, its mission, and terminological issues, and presents ideas on how to integrate different aspects of the IDIL into the curriculum. The study employs qualitative sociolinguistic methods, including analysis of scholarly articles, policy documents, reports from relevant international organizations and direct observations.

Results and Discussion

Among sociolinguists and contact linguists there seems to be a consensus that the characteristics of an indigenous language minority are mainly to be seen as a difference in terms of its linguistic and cultural distinctiveness, and the inequality concerning its social status and its position *vis-à-vis* the dominant majority of the state in which it (i.e. the minority) resides (Darguennes, 2013, 104). However, the economic or market value of the language often plays a leading role. “Many beautiful pronouncements about the historical, aesthetic, philosophical and other values of linguistic and cultural diversity for the whole of humankind, about the languages and libraries of humankind and other ‘Unescoese’ statements exemplify social non-market values. Social non-market values have often been labelled and rejected as romantic, non-realistic, elitist, moralist, essentialising and the like” (Olthuis et al., 2013, 161). The idea of IDIL is to promote not only the public presence and a much wider use of indigenous languages, but also the symbolic value of all languages. Public opinion on language issues is largely developing under the influence of historical and geopolitical processes, and is influenced by the global information space. This concerns the *International Decade of Indigenous Languages*, too, as the awareness on global and regional developments may be considered a significant factor in development of language attitudes.

The concept of language attitudes

Language attitude(s) could be shortly described as a complex of subjective factors that characterize language perceptions, attitude towards different languages (language variants) and measures taken by state or public institutions to regulate the language situation. Language attitudes refer to the feelings, beliefs, and evaluations that people have towards a particular language or dialect. These attitudes can be positive, negative, or neutral, and they can be based on a variety of factors such as the speaker's background, the context in which the language is used, and the speaker's personal experiences with the language. Language attitudes can influence language learning and language use, as well as how speakers perceive and interact with others who speak a different language or dialect (Garret, 2012; Kircher & Zipp, 2022).

Linguistic attitude and language ideology are closely related concepts that reflect speakers' feelings and beliefs about language and identity. These concepts emerged in the latter half of the 20th century as a way to understand the relationship between language and identity, which had previously been largely ignored in language research (Schieffelin et al., 1998). The study of linguistic attitudes is typically associated with social psychology and quantitative sociolinguistics, while language ideology is associated with ethnology, discourse analysis, and qualitative sociolinguistics. Language ideology often emphasizes the role of speakers' political, social, and economic experiences in shaping their beliefs, while linguistic attitudes focus on the attitudes themselves. Changing linguistic attitudes is seen as a key indicator of the success of language policy, particularly when it involves a shift in the language hierarchy established by legislation. However, it

is important to note that data on linguistic attitudes should be interpreted in the context in which it was collected (Liang, 2015).

It should be noted that, in the sense of Latvian linguistic attitudes, it is also important to identify the views and practical behaviour of other nationalities in Latvia – the principle of connected vessels exists here. On the one hand, the attitude of Latvians towards their own language and its use influences the speakers of Latvian language as a second language, on the other hand, the attitude of other inhabitants of Latvia towards the language is reflected in the views and actions of Latvians (see Druviete, 2021). Therefore the information on the *International Decade of Indigenous Languages* could be valuable for all social groups in Latvia.

Indigenous languages: terminology, stereotypes, reality

As concerns the legal or sociolinguistic classification of languages, there are no universal definitions of the terms like *minority languages*, *autochthonous languages*, *indigenous languages*, *aboriginal languages*, *lesser-used languages*, *heritage languages*, etc. Definitions of heritage languages may include the languages of migrant, indigenous, and national minorities. Heritage languages are minority languages learned in a bilingual or multilingual environment, as well as “aboriginal or indigenous languages whose role has been diminished by colonizing languages, and historical minority languages that coexist with other standard languages in diverse territories” (Montrul & Polinski, 2021, 1). As Roberta Medda-Windischer notes, there is a subtle continuum between minority groups and indigenous peoples. “Without entering into details in this controversial issue, it has to be admitted that the debate about the difference between indigenous peoples and minorities is indeed complex. It is not easy to distinguish between a group that calls itself an ‘indigenous people’ and a group or minority that recognizes itself as being native to a given territory and that invokes that characteristic in order to obtain its rights” (Medda-Windischer, 2017, 25).

The programmatic documents of the IDIL do not include clear-cut indications on which languages could be considered indigenous within the understanding of the Decade. The identification of indigenous peoples has been a process of extended policy discussions within the United Nations. The *Global Action Plan* for IDIL facilitates the inclusion of native languages, describing them as the languages currently or historically used and considered integral to their heritage, knowledge systems or identity.

This approach is different from the one used for the purposes of one of the very few internationally binding documents mentioning indigenous peoples – *International Labour Organization’s Indigenous and Tribal Peoples Convention* (No. 169) (ILO Convention, 1989). This Convention is based on the principle of tripartism, which includes dialogue and cooperation between governments, employers, and workers in the formulation, adoption and supervision of labour standards. As the handbook “Understanding the Indigenous and Tribal Peoples Convention” states, “there is no universal definition of indigenous and tribal peoples, but ILO Convention No. 169 provides a set of subjective and objective criteria which are jointly applied to identify who these peoples are

in a given country” (Understanding, 2013, 2). According to this handbook, the main objective criterion for the difference between indigenous and tribal peoples besides self-identification is the regulation of their status – by their own social, economic, cultural and political institutions in the case of indigenous peoples and regulated wholly or partially by their own customs or traditions in the case of tribal peoples (Ibid.). In most of the present political documents and scholarly publications only the term *indigenous peoples (languages)* has been used.

Most people associate the concept of indigenous peoples (languages) with small communities in remote areas falling under the classification of threatened or (nearly) extinct languages according to the EGIDS measurement tool (see Ethnologue, 2022). According to *Ethnologue*, 3045 languages or 42% out of total 7151 languages in 2022 are endangered. The latest version of the *UNESCO World Atlas of Languages* (2021) documented the legal status of each language: out of 8,324 languages 1,412 languages are recognized by national constitutions, laws and other legal instruments, and around 1500 languages risk losing their speakers in the near future (UNESCO, 2021). Usually, several factors coincide in these cases: an insufficient number of speakers (not always a decisive criterion), a lack of writing tradition, non-usage in the education system. However, the main reason perhaps is the parents’ and grandparents’ inability to or desire not to pass on their language to subsequent generations.

Like the statement that there is no single criterion by which one can describe the current state of a language and also predict its future, there are also no strong criteria for which languages could be nominated as “indigenous”. Contrary to widespread public opinion, the term *indigenous languages* may also be applied to autochthonous European languages. Several sources even mention numbers: informative materials of the *European Centre for Modern Languages* comprise 225 languages (Language Facts, 2022). The identification of indigenous peoples has been a process of extended policy discussions within the United Nations, as the main goal is the protection of global language diversity.

Non-disputable indigenous language in Latvia: the Livonian language

Indigenous languages are recognized by Member States within their legal systems and legislation, which in turn are supported by “comprehensive language-related laws and policy frameworks and are backed by allocated financial, institutional, and human resources, enabling languages to be used fully and functionally in all socio-cultural, economic, environmental, legal, and political domains” (Global Action Plan, 2022, 11). In Latvia, these criteria are applied to the Livonian (the Liv) language.

Livonian belongs to the Finnic branch of the Uralic language family and has been spoken only in the territory of present Latvia. In the 19th century, Livonian still had approximately 3000 speakers, by the mid-20th century around 1500 speakers, but presently there may be at best 30 people in the world who can communicate in Livonian. The number of individuals who have learned the basics of Livonian, however, continues to increase because, as Christopher Moseley states, “not many languages are so well equipped to be revitalized” (Moseley, 2016, 250).

Livonians and the Livonian language has been recognised as the constituent of the Latvian nation and the Republic of Latvia. *The Preamble of the Constitution of Latvia* (adopted in 2014) states that “.. since ancient times, the identity of Latvia in the European cultural space has been shaped by Latvian and Liv traditions, Latvian folk wisdom, the Latvian language, universal human and Christian values”. The *Official Language Law* (adopted in 1999) includes several articles on the Livonian language, e.g. “The State shall ensure the maintenance, protection and development of the Liv language as the language of the indigenous (autochthonous) population» (*Official Language Law*, Art. 4, 1999) or “Names of places, institutions /../ in the Liv coastal territory, and names of events /../ shall also be created and use thereof shall be in the Liv language” (Ibid, Art. 18 (4)).

Although Livonian has been successfully developed and recognized, it is still one of the most endangered languages in the world. The Livonian case “also indicates that the rights of endangered languages with limited representation on the national level – especially those which are small in number and detached from their historical area – become contested despite official recognition at the state level and even internationally” (Kļava & Ernštreits, 2022, 227). This makes the IDIL and its planned activities important in Latvia to ensure the survival and continuation of Livonian. Therefore, it is not surprising that the *University of Latvia Livonian Institute* has become one of the most active promoters of IDIL ideas in the Baltic States. From a sociolinguistic point of view, “the position of Livonian within Latvia should be seen from two perspectives: the preservation, development, and revitalisation of the use of Livonian as well as the mutual influence of Livonian and Latvian. Close historical ties and different societal changes throughout history are also at the foundation of a variety of changes in language, which are layered one on top of the other, thereby obscuring the signs of clear mutual influence between both languages. Thus, in order to completely understand the nature of Latvian, it is necessary to research and understand the nature of Livonian irrespective of the total number of Livonians or the activities of their community” (Druviete & Kļava 2018, 141).

The IDIL undoubtedly will have an impact on the awareness and sustainability of Livonian. Should we use this decade for the implementation of general goals of language policy in Latvia, too?

IDIL goals for the maintenance of Latvian

When Latvian was restored as the sole official State language during the awakening period (1988–1991), the main tasks of language policy makers, mostly professional linguists and sociolinguists, were clearly defined – to overcome the Russification, to ensure the sustainability, linguistic quality and competitiveness of the Latvian language as the state language of the Republic of Latvia, as well as to guarantee to preserve, develop and use the languages of the minorities of Latvia. Since the restoration of independence, the position of Latvian has seriously improved both legally and demographically, although the language situation remains complex and competitive (Kļava, Vītola 2022). Latvian is one of 200–250 languages out of ca.7000 in the world spoken by more than one million of people – by 2.3 million people in 2023, so we cannot define it as a small

language. The competitiveness of the Latvian language is also strengthened by its positions in the state and local government institutions, the armed forces and the education system, including higher education, as well as the growing number and proportion of speakers of Latvian as a second language among minorities. The status of the official language in the European Union is a significant incentive for the sustainability of Latvian terminology. The constitutional status of the Latvian language, the Law on the State Language and its implementing rules have provided the necessary legal framework for the use and freedom of the official language. However, in Latvia's ethnodemographic and geopolitical situation, only statistical data and legislation are not sufficient to understand the language situation, as they do not give a complete picture on language competition with the two languages with much higher economic value (Russian and English). Measurable parameters of the language situation should be analyzed in a broad historical and international context and in close association with language attitudes, or in other words, within the system of values among various societal groups. These values depend not only on traditional narratives, which in Latvia often include stereotypes about Latvian as an endangered and disappearing language, but also on the public awareness of languages and their competition, both in the world and in Latvia. Therefore the education system must provide relevant information about language situation and language policy in Latvia promoting active position for strengthening Latvian among students and teachers.

The importance of IDIL for the maintenance of Latvian could be considered in two ways: 1) directly, applying the concept of indigenous language and its protection to Latvian, 2) indirectly, providing information on global language maintenance and language shift, and applying this knowledge to the language situation in Latvia.

Contrary to widespread opinion, the term *indigenous languages* may be applied to the autochthonous European languages, and discussions on its appropriateness for, e.g., Latvian, Lithuanian and Estonian as unique languages in their ethnogenetic territory are also theoretically possible. Nowadays, even mid-sized national languages can be endangered. Well-considered language policy system needs to be developed to maintain them. Language policy in the post-independent Baltic States Estonia, Latvia and Lithuania has attracted considerable political and academic interest. After regaining their independence in 1991 after half a century of Soviet rule and being subjected to Russification, the Baltic States have insisted on making their languages the sole official state languages and have pursued a range of language policy initiatives to ensure this status. In order to evaluate the present language policy, one cannot ignore the political and ethnographic situation of the past. Historical understanding in assessing contemporary language policy is “necessary, even mandatory if one wants to provide a fair judgment of the language situation in countries that have undergone a fundamental return to values and orientations previously denied” (Hogan-Brun et al., 2008, 38).

The awareness of Livonian issues would favour both the revival of Livonian and the maintenance of Latvian in all forms of its existence. As Valts Ernštreits writes, “It is fundamental to take into account the Livonian experience, as the Livonians are a miniature model of the Latvians in terms of society as well as language, the only difference

is found in numbers. The development of the Livonians up to the point where we find ourselves now shows the nature of that process very well. And, furthermore, what happens if one does nothing” (Ernštreits, 2012, 1).

Conclusions

The implementation of IDIL in education would be essential for providing information and promoting positive language attitudes towards linguistic and cultural diversity, as well as multilingualism. To effectively integrate IDIL into education, this study recommends raising awareness of the benefits of multilingualism, promoting linguistic and cultural diversity, and encouraging language learning and use. Teacher training on IDIL principles and practices is also crucial for successful implementation in the classroom. The implementation of the ideas of the *International Decade of Indigenous Languages* in educational programs can include the following tasks: 1) to provide a comprehensive overview of different languages spoken around the world, highlighting their unique features, origins, and cultural significance, 2) to emphasize the importance of preserving endangered languages and promote efforts to revitalize them, 3) to encourage students to learn about the cultural and linguistic diversity and highlight the benefits of multilingualism, 4) to explain the key principles of language policy in Latvia and to develop awareness of active promotion of Latvian as the sole State language. As the guidelines for “School 2030” in the domain “Languages” suggest, all languages share common big ideas that reflect the most important principles of language acquisition, usage and maintenance. These ideas facilitate the student's comprehension of their learning by demonstrating how their acquired skills and knowledge can be applied beyond the classroom setting.

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FOREIGN LANGUAGE TEACHING DEVELOPMENT IN FRAMEWORK OF TECHNOLOGY ENHANCED LEARNING

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ABSTRACT

Learning foreign languages is more and more necessary both in formal and informal education because of co-operation between countries and trying to understand foreign cultures. It helps to know better the culture of language speakers. Cultural approach teaching foreign language is important getting acquainted the country as a whole. Remote teaching is continuing since beginning of pandemic. Online classes are still organized and study process is gaining new appearance. Changes in the learning process because of remote learning influence both learners and teachers. Foreign language teaching methods are important keeping attention of students and studying in most efficient way. It is possible to offer new educative approaches as technology enhanced learning as one of the possibilities for individual studies. The virtual reality can be used even in foreign language learning – there are some existing programs in virtual reality already. It is very essential that students and teacher study with pleasure and keep that feeling during the process of studies and that improves study results. Qualitative research methods with open-ended questionnaire and content analyses is used. Study design is grounded theory. Research group is 9 adult students who study Swedish the second year.

Keywords: *remote teaching, virtual reality, teaching methods, learning foreign languages, adult education*

Introduction

In the context of lifelong learning teaching foreign languages is necessary nowadays because of e.g. globalization, co-operation between countries and understanding foreign cultures. Efficient learning methods help to do it fast and quite easy. It is essential that teachers are informed about the latest findings in sciences and take into consideration e.g. functioning of brain to facilitate learner's success in their studies.

Because of the crisis caused by the Covid-19 pandemic has given a further boost to technological developments to ensure access to education. It is necessary to think about what exactly technology improves (Daniela, 2021). Online classes are still organized and study process is gaining new appearance.

Technology enhanced learning need for interdisciplinary approaches due to complexity of the situation and the multiple disciplines involved. It is important understanding how technologies can be used and how learners and teachers are co-evolving their learning practice by the use of technologies in complex (Chanlon, Anastopoulou, 2019). Studies are more interesting for the learners and the learning process becomes pleasant comparing with e.g. reading and translation.

Virtual Reality (VR) can provide mental and physical immersion, the sensation of being fully absorbed in the virtual environment (Pinto et al., 2021). VR system can be beneficial by bringing language learners closer to the language culture and create realistic simulations that would not even exist in the physical world (Peixoto et al., 2021).

The knowledge of a foreign language enhances the communicative skills and the level of intercultural awareness. It is daily need of every person in everyday life (Pak, Kozlova, 2022). It opens many doors to understand better the culture of language speakers and the communication is in deeper level for advanced students e.g. saying “*yarrow*” instead of “*grandmother’s tee*”.

Reading and writing is important because adults can read and write. It is easier to understand spoken language in written form for language, which is studied. First teaching speaking is appropriate mostly for children – they learn talking before other foreign language skills. Adults do not like to go through “small child’s phase” when learning a new language.

Literature review

In order to identify the latest research findings in foreign language learning, a systematic literature analysis was carried out. The information was searched in the scientific database *Web of Science*: keywords “learning foreign language” AND “methods” were entered and 5344 results appeared. 15 articles were selected after screening all materials as thematically most relevant to the study. Then regarding keywords “technology enhanced learning” 47074 results appeared. Of them 11 articles as the latest were selected.

Technology enhanced learning

Quality in education has always been a key issue internationally, and evaluations and proposals are taking place, constantly seeking for new ways that could support learning. Educators should always innovate in the use of means and differentiate the methods of didactic processes for providing quality in education to meet the criteria of each level and discipline. Science has offered to the field of education a great deal of solutions to various didactic problems, as well as new educative methods, revolutionizing the educational process in technology-enhanced learning (Nicolaou, Matsiola, 2019). Augmented reality could be used to improve teaching methods in teaching a foreign language – students have the ability to think creatively and solve problems interacting with words, phrases and sentences they are receiving increasing motivation, satisfaction and enjoyment. When a learner is in the environment of using a language, he/she receives words, phrases

and sentences in accordance with that environment and interacts with them, the learning process becomes faster and their retention in the mind increases (Mozaffari, Hamidi, 2022). Virtual reality, augmented reality and artificial intelligence are the methods for developing in the independent studies' process. Peixoto and colleagues (2021) write that it improves pronunciation and provides feedback effectively. VR may be better used for learning pronunciation, new vocabulary and even reading but in that way, writing skills are not trained as much. Interdisciplinary research regarding technology enhanced learning is a mode of research by teams or individuals that integrate information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines of specialized knowledge to advance understanding (Scanlon, Conole, 2018). There is much possibilities for it's development.

There are some authors why write about immersive learning regarding watching the film and television film during the lesson. Fang, 2021 considers that this aspect organically combines pictures, texts, sounds, and images, bringing pure pronunciation, rich intonation, interesting storylines, and the real world into the classroom, giving students an immersive audiovisual experience, which has greatly inspired students interest in learning.

Learning through Virtual reality can be suitable for different learning tempo. Studies show that it is possible to learn foreign languages effectively by fully immersing yourself in language learning. Benefits of VR: authentic, real-life environment, multi-sensory environment, higher motivation of the learner, increased retention of new knowledge and skills, active student participation, development of student autonomy. "Traps" could be dependence on the use of VR technology and being not cooperative in the learning process. VR technologies allow the student to interact through the senses: sight, hearing and touch. Communicating with virtual beings in a foreign language in a virtual world is a great way to practice pronunciation, create a dialogue and understand a foreign language (Klimova, Pikhart, 2021; Kondratiuk et al., 2022). There are many issues to be researched concerning effect of VR.

Foreign languages' teaching methods

Traditional Method (*Grammar-translation*) was essential already at beginning of the 19th century. In the end of 19th century grammar was not a priority anymore and the *Direct method* was used developing four skills: listening, speaking, reading and writing. In the 1940s the Audio-oral or *Audio-lingual method* appeared. In the 1960s the *Audiovisual method* started to be used. In the early 1980s the *Communicative approach* became important because of the need to teach foreign languages to immigrants. In the 2000s in the Common European Framework of Reference for Languages two aspects in learning a foreign language were essential: The Actional perspective with social action and the Multilingual approach for the development of multicultural communication. *Post-method* also appeared allowing the teacher to create content program. The "Ideal method" of teaching foreign languages is still in development (Meira, 2020). Every foreign language teacher should try his/her best and use the most ideal method possible in the classroom.

Authors describe the *Direct method* differently: Homeniuk (2019) writes about this method that the foreign language was taught in the beginning of 20th century with the same principles as mother tongue (memory and feelings are crucial in speaking – not thinking). The main goal was considered to be teaching speaking, which allowed learners to communicate at an early stage. Then they started to learn reading and writing. Teaching phonetics was based on the repetition of certain sounds and words after the teacher. Vocabulary training took place basically on texts, poems and dialogues. When the learner first saw a new word or expression, its meaning was clear just from the context. Teaching grammar focused on the texts with grammatical constructions. Teaching speaking was closely connected with reading. Reading was a fundamental skill for learners. Writing was taught through textbooks with written exercises – the dictations, grammar excises and rewriting of words and verses. It is important to recognize, that reading and writing are skills which are essential already in the first lesson because adults can read and write and it is easier for the learner to understand spoken language if it is in written form. Foreign language environment positively correlates with student’s academic achievement and with their proficiency in a foreign language. It boosts motivation, and may play a protective function against negative emotions. It might unlock the learners’ full foreign language potential. Enjoyment may be experienced not only by students but also by educators – the progress they make and the pleasant atmosphere in the classroom (Mierzwa, 2019). Positive atmosphere in classes is very important to reach study goals.

Table 1 Frequency of teaching methods mentioned in literature review

Grammar-translation	Meira; Hovorun et al.; Preradovic et al.; Ranjan, Philominraj, Saavedra
Audio-lingual	Meira; Preradovic et al.; Fang; Biletska et al.; Ranjan, Philominraj, Saavedra
Post-method	Daniela; Meira; Fang; Biletska et al.
Direct method	Meira; Homeniuk; Lushchyk, Pikulytska, Tsyhanok; Fang
Communicative approach	Meira; Williams; Dai; Lushchyk, Pikulytska, Tsyhanok; Biletska et al.; Fabian et al.
Sociocultural approach	Homeniuk; Klimova and Pikhart; Preradovic et al.; Lushchyk, Pikulytska, Tsyhanok; Fang; Biletska et al.; Ranjan, Philominraj, Saavedra; Fabian et al.; Grosu-Radulescu and Stan
Individual work	Preradovic et al.; Biletska et al.; Fabian et al.
Homework	Preradovic et al.
Group work	Lushchyk, Pikulytska, Tsyhanok; Biletska et al.; Fabian et al.; Oronzo-Messana, Martinez-Rubio, Gonzalez-Pons
Computer corpora	Preradovic et al.; Lushchyk, Pikulytska, Tsyhanok; Fabian et al.
Watching videos	Daniela; Hovorun et al.; Klimova and Pikhart; Lushchyk, Pikulytska, Tsyhanok; Fang; Ranjan, Philominraj, Saavedra
Virtual reality	Daniela; Dreimane; Peixoto et al.; Pinto et al.
Augmented reality	Daniela; Mozaffari and Hamidi; Dreimane; Oronzo-Messana, Martinez-Rubio, Gonzalez-Pons

Another methodical approach in effective teaching a foreign language is *Cultural approach* based on information from a foreign-language culture. Obtaining information about the country as a whole, the social structure, description of the realities of life and culture (Homeniuk, 2019).

There are various methods available in teaching foreign languages. Analyzing 26 articles from Web of Science database literature review was based on the following frequency of teaching methods observed in Table 1.

It is important to know the basic facts about the culture where the foreign language is spoken – not every word and concept could be translated directly without the context of culture. Another method is grouping the new words regarding themes – it is easier to memorize, students get all information about the particular subject and then they practically analyse some dialogue about this subject. For some of the students a good way to study is individual work – e.g. to find new words in text during the lesson. Homework is very important even if it is a small exercise of grammar or some pages reading in a book. A22 level students read some pages in book which is written in Swedish by a not native speaker as homework – in the next lesson they tell the content in English. Level B22 reads novels of Swedish authors as homework and tells the content in the classroom in Swedish. Beginners devote most part of the homework memorizing new words and simple grammar through materials given by the teacher with different aspects regarding new words and grammar. Some methods like group work are maybe not as effective as is assumed nowadays because not all students like them.

Research methods

The particular research group consists of 9 students who study Swedish (their studies are paid by their employer SEB bank in Latvia). The students were informed that their answers to open-ended questionnaires were anonymized by numbering as Student 1, Student 2 etc. and summarize results will be used for research. The question is: how is their knowledge of Swedish language at this moment and how the knowledge develops. They study Swedish language the second year remotely. 7 of students are women and 2 students are men. Now the group has reached level B11. In this project Swedish is taught through in English because half of the group does not understand Latvian. For the particular teacher it is more complicated because teacher's native language is Latvian and she has to teach in one foreign language another foreign language.

Nowadays in the Development of foreign language skills according to Common European Framework of Reference for Languages – learning, teaching and assessment – are evaluated: understanding, reading, talking (monologue, dialogue) and writing through levels ABC where level A – student is a beginner, B – student understands the most of the foreign language but still there are issues to becoming better and level C – native language speaker. These levels are divided into A11, A12, A21 and A22, the same with level B and C – each of them e.g. B11 contains 60 academic hours of learning in the classroom in the project where the author is working at the moment.

In this research case study is used as a research design with qualitative methods as open-ended questionnaires, interviews to understand better in detail the attitude of students towards teaching methods applied (Cresswell, 2018; Pipere, 2011).

The aim of the research is to prove teaching Swedish and observing that traditional methods using the four skills – listening, speaking, reading and writing are efficient even now and as Fabian and colleagues (2021) state combining with the needs of the labour market, integration into the international space, scientific and technological progress.

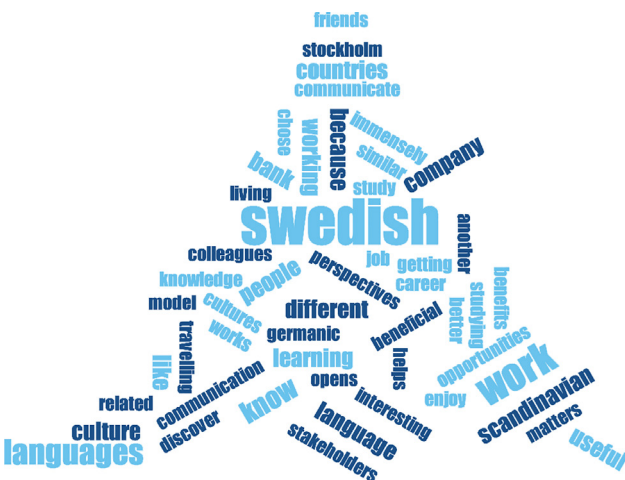
Students in particular project in Latvia have experience of studying foreign languages before. They study Swedish as their third, fourth or even fifth foreign language. Swedish belongs to Germanic language group and there are 40% similarities with German and 25% with English language.

Results

Qualitative research – 15 open ended questions grouped in 6 themes were used asking about reasons why 9 students study the language, about the process of studies and their attitude to it. Content analyses was attempted to find out opinions of particular group of students. Questionnaires were analyzed by coding and finding similarities, differences, grouping into groups, subgroups.

Age of 4 students in the research group is 18–30 years and 5 of the students are 31–50 years old.

Theme 1: Most of all the responses showed that the aim of studying Swedish language are work-related reasons regarding career to meet future goals as well as personal interests both as communicative and self-investment goals. One student answered “my colleagues, stakeholders are Swedish and it is one way to get to know them better and also discover similar but different culture” (Student 7). In the next picture reasons for studies are reflected in word cloud made with Qualitative data analyses program MAXQDA.



Picture 1 Word cloud showing Swedish language studies' reason in particular research group

Theme 2: Preferable teaching methods indicated are grammar and vocabulary teaching, reading and translating, group work, listening, watching videos with subtitles, reading books. One answer was “I like taking some texts about various situations, learning phrases that could be used on daily basis. Take some grammar tasks for practicing the knowledge. Listen to news or songs, trying to guess missing words” (Student 5).

Theme 3: Regarding group work, not all responses show liking that way of learning because of following reasons: classmates do not speak completely correctly in B1 level; discussion is successful if everybody in the group have equal knowledge; too many people in the group is not an advantage; hard to speak at once; not easy to imagine what to say about the particular topic. An answer was “when working in groups I like building some dialogues, having discussions on various topics: that is how we practice our speaking/communication skills” (Student 5). Another student was writing: “I like discussing basic themes such as what did you do on weekend, tell about your friends etc., because those are the basics in a conversation with people and helps getting used to speaking” (Student 9).

Theme 4: Watching a small video (15 min) in the end of the lesson is considered as one of the best parts of the lesson: relaxing; subtitles preferable for better understanding because with no subtitles “the spoken sentence often seems like one word”; need to know spelling of the new words; the pronunciation differs if for example a child is speaking. One student says: “This is a very good method, especially with subtitles” (Student 2). Another student’s opinion: “This is a good way to relax a little from the studies while learning new words and listening to the language at the same time” (Student 6).

Theme 5: Regarding independent studies *Duolingo* application is popular to use as well as 8sidor, Radio news; to go through materials for the next lesson teacher has sent by e-mail; language profiles in social media; communicating with native speakers; making home task – the group is reading a book at home. One student acknowledges: “Regarding learning by myself at home it is going slowly due to limited amount of time” (Student 1).

Theme 6: Answers regarding digital technologies in independent studies can be grouped into three main groups: I support any new technologies; we have enough methods already; I am not familiar with latest digital technologies. It is a new trend using Virtual reality in independent studies and there is possibilities for including it in the learning process.

Discussion

One’s interest to learn a second language started in the Roman Empire, when Romans showed interest in studying the Greek language having Greek tutors who taught them the language. From then on, people became interested in learning another language besides the native, e.g., people from Europe started to think about Latin’s teaching methods (Pinto et al., 2021).

Theme 1: Learning a foreign language is a goal in the field of professional communication in the future, the training will be more effective than when it is only a subject,

the level of professional readiness of future professionals (Fabian et al., 2021). The students are investing their time and efforts in their future working carrier.

Theme 2: (Klimova, 2021; Lushchik et al., 2021) stated that regarding teaching methods there is high demand for the use of authentic materials and teaching is almost the same as teaching business language because learners are professionals who should be provided with materials related to real-life scenarios.

Reading authentic texts contributes to the development of communicative foreign language competence at the following levels: linguistic, speech, socio-cultural, compensatory, training-cognitive (Lushchik et al., 2021). It is important to mix methods of teaching because it is a way to keep interest in studies during the whole lecture.

Theme 3: Regarding group work students are divided into teams and, working with annotations and/or reviews of the text, select keywords that in their opinion, specific to the offered text, When the time is up, the results are compared and discussed. Thus, students develop new vocabulary, develop thinking, learn to argue their thoughts (Biletska et al., 2021). Students practice speaking skills during the dialogues.

Theme 4: In the study it was discovered that students find it useful watching video as part of the lesson. Hovorun and colleagues (2021) have mentioned that 50% students and 70% teachers admit using video content in the study process as best benefit after an important topic.

Authentic film and television works have an important role in teaching a foreign language and not only impresses foreigners with vivid stories and vivid characters. The difficulty of film and television works is different, and the language ability of students is different, so in the process of selecting materials, it is easy to select film and television works that students find difficult to learn (Fang, 2021). To choose subtitles is a good solution, which helps to adjust the difficulty level for different knowledge levels of students in the group.

Theme 5: The student is a personality (age, gender, psychological composition, motivation, etc.), that contributes to the selection of individual tasks to stimulate the activity of each student. The student, as a subject of learning, independently chooses the way to achieve the goal and in the process of solving the problem situation acquires new knowledge (Biletska et al., 2021).

A good way of independent studies could be immersive studies in VR.

Theme 6: A part of the research group had positive attitude regarding digital technologies being used during independent studies. Pinto with colleagues (2021), and Peixoto with team members (2021) have admitted that VR can be successfully used as a tool to learn a foreign language.

Regardless of survey results presented in this paper, to find answers on question how to use technologies in foreign language learning there should be done more research about VR in foreign language learning.

Conclusion

A large variety of foreign language teaching methods are used nowadays. Sociocultural approach is essential while teaching a foreign language as literature review affirms. It is important also the gesture and smile of teacher under study process. Authentic teaching materials are essential. Immersive learning is also usage of film and television works during the lesson as a 15 minutes long activity and is very positively evaluated by the students as research shows. It may be a good solution that the last lesson during the study course students are watching a movie in foreign language with subtitles as a gift from the teacher that for participating in the course and passing the final exam. Covid-19 pandemic and the following remote learning has caused the situation that people study alone by their screens and more and more used to co-operate with technologies. Technology enhanced learning and Virtual reality could be used as an additional method that could be recommended for independent studies. Learning through Virtual reality can be suitable for different learning tempo.

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USING PORTRAITURE METHODOLOGY TO TELL STORIES OF TEACHERS' LIVED EXPERIENCES

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ABSTRACT

Sara Lawrence-Lightfoot pioneered a new qualitative research design, portraiture, in the 1980s. The aim of this integrative review was to analyze the use of portraiture in studies about general secondary education teachers to determine researchers' motivation for choosing portraiture over other similar qualitative research designs such as ethnography and phenomenology, and synthesize the findings to provide a research agenda about the use of portraiture methodology in studies about teachers.

Electronic databases Jstor, Taylor & Francis, and Springer were searched to identify studies about pre-service and in-service general secondary education teachers that used portraiture as the research design. Publications about early childhood education teachers and higher education teachers were excluded. Likewise, studies that portrayed students or schools were excluded. 10 publications were included in the review.

Within the publications, the most frequently reported reason for using portraiture methodology was that it allowed to portray the richness and complexity of teachers' lived experiences in a language that could be understood by readers beyond the scientific community.

For now, portraiture is not as widely utilized as other qualitative research designs. It has potential to become more accepted in educational research, as it allows researchers to share the nuanced and complex stories of teachers' strengths and lived experiences and, thus, drive social change.

Keywords: *general secondary education, in-service teachers, integrative review, pre-service teachers, portraiture*

Introduction

The aim of this integrative literature review is to provide comprehensive understanding (Torraco, 2005) of studies about general secondary education teachers where portraiture is employed as the research design. The author seeks to answer the question of what researchers' motivations are for choosing portraiture methodology over other, more common qualitative research methodologies. A research agenda of two future research questions is proposed as the result of the review.

Portraiture is a qualitative research methodology, which aims to combine “empirical and aesthetic description” (Lawrence-Lightfoot & Davis, 1997, p. 13) to capture, interpret, and describe the lived experiences of the research participants. The rich and evocative language used by the researcher to craft the portraits is what sets this method apart from similar qualitative research methods like phenomenology and ethnography. In education research, being able to communicate complex ideas in an accessible and inclusive way can be a powerful tool for inviting the teachers who are not part of the scientific community to engage with research and participate in the academic discourse about topics that are relevant to researchers and teachers alike (Lawrence-Lightfoot & Davis, 1997).

Portraiture subverts the deficit-oriented research tradition, instead focusing on “what is good and healthy” (Lawrence-Lightfoot & Davis, 1997, p. 10). Due to this, it can appeal to researchers studying marginalized groups, which have been historically studied from a pathology perspective (Brooks, 2017; Lynn & Jennings, 2009; Yazzie-Mintz, 2007). Of the ten studies examined in this review, five used one or more theoretical frameworks that are concerned with social change, such as critical theory and its branch, critical pedagogy, ethnic studies, critical race theory, and decolonizing pedagogy. Focusing on the research subjects’ strengths allows the portrait to reflect the “authority, knowledge and wisdom” (Lawrence-Lightfoot & Davis, 1997, p. XV) of the participants. In education research, this can help provide an insight into the things that make teachers successful, without sacrificing complexity and nuance or omitting the subtle details of school life (Hackmann, 2002).

In Chapman et al.’s (2020) portrait of an arts specialist teacher, the researchers clearly illustrate the difficulties that the teacher encounters in her work, even acknowledging that school can be a site of struggle for teachers and students, while simultaneously demonstrating the teacher’s capability to deal with the myriad of challenges. Similarly, Mascio’s (2018) work shows the demanding process of learning to teach through snapshots of a teacher intern’s and her mentor teacher’s collaboration. The portrait contains both moments of success and frustration, both of which are important parts of learning.

A rich description of context is another strength of portraiture. As Quigley et al. (2015) put it, during the data analysis in some qualitative research methods, the final data can “become disconnected from the context in which they arise” (p. 42), but the contextual information is essential in qualitative research, as it provides a deeper understanding of the research subject’s or target group’s experiences, values and beliefs. In education research, the cultural and socioeconomic factors can have a significant impact on the experiences of educators and students, which makes them essential to the portrait (Brooks, 2017). In Curammeng’s (2020) portraits of teachers, he starts by describing the physical setting of the study, in one case juxtaposing the school building and the fence surrounding it, likening it to a prison. Reyes McGovern (2016) describes the student demographics and the neighborhood of the school where her research subject teaches, linking her professional identity to her community. Details like these contribute to the aesthetic whole of the portraits and their authenticity.

Lawrence-Lightfoot and Davis (1997) also talk about personal context, the experiences that have shaped the researcher's perspective and approach. By overtly inserting oneself in the portrait, the researcher encourages the reader to actively participate in the exploration and interpretation process (Lawrence-Lightfoot & Davis, 1997). For example, Ohito (2019) describes her first contact with her research participant Victoria providing personal context on how their relationship shaped the inquiry and informed the data collection process. Likewise, Curammeng (2020) notes that coming from similar backgrounds as his research subjects helps them recognize the importance of his work.

Researchers using portraiture methodology are primarily concerned with authenticity of the portraits, rather than solely focusing on the validity of the data (Lawrence-Lightfoot & Davis, 1997), however, that does not mean the methodology lacks rigor. In *The Art and Science of Portraiture* (1997), the authors describe in detail the research process and the "structures that permit the improvisation" (Lawrence-Lightfoot, 2005, p. 9). In the studies included in this review (i.e., in Gibbs, 2020; Ohito, 2019; Quigley et al., 2015), authors use triangulation of data sources and member checking to ensure the validity of their findings.

Methodology

To find studies with portraiture as the research design, three databases – Jstor, Taylor & Francis, and Springer – were searched. The initial search offered 1361 results, which were further narrowed down by filtering by subject (education), language (English), type (article) and keyword (teacher). The abstracts of the search findings were analyzed to find articles about pre-service and in-service general secondary education teachers. Studies about early childhood education and higher education were excluded. Similarly, portraits of students, administrators or schools were excluded. In the end, ten articles were selected for a complete reading and included in this review. It is possible there were other studies that fit the selection criteria, but were not identified with key words and, therefore, were not found in the searches.

The selected articles were analyzed and the authors' justifications for choosing portraiture as the research methodology were found in the articles. Four themes:

- a) evocative language
- b) context
- c) social change
- d) search for goodness

were identified and assigned to the justifications.

Results

Table 1 shows researchers' motivation for choosing portraiture methodology in their studies and the assigned themes. *Evocative language* was assigned if the authors referred to rich and detailed descriptions and the goal of speaking to audiences beyond academia. *Context* was assigned when the authors explicitly mentioned the importance of various

contexts in their portraits. *Social change* was assigned when social justice aspects were mentioned in the justification. *Search for goodness* was assigned in cases when the authors aimed to focus on the successes rather than the shortcomings of their research subjects.

Table 1 Reasons for Choosing Portraiture Research Design (arranged alphabetically by first author’s surname)

Reference	Justification	Theme
Chapman et al. (2020)	1. “(...) highlight the lived experiences <u>as authentically as possible.</u> ” 2. “to ‘document and illuminate the complexity and detail of a unique experience or place’ (Lawrence-Lightfoot, 2005, p. 13), recognizing <u>the power of localized theory building (...)</u> ”	Evocative language, context, social change
Curammeng (2020)	1. “to ‘illuminate the <u>complex dimensions of goodness</u> ’ (xvii) for the Filipino American male teachers. (...) <u>summoning historical and political contexts</u> necessary for critical qualitative inquiry.”	Search for goodness, context
Gibbs (2020)	1. “(...) to convey the data gained in a more <u>rich and evocative way</u> than a traditional explanation of findings (...) The detail describing what choices teachers are making, how they are making them, and what the <u>consequences of these choices</u> are is of incredible importance.”	Evocative language, social change
Lynn & Jennings (2009)	1. “The notion of <u>searching for goodness</u> informs our move as researchers to go beyond the traditional emphasis on pathology (...)”	Search for goodness
Mascio (2018)	1. “(...) taking into account the person’s <u>thinking</u> as well as the person’s <u>sociocultural context.</u> ” 2. “Portraiture combines common ethnographic methods of naturalistic observation, interviews, and document analysis with the self-identified perspective of the researcher. Considering <u>the complex and dynamic nature of teacher learning</u> , its process can best be captured from such a nuanced “inside view.””	Context, search for goodness
Ohito (2019)	1. “As a researcher, I am concerned with “documenting their voices and visions – <u>their authority, knowledge, and wisdom</u> ” (Lawrence-Lightfoot and Davis 1997, p. xv)” 2. “(...) portraiture is concerned with <u>social change</u> . This is motivation for eschewing the alienating opaqueness characteristic of academic writing (...)” 3. “(...) <u>honoring subjectivity and situatedness.</u> ”	Search for goodness, social change, context
Quigley et al. (2015)	1. “(...) <u>communities share knowledge</u> through sharing stories, and portraiture (...) <u>includes participants</u> in this endeavor.” 2. “(...) relates the story to wider contexts in society and culture.” 3. “Narrative <u>details are often lost</u> in other forms of qualitative inquiry (...) in which data are reduced to increasingly smaller segments and become disconnected from the context in which they arise.”	Social change, context, evocative language
Reyes McGovern (2016)	1. “(...) <u>nuanced ways to understand</u> the lived realities of activist educators engaged in visible teaching by complicating daily acts of resistance and change.” 2. “(...) <u>pushes back on dominant</u> ideologies that insist on curricular standardization.”	Evocative language, search for goodness, social change

Reference	Justification	Theme
Valdez (2018)	<ol style="list-style-type: none"> 1. “To understand the <u>dynamic multilayers</u> of the elementary classroom (...)” 2. “(...) to pushback on the sterilization of teacher experiences, highlighting the chaos of the classroom, where theory meets application (...)” 	Context, social change
Yazzie-Mintz (2007)	<ol style="list-style-type: none"> 1. “I <u>shift the paradigm</u> from examining pathology of teacher practice (what’s not working) to describing what informs their practice and discussing <u>what can be learned</u> from their reflective teaching (...)” 2. “(...) providing <u>rich description</u> of a person, an event, or understanding (...)” 3. “(...) research findings can be shared in a way that <u>invites Native educators, parents, communities and students to speak about education together</u> in public discourse (...)” 	Social change, search for goodness, evocative language

The themes illustrate that the authors’ reasoning for choosing portraiture methodology aligned with Lawrence-Lightfoot’s (2005) initial goal to challenge the limits of understanding through interpretive research by bridging the gap between narrative as art and science.

In seven out of ten articles, the social change theme was identified. Words and phrases such as *push back*, *power*, and *paradigm shift* were considered signifiers of the theme. In six justifications, the search for goodness theme could be found with phrases such as *what can be learned*, *complex dimensions of goodness*, *nuanced ways to understand* and others. Likewise, the context theme was identified in six articles, signified by words and phrases like *multilayers*, *situatedness*, *society*, *culture* and others. Rich language was mentioned in five articles; words such as *authentic*, *evocative*, *details* etc. were used by the authors in their justifications. It should be noted that while the author of this article chose to identify four distinct themes, the themes are related to one another and all four are present in Lawrence-Lightfoot’s and Davis’s (1997) definitions of portraiture methodology.

Discussion

Qualitative research can serve the purpose of producing knowledge about the problem that is being studied, and it can be a means for catalyzing social change (Flick, 2007). Through an insider’s perspective and a rich narrative, portraitists aim to do both. In his article about the viability of portraiture methodology in education leadership research, Hackmann (2002) concluded that school leaders could be unwilling to implement findings from research in practice for two reasons: lack of faith that the findings could be applied in their schools and insufficient knowledge to read research and understand the implications. This argument could be extended to other stakeholders in education – teachers, parents, and students. With its accessible language, portraiture methodology can facilitate knowledge sharing within education communities.

Besides the social change portraitists strive to achieve with their research, it should be noted that portraiture is a boundary-breaking research methodology in itself. Lawrence-Lightfoot's aim to subvert the positivist research tradition is evident not only in the literary language portraitists use, but also in the small samples of the inquiry, often focusing on one participant to truly let their stories be "seen—fully attended to, recognized, appreciated, respected, and scrutinized" (Lawrence-Lightfoot, 2005, p. 6).

The success of a portrait relies heavily on the relationship between the researcher and the research subject. The relationship between the two is dialectical, but the "power remains with [the participant]" (Quigley et al., 2015, p. 44). As established previously, portraiture is chosen to study agents from marginalized groups due to its focus on goodness, rather than deficiency. Because portraiture requires the researcher to spend a significant amount of time with the research participant, they can gradually obtain "insider" status that allows them to learn information that would not typically be offered to the outsider. For teacher-researchers using portraiture methodology to study fellow teachers, they might come to the field as an insider. This perspective can be valuable, but it also presents its own set of challenges, namely, researcher bias and research ethics. Using methodologies as intimate as portraiture, the researcher must be all the more vigilant to act with integrity and prioritize the best interest of the research participants, especially if they are researching marginalized groups. Indigenous scholar Linda Tuhiwai Smith (1999) wrote that insider research "needs to be humble because the researcher belongs to the community as a member with a different set of roles and relationships, status and position" (p. 139).

Research Agenda

As a result of this review, two questions for future research are proposed. Firstly, in what ways could ethical concerns such as ensuring participant anonymity be mitigated in portraits of teachers? Ohito (2019) wrote about the challenge of ensuring anonymity of her research subject considering the abundance of personal and situation-specific data she had collected during her inquiry. Although member checking partially solves this issue by allowing the research participants to share only information that they feel comfortable sharing, researchers still need to consider the potential implications of their work, especially in small communities, and consider the power dynamic between themselves and the research subject.

Secondly, could portraiture be used as a tool to promote teacher self-reflection skills and metacognition (as seen in Valdez's (2020) work, where she used a combination of portraiture and autoethnography to explore her work in the classroom)? It is known that reflecting on one's practice is necessary for professional improvement (OECD, 2020) and could be useful both for pre-service and in-service teachers as a means to promote the development of teachers' professional identity.

Conclusion

The research question guiding this review was what researchers' motivations were for choosing portraiture methodology as opposed to other, more widely recognized qualitative research methodologies. It was found that portraitists working in the field of education research were primarily concerned with research as a tool of social change that allowed focusing on teachers' strengths and what could be learned from them, without minimizing the impact of sociocultural, historical and political contexts that influence classroom life. In addition to that, portraiture allowed for the data to be conveyed in the form of a compelling, accessible narrative that could be shared with and understood by audiences beyond the scientific community. As a result of this review, a research agenda was developed by the author, proposing two questions for future research.

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'CAN-DO STATEMENTS' TO IMPROVE YEAR 4 PUPILS' PERFORMANCE IN ENGLISH LESSONS

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ABSTRACT

Nowadays, school education concentrates on developing pupils' skill to learn – teachers should help pupils understand the meaning of education in their life and encourage their independent inquiry. The essence is not just getting excellent grades. Instead, it is about pupils taking responsibility for being interested, for participating and for reflecting on their performance. The mentioned features are characteristic of self-regulated learning – a transversal skill to be honed from early school years. Overall, research on pupils' self-regulated learning reveals that if mastered as a skill at an early age, it positively influences pupils' academic performance. Based on the evidence of prior research, the authors of the article consider relevant 'Can-Do Statements' to be of importance to develop and enhance pupils' self-regulated learning skills parallel to their academic achievement. Therefore, the current study aims to examine how self-regulated learning 'Can-Do Statements' applied in lessons of English in Year 4, can improve pupils' confidence regarding their self-regulated learning and their foreign language achievement. The research method is a case study comprising a research sample of 19 Year 4 pupils (nine to ten years old). The pupils come from a rural school in Latvia, Vidzeme region. The data are collected using lesson observation sheets, language tests and a questionnaire for pupils to ensure triangulation of the data. Empirical data show that 'Can-Do Statements' implemented in English language lessons help pupils work on self-regulated learning skills simultaneously achieving academic performance goals they set for themselves. However, the level of achievement depends on whether an individual pupil relates 'Can-Do Statements' to oneself and one's learning process. Even though the data show that the efficient use of 'Can-Do Statements' would ask for meticulous lesson planning, it can also be witnessed that their application allows creating a positive learning environment, which in its turn is beneficial for the rapport of the teacher and pupils.

Keywords: *young learners, self-regulated learning skills, 'Can-Do Statements', foreign language learning and performance.*

Introduction

Learner-centred paradigm in education has been a dominant 21st-century trend in different parts of the world. Some of its characteristic features are pupils' personalised learning, differentiated classroom instruction and deep approach to learning – learning to be ready for real life (Cunningham, 2020; Bolstad et al., 2012; Watson & Reigeluth, 2008; O'Neill & McMahon, 2005). It has to be emphasised that pupils who take an interest in their learning and are responsible for their learning process can set learning objectives and assess their performance better, reach better learning outcomes and gain more satisfaction with their academic performance (Pandolpho, 2018; Hattie, 2009; Zimmerman 2002; Pintrich, 2000). The mentioned features regard foreign language learning as well. Teachers have to be aware that pupils will need their foreign language competence to communicate, not simply remember grammar patterns or separate vocabulary items by heart (Council of Europe [COE], 2020). Therefore, a sustainable, learner-relevant foreign language learning should start at an early stage.

In the context of Latvia, in the school year 2020 / 2021, schools started to implement a new state standard of basic education (Cabinet of Ministers, 2018). The new standard was an outcome of a project A Competence Approach to the Curriculum, named Skola2030 (further in the article referred to as School2030) (Ministry of Education and Science of the Republic of Latvia, 2019). The goal of the particular approach implemented as a European Social Fund (ESF) project by the National Centre for Education (NCE) is to develop, approve and implement a general education curriculum for children and adolescents aged 1.5 to 12 that provides the necessary knowledge, skills and attitudes for the 21st century (Eurydice, 2023). The **subject content** of the field of languages is divided into three main parts called Big Ideas – which are *Language in Communication, Text and Its Development, Language Structure* (Valsts izglītības satura centrs [VISC], n.d.). Alongside the mother tongue – Latvian, pupils start to study a first foreign language, which is mainly English (further on). According to the Model programme for English as a first foreign language, pupils of Year 4 have mastered A1 language level and are on the threshold of A2 according to the language levels described in the Common European Framework of Languages (CEFR). Consequently, pupils can, for example, give information about their interests and describe the environment they are in creating short and simple spoken and written texts in present and past using simple connectors; observe the attitude of others and express their emotions verbally and non-verbally according to the communication situation; read and listen to simple texts. Additionally, pupils keep learning to assess their performance by working with the European Language Portfolio (ELP) for primary school pupils and apply information and communication technologies to check their written texts (VISC, n.d.).

Besides the subject content areas, pupils must work on **transversal skills and habits (values and virtues)**. The goal of the six transversal skills – *critical thinking and problem-solving; creative activity and entrepreneurship skills; self-regulated learning; cooperation; civic participation; digital literacy* (Cabinet of Ministers, 2018; Skola2030, 2019), is to help pupils become competent members of the 21st society by being able to apply

the previously mentioned generic skills in a variety of areas in their future life. Values and virtues, in their turn, are meant to help pupils be aware of the importance of general qualities like being respectful, diligent, conscientious, honest, tolerant, etc.

Having had the experience of teaching English to primary school pupils, the authors of the article are particularly interested in methodology that would allow helping pupils master a foreign language while simultaneously developing their skills to learn. That is because, as mentioned earlier in the article, self-regulated learning (further in the article referred to as SRL) is one of the key transversal skills in the education system in Latvia and one of the features of 21st-century education. What is more, SRL proved its importance during the Covid-19 pandemic when plenty of students and teachers had to adapt to the new situation when it was no longer possible to communicate face-to-face in the classroom. Students were required to become more independent and accountable for their learning process (Barron Rodriguez et al., 2022). As regards the term used SRL, according to the previous research, such type of learning, in general, is referred to in the theoretical literature as either self-directed learning (further in the article referred to as SDL) or self-regulated learning SRL. SDL and SRL are comparable in several ways, but it is essential to distinguish between the two. According to Linkous (2020), some scholars argue that the distinction lies in the strength of influence, as SRL excels in cognitive and motivational aspects of learning while SDL excels in external control aspects; but other scholars argue that the connection between the two is less clearly defined and describes the interchangeable usage of the terms. Linkous (2020) concludes the mentioned ambiguity leads to confusion among academics and practitioners, which in turn results in ineffective instruction and transmission of the information on the terms to university students. In the present research, the term SRL is being applied. Firstly, SDL is a concept of adult education from the 1970s to-1980s whereas self-regulated learning, which is younger, originated from educational psychology and cognitive psychology. Based on the concepts described by Zimmerman (2002) and Pintrich (2000), SRL is an active, constructive process whereby learners set goals for their learning and attempt to monitor, regulate and control their cognition, motivation, and behaviour, guided and constrained by their goals and contextual features of the environment. For example, having a decent place for learning (a desk, lighting) or a notebook, where a learner can write the goal of the learning session. SDL has also been treated as a broader concept in the sense of the learner's freedom to manage one's learning activities and the degree of control the learner has. In SDL, this is the learner who defines the learning task. However, in SRL it may also be a teacher (Loyens et al., 2008, as cited in Saks and Leijen, 2014, p. 192).

Relying on the findings of the theoretical research, the authors of the article believe that a practical tool to improve pupils' self-regulated learning skills and academic performance in English lessons is 'Can-Do Statements'. It is known that to improve learning achievement in any study subject, teaching aims and learning outcomes must be formulated. Furthermore, learners should be informed on how to achieve the set learning outcomes. Consequently, it is essential that clear descriptors indicating what a learner has already accomplished and what has to be done next are designed. As explained in

the CEFR (COE, 2020), the idea of scientifically calibrating ‘can do’ descriptors to a scale of levels originally comes from the field of professional training for nurses. Tests were not very helpful in assessing a trainee nurse’s competence. Instead, a systematic, informed observation by an expert nurse, guided by short descriptions of typical nursing competence at different levels of achievement was needed. The ‘can do’ approach was transferred to language teaching and learning in the work of the Council of Europe in the late 1970s. This happened through three channels:

- (a) needs-based language training for the world of work;
- (b) interest in teacher assessment based on defined, communicative criteria, and
- (c) experimentation with self-assessment using ‘can do’ descriptors as a way of increasing learner reflection and motivation (COE, 2020).

Since its formal beginnings in 2001, the CEFR has been translated into 37 languages and its usage as a tool for establishing levels of learning, teaching, and evaluation has moved beyond Europe, from Asia to Latin America. The illustrative descriptors are presented within the descriptor scale. Each descriptor scale gives samples of typical language use in a certain topic, calibrated at various levels. Each descriptor has been designed and calibrated independently of the other descriptors on the scale, such that each description gives an independent criterion statement that may be applied independently of the scale. The illustrative descriptor scales apply to the same set of levels to the communicative language activities and strategies, plurilingual and pluricultural competence, communicative language competencies and signing competencies (COE, 2020). These skill-based descriptions of ability focus on communication intent and provide a highly practical approach that looks at what individuals can accomplish and do practically in the real world. It can be something against which learners can be assessed or they can self-assess their own performance. In addition, a successful technique of identifying not only the current stage of the child’s learning, but also the attainable future steps to be taken (Cambridge University Press [CUP], 2013; Scrivener, 2011; Mathieson, 2004). When students become involved in assessing their own progress by ticking off simple ‘can do’ statements, relating to assessment criteria, and when they engage in meaningful constructive feedback in self or peer assessment, then assessment in the form of constant feedback can become a powerful tool for learning and one that students can take ownership of as they create their own learning progression perspective (Jones & McLachlan, 2009).

All in all, educators of young foreign language learners can use the ‘Can-Do Statements’ to:

- guide their lessons,
- better comprehend the language skills of pupils with varying levels of language proficiency,
- develop their understanding of what the pupils’ language acquisition process can look like,
- collaborate on the scaffolding of pupils’ need to engage in content-area learning while simultaneously developing their language skills,
- differentiate language instruction and classroom assessment (WIDA, n.d.).

Therefore, the aim of the current study is to examine how self-regulated learning ‘Can-Do Statements’ applied in lessons of English in Year 4, can improve pupils’ self-regulated learning and their foreign language achievement. The methodology of the study is explained in the next section of the article.

Methodology

Representing a small-scale research in education, a case study (Hamilton, 2018; Cropley, 2002) on the use of ‘Can-Do Statements’ in English lessons to improve Year 4 pupils’ self-regulated learning and foreign language achievement was performed in a rural secondary school in Latvia at the beginning of an autumn semester of the school year 2022 / 2023 (September – October). All in all, these were eight English language lessons with 19 Year 4 pupils (nine to ten years old; nine girls and ten boys) making a non-probability convenience research sample (Cohen et al., 2007). It was possible to have lessons at school as the Covid-19 restrictions had been cancelled. Data were collected via three data collection methods – lesson observation; pupils’ work (tests, blog posts); a questionnaire for pupils – to align with the principle of triangulation (Hamilton, 2018; Cropley, 2002). One of the article’s authors conducted the case study within the framework of their teacher’s practice closely cooperating with an experienced school colleague. The school administration and the pupils’ parents were informed about the research in order to obtain legal permission to engage pupils in activities that envisaged the use of ‘Can-Do Statements’.

Based on the literature overview on the topic of SRL for primary school pupils and the fact that certain school had their local study planner which had presented the pupils with the core ideas on goal setting in learning, four independent age-relevant ‘Can-Do Statements’ were designed:

1. I can set the goal of my task,
2. I can make a to-do list using the criteria,
3. I can reflect on my learning journey,
4. I can evaluate my work.
5. What is more, these were just four statements because the time constraints of the study had to be taken into account. The researchers had to be aware that pupils would not be able to work on numerous statements at once.

The source material used for mastering English was Unit 1 ‘How do we make friends?’ from ‘Bright Ideas 3’ by C. Palin and S. Philips (2018) as it has been acknowledged by the Ministry of Education and Science of the Republic of Latvia and had been used in the certain school on a permanent basis. By the end of the unit, the pupils were expected to write a post ‘An Amazing Day with My Friends’. As regards the English language performance, they had to use present continuous, prepositions of movement and names of activities people can do together with their friends, for example, read a book, play football, watch TV, etc. For the part of SRL, the pupils had to demonstrate their skill to apply the aforementioned four SRL ‘Can-Do Statements’ while getting ready for doing and then

assessing their work. Then the backwards design in lesson planning was put into practice (Model Teaching, 2019) to get a logical sequence of the lessons that would be compatible with the assessment procedure of the final product created by the pupils. The structure of each observed lesson followed the same pattern in which the emphasis was put on pupils either setting the goal for certain activities, planning their work, reflecting on it or finally assessing the outcome. Each of the activities concentrated on language topics that would lead pupils to use necessary grammar structures and vocabulary items in writing the post. With that purpose in mind, particular worksheets for pupils to enter their ideas on the goal of each lesson, steps to be taken to attain the goal, reflection thoughts and self-assessment ideas were designed.

In the course of the case study, the pupils' work was observed in seven lessons. Each 'Can-Do Statement' was turned into an indicator with two descriptors revealing the pupils' skill to manage their own learning. **Table 1** lists the indicators and descriptors to assess pupils' SRL skills.

To observe the pupils' work on each 'Can-Do Statement', the following observation sheet was used (see **Table 2**). Each lesson focused on one certain descriptor or a combination of two to help pupils work on SRL by doing one thing at a time. It has to be noted that pupils could use English and / or Latvian to work on their SRL skills as the language necessary to explain their opinions and formulate phrases and sentences just in English might be complicated for Year 4 pupils. In the observation, three different notes were possible: yes (if the pupil demonstrated readiness to work on the task described in the descriptor), no (if the pupil did not demonstrate readiness to work on the task described in the descriptor), partly (if the pupil demonstrated readiness to work on the task described in the descriptor, but one needed assistance in carrying it out). Also, a number of pupils who were not present in particular lessons is added. Further on in the article, Table 3 will give a summary on all seven lessons in which 19 pupils were observed in lessons of English.

Table 1 Indicators and descriptors to assess students' self-regulated learning skills

Indicators	Descriptors
1. Can determine the goal of a learning task.	1.1. Try to formulate the goal of a learning task. 1.2. Ask for help to formulate the goal of a learning task.
2. Can map out the steps necessary to achieve the goal of a learning task.	2.1. Use criteria to map out necessary steps (to-do list). 2.2. Analyse what skills, knowledge and resources are necessary for the goal.
3. Can monitor the achievement of previously mapped out steps to achieve the goal of the learning task.	3.1. Reflect on previously mapped out steps. 3.2. Reflect on emotions during the learning journey.
4. Can evaluate the result of the predetermined goal.	4.1. Compare the initial goal and the result. 4.2. Share the result of the learning task.

Table 2 Lesson observation sheet (an example)

Date: xx Students	Descriptors							
	1.1.	1.2.	2.1.	2.2.	3.1.	3.2.	4.1.	4.2.
1								

To obtain evidence of the pupils' language achievement, two separate formative assessment tests were assigned – one test on grammar structures and one vocabulary test. The researchers decided to apply tests provided by the publisher of the book which was used in the case study. Then, to witness how pupils performed both the English language and the SRL skills, they had to compose a post called 'An Amazing Day with My Friends' complementing it with a drawing and submit the work.

Ultimately, the pupils were asked to assess their SRL skills by completing an improvised questionnaire. They were asked to draw a comparison between the beginning of the case study when they had just started to work on the idea of SRL – a few of its components, and the end of the case study when they had already spent eight lessons practising specific steps of taking control over their learning by setting goals, planning work, reflecting and assessing it. The pupils had to mark the place how skilful they thought they were at the beginning and at the end of the study on two lines resembling thermometers.

The next section of the article provides an analysis of the gathered data on how self-regulated learning 'Can-Do Statements' applied in lessons of English in Year 4 improve pupils' self-regulated learning and their foreign language achievement.

Results and Discussion

Table 3 gives a summary on seven observed lessons in the form of numbers – it shows how many students responded to the teacher's encouragement to set a goal for their work, plan, monitor, and evaluate it. It can be seen that pupils manage to form goals they should attain in learning (descriptors No 1.1. and No 1.2.) if they receive help from a teacher who offers relevant vocabulary to make set goals understandable. However, thinking of logical steps that would leave them to the outcome is problematic (descriptors No 2.1. and No 2.2.). This makes the researchers realise that the age group of the respondents have to be taken into account. For example, Year 4 pupils should be assisted more when they plan how to reach their goal and when they reflect on their work (descriptors No 3.1. and No 3.2.) and evaluate it (descriptors No 4.1. and No 4.2.) as abstract thinking has not fully developed at this age.

Overall, the numbers in the table more serve a quantitative purpose, which is not an aim of the particular study, thus it may become a subject of a different research article. Therefore, next paragraph of the article offers a descriptive analysis of the data adding more information from the researchers' notes accompanying the observation tables.

Table 3 Representation of the data of 19 observed pupils in seven lessons of English

All 19 pupils together over the course of the study	Descriptors							
	1.1.	1.2.	2.1.	2.2.	3.1.	3.2.	4.1.	4.2.
	1 lesson	1 lesson	3 lessons	3 lessons	2 lessons	2 lessons	2 lessons	2 lessons
yes	7	2	21	3	22	–	15	3
partly	6	–	13	44	10	–	2	–
no	6	17	3	–	–	38	18	35
not in a lesson	2	–	5	–	6	–	3	–

A descriptive analysis of the observation of seven lessons shows that at the beginning of the research, the pupils did not even understand what the idea of ‘set a goal’ meant. Initially, the teacher had to help pupils choose the necessary words to make the goals understandable and achievable. However, a positive sign was that the majority of pupils were interested in the assigned task, and they tried their best to invent a goal for their learning activities (Table 3, descriptors No 1.1 and No 1.2.). Unfortunately, three pupils showed no interest in taking responsibility for their learning and did not participate in the goal-setting process. The authors of the article have to acknowledge that the worksheets used in the learning process were of utmost importance as they gave a visual hint to pupils of what they were expected to do.

As regards creating a to-do list, the pupils found it complicated to envisage a logical sequence of tasks they would have to accomplish to get to the goal. Again, the worksheets with visual prompts served their purpose and helped pupils think of the necessary knowledge and skills they would need. Moreover, the visual prompts that assisted the pupils in devising a list of to-do activities helped to reflect on the success of each completed task. The authors of the research should mention the fact that it was demanding for the pupils to concentrate for a longer time to make the list of to-do activities complete. It might be an age-specific psychological feature as Year 4 pupils’ attention and concentration span is not that developed yet. What is more, reflection should not be presented as an abstract idea. Instead, specific examples of ideas or words used have to be offered on worksheets because Year 4 pupils still tend to think in terms of concrete not abstract ideas.

The last of the four ‘Can-Do Statements’ was easy to complete for the pupils who had been interested in their learning and demonstrated it by actively participating in previous lessons. As the particular statement deals with the pupils’ ability to evaluate their work, the pupils who had not engaged in setting the goal activities, had not tried to make a to-do list of tasks to be accomplished in order to reach the goal and had not indulged in reflection on their work, found it challenging to evaluate their work. It was because they missed information on what exactly and how had to be evaluated. Consequently, the pupils’ age, their interests, character and previous learning experience may affect the use of ‘Can-Do Statements’ in lessons.

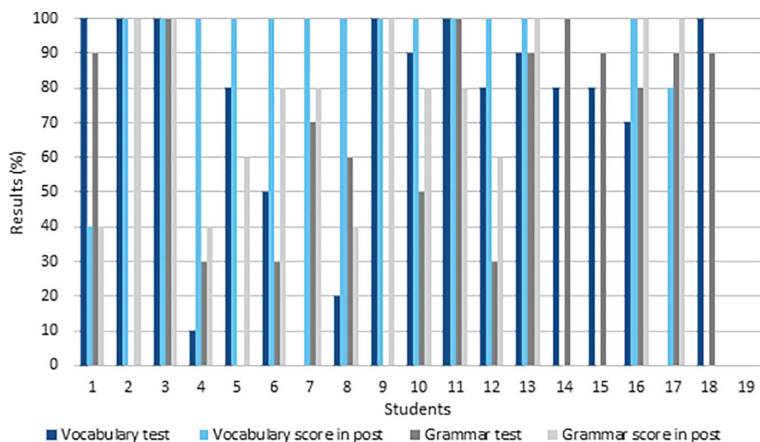


Figure 1 Comparison of the results between grammar and vocabulary test results and grammar and vocabulary performance in the post writing assignment

Overall, the observation data show that by applying ‘Can-Do Statements’ in lessons of English, it is possible to encourage pupils work on SRL showing them how it can be improved in future by indulging in particular activities on setting the goal of the task, planning the procedure, and then reflecting and evaluating its success. . However, it has to be admitted that only five pupils exhibited nearly all of the descriptors that indicate the development of the self-regulated learning skills. Only one pupil was spotted analysing the necessary skills, knowledge, and resources for the goal, according to the data (descriptor No 2.2.). There is no evidence of any pupils who were capable of emotional reflection during the learning journey (descriptor No 3.2.). As it can be seen, not all the pupils succeeded in working on their SRL skills and not all the pupils were excited to do that at all. Nevertheless, the authors of the article advise teachers to take the challenge and plan upon performing a similar sequence of foreign language lessons devoted to assisting pupils learn to become responsible for their own learning because it creates rapport of trust and understanding in the classroom.

Besides SRL, the pupils’ achievements in learning the English language were tested. **Figure 1** displays a comparison between the pupils’ performance in separate vocabulary and grammar tests and their combination in the assignment of writing a post on an amazing day spent with friends using both necessary grammar structures and new vocabulary. It has to be noted that all three tests represented formative assessment purposes.

Figure 1 depicts that the majority of pupils exhibit greater proficiency in vocabulary and grammar in their post writing assignment compared to their performance in separate vocabulary and grammar tests. The authors of the article are of the opinion that it is because the pupils knew about their final post writing assignment from the beginning of the research, therefore, they were more personally involved in its execution and presentation. To sum up, SRL ‘Can-Do Statements’ incorporated in lessons of English not only

enhance the pupils' self-regulated learning skills, but also improve their foreign language achievement. In general, 'Can-Do Statements' may help pupils better assess their own work as the statements may help pupils focus, spend time thinking and give an idea of experiencing real-life situations.

To complement the data retrieved from the lesson observation and the tests taken by the pupils, the authors of the article explored the pupils' opinion on the benefit of the use of 'Can-Do Statements'. Namely, the pupils were asked whether the activities on learning to set a goal, plan a to-do list, reflect on and assess their own work, had increased their confidence as self-regulated language learners. **Figure 2** gives a summary of the pupils' viewpoints.

The authors of the research appreciated that the majority of Year 4 pupils had considered the proposed SRL activities beneficial. **Figure 2** in combination with the lesson observation and the pupils' test data, testify that self-regulated learning 'Can-Do Statements' do bring results in the context of both Year 4 pupils' SRL skills and the English language achievement. However, as there were pupils who either had not experienced any changes in their skills and performance or had become even less confident or found the experience frustrating, the authors of the article conclude that certain adaptations to the framework of the lesson structure should be introduced and the materials implemented have to be revisited to make the learning process more personally relevant according to a certain pupil's learning needs. In particular, there is a need for extensive and meticulous lesson planning and consideration of the implementation process to ensure efficient development of SRL skills and improvement in English language achievement.

As the particular case study was a small-scale research, its authors have to admit that it has certain limitations due to the size of the research sample and the time frame. Therefore, it could be suggested that Year 4 pupils of several other schools participate in such research for a longer time to establish a more profound basis for conclusions. It would give a chance for teachers to spend more time helping pupils work on each descriptor thus honing SRL skills and enhancing English proficiency.

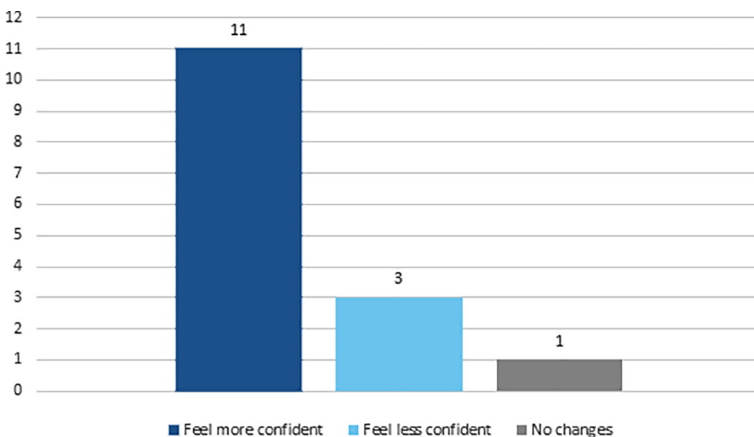


Figure 2 Pupils' feedback on the benefit of self-regulated learning 'Can-Do Statements'

Conclusion

Learning a foreign language or learning anything new is something necessary, inevitable and complicated at the same time. Especially for young learners as they have not developed a routine of learning yet. What is more, besides sharing curiosity they would not learn anything they do not consider personally relevant. Therefore, one of the tasks of teachers is to help primary school pupils learn how to learn thus developing their self-regulated learning skills. Even though it is required of the teachers in Latvia by the new competence-based curriculum, not all teachers are eager to indulge in the process of helping pupils master transversal skills alongside the obligatory subject content. However, if a teacher decides to do that, one has to be aware of what effective techniques there are available in the field of methodology. Nowadays, when teaching and learning foreign languages are based on the use of the CEFR descriptors – ‘Can-Do Statements’, teachers may find it practical to use the idea in other areas as well because both teachers and pupils might already be familiar with the concept. ‘Can-Do Statements’ can be incorporated in helping pupils learn to take responsibility for their learning thus letting them master a self-regulated learning skill. As the evidence of the present study suggests, if it is done in lessons of English as a foreign language in primary school with Year 4 pupils, teachers may foster not only the performance of their pupils’ English achievements but also boost pupils’ confidence regarding their self-regulated learning skills. Unfortunately, a particular pupil’s level of performance may depend on how closely one relates the content of ‘Can-Do Statements’ to one’s learning. Despite the necessity to have carefully designed lesson plans for the effective use of ‘Can-Do Statements’, the present study makes it evident that their implementation enables the creation of the atmosphere in which pupils become more confident learners.

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OPPORTUNITIES AND CHALLENGES OF VIDEOCONFERENCING-BASED TEACHING AMONG ENGLISH TEACHERS

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ABSTRACT

Over the last decade, online English as a foreign language learning courses have become increasingly popular since teachers and practitioners have realised the benefits of synchronous, video conferencing-based learning activities for their learners. Not all teachers (especially pre-service teachers) are, however, sufficiently well-versed in implementing video conferencing-based English teaching to use its benefits effectively. A qualitative research study aiming to investigate the opportunities and challenges experienced by six pre-service teachers of English as a foreign language in their video conferencing-based praxis was thus devised. It included a five-week, practice-based teacher training course for video conferencing-based English teaching followed by a five-week teaching practice. The study's findings revealed several opportunities, such as video conferencing-based English courses effectively facilitating productive skills (e.g., speaking and writing) by implementing collaborative learning strategies that support cognitive processes and promote social interaction. Furthermore, the nature of video conferencing-based English teaching encouraged the pre-service teachers to utilise more active learning approaches to keep learners' interest and engagement in class, potentially leading to longer retention of vocabulary, enhanced comprehension, improved motivation, and critical thinking skills. There were also several challenges. For example, not all pre-service teachers found video conferencing tools engaging or easy to cope with due to limited internet speed, which may affect the quality of video and audio communication. Additionally, instructional design should be tailored to learners' physiological and psychological needs, including fatigue, technology-related stress, and anxieties. The findings from this study provide valuable insights for educators, policy-makers, and researchers and contribute to the ongoing discourse on the use of technology in foreign language education.

Keywords: *teacher training; future teachers; online learning, foreign language education; videoconferencing*

Introduction

Video Conferencing (VC) tools have become increasingly popular among learners worldwide due to their potential benefits, such as providing opportunities for individuals with severe health conditions or physical disabilities to attend educational institutions remotely (Mallow et al., 2016). VC-based learning also offers the convenience of allowing learners to connect from the comfort of their homes and manage their schedules more effectively without the need for transportation (Mader & Ming, 2015; Pandey & Pande, 2014). In addition, the use of VC tools can facilitate the participation of guest speakers from any part of the world, which can enrich learners' confidence and expertise (Kamal & Szczerba, 2009). However, VC-based English as a Foreign Language (EFL) teaching may not be engaging or accessible for all learners, as some may face challenges related to limited internet speed, resulting in poor video and audio communication quality. Additionally, some young learners may misuse the option to turn off their cameras or microphones for non-educational purposes, such as chatting with friends, playing games, or opening other distracting tabs (Tacker, 2021). To take advantage of the available VC-based EFL affordances and address the challenges that learners face in this medium, a teacher training programme should be designed to effectively implement the advantages and minimize the drawbacks of this medium as much as possible. Therefore, this study aims to investigate the opportunities and challenges encountered by six pre-service EFL teachers in their VC-based teaching practices and identify potential ways to overcome the challenges in future VC-based teaching practices.

Literature Review

VC-based courses for EFL teaching have been shown to effectively utilise collaborative learning strategies, enabling learners to engage in tasks and receive feedback from teachers despite physical separation (Ertla et al., 2006). Breakout rooms integrated into the VC platform promote independent work with peers and social interaction, enhancing comprehension and EFL development, particularly for beginner students.

Wei-Li, et al., (2016) have suggested a correlation between VC-based EFL teaching and learner-centred education. VC-based EFL teachers tend to encourage active learning in VC classes more than face-to-face classes, maintaining learners' interest and engagement, which may result in longer-lasting knowledge, improved comprehension, and increased motivation. Moreover, interactive teaching strategies are strongly associated with VC-based EFL teaching, resulting in relatively high levels of learner satisfaction (Kim, 2020). VC-based EFL courses have unique features, such as screen sharing, annotation functions, and the ability to ask and answer questions through the Zoom chat window, which can assist learners in comprehending newly introduced information.

Formative assessment is considered more suitable for VC-based EFL courses compared to summative assessment (Setyowati et al., 2021). This type of assessment allows EFL teachers to evaluate learners' gradual progress by utilizing various activities or tasks related to all English skills, including reading, speaking, writing, and grammar.

The advantage of formative assessment is that it enables instructors to comprehend the most effective and efficient approaches that can aid students in comprehending and learning more, improving the learning process by striving to provide maximum learning outcomes (Agah et al., 2021). Due to the specific nature of the VC medium for EFL teaching, VC-based EFL teachers require specialized training in the instructional design and planning of VC-based EFL classes, as well as the effective use of various online tools for teaching different second language (L2) skills (Carrillo & Flores, 2020).

Prior research has examined the benefits and challenges of VC-based EFL courses for learners. Among the benefits, studies have indicated that learners in VC-based EFL courses can enhance their L2 interactive skills through small group communication in breakout rooms, increasing their self-confidence and speaking performance. VC-based EFL courses also offer unique learning-related features, such as recording and playback, annotation tools, polling, and question and answer tools, which promote active learning experiences and multi-modal communication using breakout rooms, chat, file transfer, emoticons, captioning, and video and audio sharing (Correia et al., 2020). These features are embedded in many VC tools and can also be supported by other external online tools and platforms including YouTube videos, podcasts, Google Docs, Voice thread, Wordwall activities, LearningApps activities, wikis, online websites, and social media, etc. (Asoodar et al., 2016; Yu, 2022). Another benefit is the ability to switch off the camera during speaking activities, which can improve student motivation and confidence (Lee, 2021).

However, there are also drawbacks to VC-based EFL teaching. Learners may experience increased distractions due to technical or internet failures, and EFL teachers may need to incorporate instructional design for VC-based EFL classes that consider the cognitive load of the intended content and technology use (Nunneley et al., 2020). Furthermore, learners may get bored easily during VC-based EFL classes, and some young learners may misuse the option to turn the camera or microphone off for non-educational purposes (Tacker, 2021). Additionally, testing via VC tools may not be perceived as valid by some educational institutions, as learners may blame technical issues for speaking mistakes during online tests (Vujnovic & Medic, 2021). Some VC tools have embedded proctoring features to detect cheating, but further research is needed to explore this topic (Bruce & Stakounis, 2023).

Methods

Research Aim and Questions

This study explored the experience of six pre-service EFL teachers using VC-based teaching practices by examining the opportunities and challenges they encounter. Additionally, the study aimed to identify effective strategies to overcome any challenges that arise to enhance future VC-based teaching practices. Based on the aim of the study, the following research question was formulated:

RQ1: What opportunities and challenges do pre-service EFL teachers encounter when using VC-based teaching practices?

Research Design

A qualitative case study approach, as outlined by Creswell (2007), was employed in this study to address the research question. Qualitative research methodologies require a multitude of information sources to generate comprehensive and nuanced data (Mason, 2002). Consequently, the participants were requested to furnish their responses via diaries, a focus group interview and researchers' observation notes that provided a detailed account of participants' VC-based praxis experiences, thereby facilitating the production of in-depth and rich data.

Participants

The research sample consisted of six pre-service EFL teachers from Syria, consisting of four female and two male teachers with a mean age of 23. These individuals volunteered to participate in the study for a period exceeding two months. The participants were selected through convenience sampling (Creswell & Poth, 2018) based on their minimum English proficiency level of B1, access to a high-speed internet connection, and availability of a laptop computer. The participants' English proficiency level was assessed using the "English score" online mobile-based placement test designed by the British Council. Based on the participants' recounts, none had prior experience with VC-based EFL teaching or received any EFL teacher training. Although some pre-service teachers had limited English teaching experience, their EFL teaching techniques were largely spontaneous and lacked adequate pedagogical knowledge.

The study's ethical framework strongly emphasised maintaining the privacy and confidentiality of participants' data. Before their participation, the six pre-service EFL teachers from Syria were provided with clear and comprehensive information about the study's purpose and procedures, ensuring their consent to participate was fully informed and voluntary. Rigorous protocols were employed to ensure that any personal information shared by the participants remained strictly confidential and was protected from unauthorised access. Additionally, measures were taken to mitigate any potential risks to the privacy of participants' data throughout the study.

Procedure

The study consisted of four phases. The first phase involved designing a five-week need-based teacher training course for six Syrian pre-service EFL teachers on VC-based EFL. The course comprised self-paced, asynchronous learning material provided through Google Classroom and synchronous VC-based sessions conducted via Zoom. The VC-based training sessions were held once a week for two and a half hours. During these sessions, the pre-service teachers discussed suggested topics and performed mock lessons for teaching all four macro skills. In the second phase, the pre-service teachers were tasked with teaching a group of learners for another five weeks after the training. Each pre-service teacher independently taught a group of learners with a specific English language proficiency level. The practicum commenced six weeks after the training, allowing the participants to find a group of volunteer students and design their

five-week course. They created personal Zoom and Google Classroom accounts. They utilised various online features and tools such as ‘Google Docs,’ ‘Google Slides,’ ‘Nearpod,’ ‘Kahoot,’ and ‘Quizlet’ based on their pedagogical needs to achieve their course outcomes. The third phase contained conducting a Zoom-based focus group interview with the six pre-service EFL teachers after the five-week teaching practice. The final, fourth phase was concerned with the analysis of collected data.

Data Collection Tools

The data for this study were gathered from various sources, including a Zoom-based focus group interview, diaries submitted by participants and observation notes prepared by the researchers during the VC-based teaching practice. An online group interview, which lasted for about two hours, was conducted with all six pre-service teachers after the practicum. It used semi-structured questions (Dörnyei, 2007) to examine their perceptions of the opportunities and challenges six pre-service EFL teachers encountered in their VC-based teaching practice. The aim was to identify potential ways to overcome the challenges in future VC-based teaching practices. All six pre-service teachers submitted their teaching diaries ($N = 30$) using ‘Google Forms’ after the teaching practicum. Additionally, the researchers observed 12 random classes of participants and made observation notes for analysis.

Data Analysis

After researchers completed the data collection, all collected data, including a verbatim transcription of a two-hour focus group interview, participating pre-service teachers’ diary entries ($N = 30$), and researchers’ observation notes ($N = 12$), were compiled into a single Word document. The researchers then analysed the three datasets using an open-coding approach. This method, as described by Silverman (2011), allowed the researchers to conduct a more comprehensive analysis by clustering and organising the open codes into broader themes that accurately described the data. Through thoroughly analysing the three datasets, the researchers presented their findings under five headings that covered opportunities and three headings that addressed challenges (see Table 1).

Table 1 Coding Scheme for opportunities and challenges of VC-based EFL teaching

Opportunities	Challenges
<ul style="list-style-type: none"> • Facilitating the delivery of productive skills (e.g., speaking and writing) [1.2 & 3] • Promoting collaborative learning and social interaction [1.2 & 3] • Promoting active learning [1.2 & 3] • Supporting critical thinking skills [1.2 & 3] • Increasing motivation, interest, and engagement [1 & 2] • Longer retention of vocabulary learning [1 & 2] 	<ul style="list-style-type: none"> • Unstable or limited access that affects the quality of video and audio communication [1.2 & 3] • Zoom fatigue due to long lecture hours [1 & 2] • Some students’ expectations of deductive grammar and teaching from their teachers [1 & 2]

Note. 1. Teacher’s Diary, 2. Focus group interview, 3. Observation notes

Results and Discussion

Opportunities of VC-based EFL Teaching

The opportunities of VC-based EFL teaching are delineated through six primary themes, which are explicated in Table 1 and have arisen from a meticulous analysis of the data. The subsequent sections provide comprehensive definitions and illustrative examples of each of these themes.

Facilitating the delivery of productive skills refers to the potential of VC-based EFL teaching to provide opportunities for students to practice and develop their productive language skills, such as speaking and writing. For example, breakout rooms in VC-based platforms increase EFL learners' self-confidence and speaking performance. Moreover, Google Docs enable teachers to monitor their students' writing processes through the history feature of Google Docs and provide immediate feedback using the comment feature. Participant 2 explained: *"I have noticed a significant improvement in my students' speaking and writing skills since we started using VC-based teaching tools. The breakout rooms feature has been especially beneficial for my students to practice their speaking skills in a comfortable and safe environment. Additionally, Google Docs has been a useful tool for me to monitor and provide timely feedback on my students' writing tasks, leading to an improvement in their writing skills over time"* (diary entry, 4).

Promoting collaborative learning and social interaction highlights how VC-based EFL teaching can promote collaboration and social interaction among students, enhancing their communicative competence and fostering a sense of community in a virtual classroom. One participant in a focus group interview commented: *"Implementing writing is relatively more straightforward in VC-based classrooms because teachers can directly observe what and how students write, especially in pairs or groups. Google Docs, for example, is a helpful platform for a collaborative writing activity since students can produce a text in English during their discussion and negotiation. Also, I have noticed that students showed new ways of presenting and organising their ideas and showed new ways of approaching writing in English"* (participant 3). This finding concurs with the result of Selcuk et al. (2019) for promoting collaborative learning and social interaction in web-based collaborative writing among EFL learners. Other participants highlighted that *"At the beginning of my teaching practice, I avoided using Arabic even though students were beginners struggling to understand my instructions in English. However, thanks to the training, I implemented new strategies such as motivating students to use online dictionaries and organising breakout rooms in a way that more knowledgeable students can guide less knowledgeable students, which enabled them to discuss any issues in their L1 and try to speak English only with the teacher"* (Participant 6, diary entry 5).

These strategies enabled students to engage in discussions, improve their language skills, and feel more comfortable in a virtual classroom setting. Overall, VC-based EFL teaching provides opportunities for collaborative learning and social interaction, enhancing the learning experience for both teachers and students.

Promoting active learning describes the potential of VC-based teaching to promote active learning by using interactive tools and activities requiring students to engage actively with the language and take responsibility for their learning. One participant said, *“I’ve seen how VC-based teaching can encourage students to actively engage with the target language [English] and take ownership of their learning. For instance, interactive activities in Wordwall, Learning Apps, and Kahoot have allowed the students to practice using English in a meaningful way. They have shown greater interest and motivation when undertaking those activities”* (participant 4, focus group interview).

Supporting critical thinking skills refers to how VC-based EFL teaching can provide opportunities for students to engage in critical thinking and problem-solving activities. This approach can help students to develop their analytical and evaluative skills, as well as to apply these skills to real-world situations. Participant 1 explained, *“VC-based has a unique opportunity for students to provide feedback to one another in breakout rooms without feeling self-conscious with the presence of a teacher. Such feedback has potentially enhanced the critical thinking skills of the students”* (diary entry, 4). This finding is consistent with Akatsuka’s (2020) research, which suggests that online EFL classes that incorporate interactive activities designed for the online learning environment can promote critical thinking among students.

Increasing motivation, interest and engagement emphasises the potential of VC-based EFL teaching to increase students’ motivation, interest, and engagement in the language. This can be achieved using interactive and engaging materials, as well as through the provision of personalised feedback and support. Participant 5 reported: *“We started using different strategies for teaching grammar that are more engaging and interesting for students. For example, we were encouraged to give students a list of examples with which students should elicit the grammar rule in a group discussion. This strategy increased students’ interest and engagement in the lesson”* (diary entry, 3).

Longer retention of vocabulary learning highlights the ability of VC-based EFL teaching to promote longer-term retention of vocabulary learning. This can be achieved using interactive tools and activities that provide multiple opportunities for students to encounter and practice new vocabulary, as well as through the provision of personalised feedback and support. Participant 4 expressed: *“While doing listening activities, teachers can send the links of audio materials to students in breakout rooms to enable them to pause, rewind and repeat the audio materials so that students can identify new vocabulary items and repeat them in different discussion activities, including the breakout rooms and the main discussion room... Another advantage for students is the transcription option in VC tools such as Zoom or MS Teams, which allows beginner students to follow the spoken discussion and notice new vocabulary items they can use later in their writing and spoken activities”* (diary entry, 4).

Challenges of VC-based EFL Teaching

The challenges associated with VC-based EFL teaching are categorized into three primary themes, which are elucidated in Table 1 and have emerged from a rigorous data

analysis. The following sections offer detailed explanations and illustrative instances of each of these themes.

Unstable or limited access that affects the quality of video and audio communication refers to the challenges that arise when students do not have stable or reliable internet access, which can affect the quality of video and audio communication in the virtual classroom. Participant 2 commented in the focus group interview that *“It was time-consuming for me to design activities for online lessons because I had to design many asynchronous activities to keep all students involved even in time; there was a power cut. Otherwise, I would lose my students’ attention and interest in continuing the course... Especially considering that the course was free to students.”*

Zoom fatigue due to long lecture hours describes how the need to spend long hours in front of a computer during VC-based EFL teaching can lead to Zoom fatigue among students, which can affect their attention and retention of information. Participant 5 commented: *“I have observed that two and a half or three hours of VC-based teaching can cause Zoom fatigue among students, resulting in decreased attention and retention of information. To address this issue, I have started incorporating more interactive and engaging activities in my virtual classroom to break up the monotony and keep my students motivated and focused”* (diary entry, 5).

Some students’ expectations of deductive grammar and teaching from their teachers highlights how some students may have expectations of deductive grammar instruction and traditional teaching methods, which may make it difficult for them to adjust to the more student-centred and communicative approach that VC-based EFL teaching often involves. Participant 3 explained: *“I have noticed that some of my students come to my VC-based EFL classes with the expectation of traditional deductive grammar instruction and teacher-centred teaching methods. However, I believe that a more communicative and student-centred approach is more effective for developing their language skills in real-life situations. To help my students adjust to this approach, I have been providing clear explanations of the benefits of communicative language teaching and engaging them in interactive activities that allow them to use the language in a meaningful way”* (diary entry, 3).

Conclusion

The study’s findings suggest that VC-based EFL courses have the potential to enhance productive skills like speaking and writing by utilising collaborative learning strategies that support cognitive processes and encourage social interaction. In addition, VC-based EFL teaching motivates pre-service teachers to adopt active learning methods, leading to improved vocabulary retention, comprehension, motivation, and critical thinking skills.

However, the study identified some challenges. For instance, some pre-service teachers found VC tools unengaging or difficult to manage, primarily due to limited internet speeds, which may compromise the quality of video and audio communication. Furthermore, instructional design should account for learners’ physiological and psychological needs, such as fatigue, technology-related stress, and anxiety.

To overcome these challenges, it is essential to provide adequate training and support for pre-service teachers and learners to adapt to the VC-based EFL learning environment. Additionally, instructional designers should consider the constraints of VC technology and develop interactive and stimulating learning materials that enhance learners' motivation, interest, and active participation. This study is small in scale and explores the features and drawbacks of VC-based EFL classes conducted by pre-service teachers while doing their first practicum. Therefore, in order to explore the affordances and drawbacks of VC-based EFL teaching, another study should be conducted after a year from the practicum as teachers will have had more experience in conducting VC-based EFL courses and might have learned to overcome some drawbacks by experience. Another thing to consider is that the participants in this study were from Syria and it is interesting to conduct a similar study for the future in a more developed country such as Finland. Furthermore, it would be interesting for the future to study in depth the online tools being used in VC-based EFL courses and their individual impact on EFL development.

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THE DEVELOPMENT TENDENCIES OF CONTENT AND LANGUAGE INTEGRATED LEARNING METHODOLOGY AT THE UNIVERSITY LEVEL

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ABSTRACT

This research aims to investigate the role of CLIL methods in teaching professional English at the university level. The author introduces the concept of the development tendencies of Content and Language Integrated Learning (CLIL) methodology in a higher education system. This article seeks the answers to the research question: how effective the way of teaching a foreign language using CLIL methods is. This study offers the following hypothesis that learning professional English using CLIL methods as new ones is the best modern way for students to master the professional foreign language at level C2. The main components of the article are as follows: the characteristics of the research topic, research issues, the purpose, results and novelty. The article begins with the analysis of the definitions of the terms “CLIL” and “methodology” and reveals the concept of CLIL methodology. The author gives practice examples of CLIL application in the education of the higher school and define main CLIL approaches in it. The ways how to improve the English language teaching using CLIL methods at the university level are also determined. The results indicate that CLIL methodology applying in the educational process developing students’ linguistic and content competences excellently. The article concludes that CLIL methods in teaching help to prepare English speaking professionals at the international level.

Keywords: *content, CLIL, English, foreign language, methodology, teaching, university.*

Introduction

Today, students of non-linguistic faculties at any European university must speak professional English at a high level. This may be due to learning any foreign language using more effective teaching methods.

Therefore, teaching various disciplines in English should be a priority in the educational process at European universities. First of all, this approach is aimed at training specialists capable to work at the international level.

The topicality of the research is strengthened by Europe universities needs not only in lecturers qualified both in English and a special discipline, but also in effective methods

of Subject-Language Integrated Learning known as CLIL which actualizes the need to study basic principles of its methodology for effective its application in the university curriculum.

Basing on the study of scientific literature, it was established that certain aspects of the mentioned problem were revealed in foreign scientists' researches.

At the same time, the analysis of the scientific papers on the mentioned problem "*The development tendencies of Content and Language Integrated Learning methodology at the university level*" brought us to the conclusion that the issues of the development tendencies of Content and Language Integrated Learning methodology should to be studied for improving the English lectures' qualification for teaching English at non-linguistic faculties of the university.

The subject of the research is Language and Content Integrated Learning.

The object of the research is the development tendencies of Content and Language Integrated Learning methodology.

The purpose of the project is to explore the tendencies of the development of Content and Language Integrated Learning methodology at the university level.

The tasks of the research:

- 1) to characterize the conceptual and terminological basis of efficiency of CLIL application in the study process;
- 2) to find out the best practice examples of CLIL application in teaching English at the university level;
- 3) to define main approaches of CLIL application in teaching English at the university and to find out how to improve the English language teaching at the university level.

The hypotheses is that learning professional English using CLIL methods is the best modern way for students to speak the professional foreign language at level C2.

The novelty of the study is that the development tendencies of CLIL methodology at the university level were defined for the first time.

Literature review

Researchers Brinton, Snow and Wersche (1989) studied the problem of content based on the second language teaching. They discuss how the second language students should be taught the language they need for studying academic content in the higher education. The authors present three solutions to the language and content problems in the context of teaching languages for academic purposes: "theme-based language instruction"—a topic-led version of communicative language teaching; "sheltered content instruction"—content teaching by content specialists, delivered (with the concomitant interaction adjustments) to non-native speakers; and "supplement language instructions"—linking of content and language courses, the latter is taught by language specialists teaching the second language, the former is taught by content specialists for both native and non-native speakers. Each of these three models is presented through examples. They also

see these teaching forms interesting for both the second language learning and general development in the language education.

Scientists Contero, Zayas and Tirad (2018) give the analysis of multilingual higher education programs in Andalusia', study the specific linguistic problems about any difficulty in the education. The authors believe that university teachers can have CLIL approaches implementation in classes. The sample offered by the researches consists of 138 lecturers belonging to 66 different fields of knowledge distributed across six public universities in Spanish region of Andalusia. The study identifies lecturers' perception their teaching skills when they give CLIL lessons.

Coyle, Hood and Marsh (2010) devoted their paper to CLIL. They define what CLIL is, its development and describe CLIL as a form of intersection. The authors name CLIL as an innovative form of the education in response to the demands and expectations of the modern age and give reasons which support the interest in CLIL within a specific country or region. Researchers confirm that CLIL is relevant to the teaching profession.

The study of Eaton (2010) on 22 papers is a meta-analysis of recent research which provided the means to identify current trends in the field of teaching a foreign language. Some identified trends that shapes the 21st century language classes are described in this research, The author insists that geographical and physical boundaries are transcended by a technology as students learn to reach out the world around them using their language and cultural skills.

Kelly (2014) studies a variety of factors for successful CLIL application. His paper discusses four factors relevant to CLIL successful implementation. Firstly, issues of managing and supporting CLIL implementation. Secondly, teachers' roles and behaviour in the delivering CLIL. Thirdly, the issue of resourcing CLIL at schools. Lastly, the author considers factors how to do with the learners in CLIL education.

Marsh (2012) gives the research on 552 pages. He studies the problem of Content and Language Integrated Learning (CLIL) development as an educational approach which joint complementary educational initiatives and socio-political requirements. Some certain features of these changes are defined in this thesis as they affect curricular integration on language and non-language subjects. The publications focuses on integration, inclusion, language competence, language learning effect and its use on mind and brain and also CLIL is shown as an educational approach

Researcher Melekhina (2021) discusses important requirements for CLIL teachers. The author believes that Content and Language Integrated Learning is introduced into university curricula in response to the demands of the labor market for qualified specialists who are able to communicate in the international professional or academic environment effectively. The methodology of teaching specializes on subjects studied in a foreign language and has a number of specific features including high cognitive load that learners receive.

Meyer (2013) believes that Content and Language Integrated Learning (CLIL) is integrated into curricula in Europe. However, there is still a lack of necessary teaching material and that is why comprehensive and integrative CLIL methodology has to be

developed. His article intends to address this problem by establishing quality criteria for successful and sustainable CLIL teaching.

Methodology

The document analysis method was used in the research because it is theoretically review-based article. The document analysis is aimed to systematize electronic documents (Internet-transmitted) for evaluating and reviewing them. The methods used for meeting the aim and tasks of this study are analysis, generalization, systematization, induction, deduction and comparing sources of data in the same category to determine their similarities and differences. Mainly data is taken from such sources as books, scientific articles, a dissertation related to CLIL teaching using library methods as electronic libraries and websites.

Also, *praxisymmetric methods* (the analysis of the students' results, the method of tables) were done.

The material in tests was presented in the form in which a lecturer usually gives it in class or according to a textbook. The study sample is a group with 15 the third-year students from the non-linguistic Faculty of Geography in V. N. Karazin Kharkiv National University who study such subject as "Foreign language on the specialty (English)" using CLIL approaches.

Our dedication is to gather and apply knowledge with the aim of how to improve teaching English at non-linguistic faculties in V. N. Karazin Kharkiv National University using CLIL methods and it is based on a commitment of ethical principles based on the principles of research ethics: students' verbal information agreement was received for the respondents' voluntary participation in the research with full information about what this participation means for them and what they give their consent on before taking part in the research. Participants were informed about purposes, a process, methods, expected benefits, potential risks and study participants' rights before receiving the verbal information agreement. They had the right to stop their participation in the research at any time they want.

Thus, to confirm the effectiveness of theoretically grounded statements of teaching subject "Foreign language on the specialty (English)" using CLIL methods was *the procedural level* of our research as a level of third-year students' general educational skills formation. As the result, all the indicators of students' mastery of professional English were diagnosed at the control stage of the experiment using the following criteria: speaking, listening, reading and writing using the professional vocabulary.

So, for checking students' level of fluent professional English mastering (speaking, listening, writing and reading) as a result according to the three-years curriculum learned during six semesters, the author used *empirical* and *praxisymmetric* method as control testing.

Firstly, at the beginning of the first semester the first-year students were tested on speaking, writing, listening and reading using entry tests for checking the level of students' mastering basic English (students didn't know professional vocabulary).

Secondly, the form of the last test control on correct speaking and listening using professional vocabulary on the specialty (Geography) was an oral presentation given on all current themes learned during the last semester by each of the third-year student. The algorithmic application included the control of student's oral potential to use professional vocabulary in their communication. Thus, the main evaluation criteria are based on students' ability to interact with classmates in content language and use activities where students have to find out unknown information from classmates using professional vocabulary, to understand what the task is about and where the discussion should be going.

Secondly, to evaluate students' writing and reading skills using content-language vocabulary we used two written tests at the end of the sixth semester: a control test and a final one. There were 40 questions on content-language reading and writing on specialty Geography in each test. Criteria of the evaluation writing and reading were 5–6 mistakes – “5”, 12 mistakes – “4”, 13–18 mistakes – “3” (1 point for a mistake).

The results showed that at the end of the sixth semester students had excellent indicators of their professional English mastery: diagnosed criteria as speaking, listening, reading and writing with content-language vocabulary dealt with the most important characteristics of the effective students' content-language acquisition.

After processing the results of all types of testing, the average score of the indicators was taken into account. On the basis of the received results of the research, the control data of both students' first and final testing were insured. They are given in Table 1.

Results

Table 1 compares data about the diagnosed indicators of the first-year students' entry testing results in *fluent English speaking, reading, writing, listening* without CLIL, (%) in group A from the Faculty of Geography in V. N. Karazin Kharkiv National University, Ukraine and the indicators of third-year students' from the same group A final test results in fluent students' English *speaking, reading, writing, listening* with CLIL (%) in 6 semester of learning subject “Foreign language on the specialty(English)” using professional vocabulary.

Table 1 Descriptive statistics and correlations (%) of students' tests results as indicators of the effectiveness of teaching English using CLIL methods

Tested criteria of students' mastering English	Group A, indicators of students' entry testing results without CLIL, %	Group A, indicators of students' final testing results with CLIL, %	Correlations of test results which show the effectiveness of teaching English using CLIL methods, %
fluency in English speaking	35 %	91 %	56%
fluency in English reading	51 %	99 %	48%
fluency in English writing	45 %	98 %	53%
fluency in English listening	30 %	89 %	59%

Note: average index correlation = 54%

Also, the correlations of students' test results on each criteria as fluent professional English speaking, reading, writing, listening which show the effectiveness of teaching English through CLIL methods (%) are also shown in Table 1.

So, the fluency in English speaking is 56 % higher, the fluency in English reading is 48 % higher, the fluency in English writing 53 % higher, the fluency in English listening is 59 % higher in students' final tests from group A after 6 semesters of learning such discipline as "Foreign language on the specialty" (English) using CLIL (%) methods than first-year students' indicators of entry testing results without CLIL (%) as for speaking professional foreign language.

It is noticeable that the proportion of all indicators given in table 1 on final testing in group A taking up teaching English using CLIL methods is almost double the percentage of the indicators on entry testing in the same group.

Overall, the performance indicators given in Table 1 show that results in students' final tests are on average 54 % higher than they were in their entry tests which proves the effectiveness of teaching English using CLIL methods at the university level.

The experiment took 6 semesters because to teach students to speak English using their professional vocabulary take much time and results can be shown only at the end of learning the discipline. It should be noted that the experiment checked how well students master their professional English and there were no other methods for teaching English except CLIL ones.

Discussion

As a matter of fact, traditional language teaching strategies only focus on teaching the English language and not on teaching any subject using a content language.

We agree with researcher Kaplan who says that learners should not learn only a basic language. They should apply their developing language skills to reach academic content in all subjects (Kaplan, 2019).

Also, we agree with the position presented in Research Report # 13 – Effective Language Teaching: A Synthesis of Research, conducted by Harris and Duibhir on February 2011 in Dublin: "As a matter of fact, language learning is more effective when it is combined with another subject content learning than when a foreign language is learned singly" (Duibhir, Harris, 2011).

More over, the higher school in Europe began to implement the IB (The International Baccalaureate) program through the English language. In other contexts, language teachers or native speaking assistants work hand-in-hand with local subject teachers and learn the language focusing on mother-tongue lesson (Kelly, 2014).

Characteristics of the conceptual and terminological basis of the efficiency of CLIL application in the study process

We agree with researchers considering CLIL as an "umbrella" term covering a dozen or more educational approaches. For example: immersion, bilingual education,

multilingual education, language “showers” and extended language programs (Mehisto, Marsh, Frigols, 2008).

Also, it is generally assumed that Content and Language Integrated Learning (CLIL) is defined as a dual-focused educational approach in which a foreign language is used for learning and teaching both content and language (Coyle, Hood, Marsh, 2010). CLIL is also defined as “a content-based instruction” in the North American context (Brinton, Snow, Wesche, 1989).

Besides, Content and Language Integrated Learning is aimed to improve students’ language proficiency without any negative impact on the development of students’ first language or how well learners do in an area of a subject they study. So, CLIL makes learners use the language in the context of a studied subject or for real communication and challenges them to use the target language for cognitive purposes such as getting knowledge, skills and information (Duibhir, Harris, 2011).

Moreover, we agree with scientist Krashen who makes the distinction between learning and acquisition. Learning, according to Krashen, are results from a formal instruction, typically in grammar and it is of limited use in any real communication. The acquisition is a natural process. It is the process by which the first language is adopted and by which other languages are picked up through the contact with speakers of those languages exclusively. The success in the second language is due to the acquisition not to learning, moreover, he claims that learned knowledge can never become acquired (Krashen, 2014).

Thus, as our practice shows, when a student works with the content in English, it is the natural process of acquisition knowledge and it is directly related to a native speaker. Therefore, learning is more successful and it is not formal.

But, scientist Clegg believes that what CLIL needs to do is to be presented as a *methodological* concept whose parameters are both defined and limited. If it cannot do this then it becomes everything and everything is nothing finally. That is why CLIL can be shown as a set of methodological criteria. (Clegg, 2020).

As we know, *methodology* (from Greek Μεθοδολογία) is a system of methods. Therefore, we can define *CLIL methodology* as ways and methods of CLIL implementation in the educational processes of the higher school.

It should be noted that CLIL methodology can be communicative and use a lot of visuals to shape the content in a form that learners can understand easily, it needs to have learners’ collaborating as much as possible, to be cognitive, to be determined in a way that moves students from a less cognitively required or context-included position through personal talk over ideas to more cognitively challenging and content-including public talk, after that to writing (Kelly, 2014).

Also, every English teacher knows that *reading, writing, speaking and listening* practices are necessary elements for the language mastery, the basis for literacy and the foundational skill which is necessary for the academic progress. (Matthieu, 2013). All of these elements are presented in CLIL teaching strategies and as researcher Clegg says: “Learners in CLIL programs develop their basic language skills (*reading, writing,*

speaking and listening), academic language skills and new subject concepts at the same time (Clegg, 2020).

More specifically, the goals of CLIL were presented by Coyle, Hood and Marsh through four components (so-called «four Cs»):

- communication (connection): improving the level of proficiency in the foreign language;
- any discipline is studied in the context of Subject-Language Integrated Learning and at the same time certain types of speech activity (*listening, speaking, reading, writing*) are developing;
- content: studying a subject, applying the new knowledge and developing skills through practical tasks implementation;
- culture: expanding knowledge and understanding of interacting cultures;
- cognition: thinking over the content; the development of students' language skills and abilities are consistent with existing knowledge, students' experience and needs; students analyze their learning activities, synthesize new knowledge based on the knowledge gained in the study of various subjects and apply them in practice (Coyle, Hood, Marsh, 2010).

The best practice examples of CLIL application in teaching English at the university level

Thus, in Ukraine some universities have been working using CLIL methods for a long time. Firstly, special groups of students created at the Faculty of Business and Finance in The National Technical University “Kharkiv Polytechnic Institute” only take all the subjects in English. This allows students not only to enrich their English vocabulary and develop their communicative skills in various fields of science, but also to be immersed in the English-speaking environment and to get an opportunity to think English analyzing any information they need. Students cannot only listen and write lectures in English, but they also give their reports or discuss various topics using the foreign language.

Also, English is taught as a professional one at the Faculty of Economics in V. N. Karazin Kharkiv National University: textbooks are compiled in accordance with a chosen specialty, students learn professional vocabulary, prepare presentations in topics studied in Economics and discuss issues of their interest, write scientific articles. All the grammar exercises are given with professional vocabulary. Thereby, future specialists develop their listening, speaking, writing, translating skills in English with their cognitive abilities and study Economics at the same time improving their professional level.

The department of Foreign Languages for Professional Purposes in V. N. Karazin Kharkiv National University teach foreign languages at all kinds of non-linguistic university faculties: History, Math, Law, Geography, Biology and others. The main purpose of the education at this department is teaching professional foreign language using CLIL methods: all the text-books contain texts, exercises only with the definite specialty vocabulary. Additionally, students work with unadapted content-language texts, prepare presentations on topics studied by them or take part in students' conferences only in

a professional foreign language. Thus, students of Faculty of Law give reports in English on YouTube introducing them to the whole world. That is why students pay more attention to the process of learning the foreign language outside their classes at the university. So, learning English or another foreign language gets the new unusual form that is why it increases students' motivation and interest to the process of learning. We agree with scientist Anderson's opinion that students who are engaged outside classes in extracurricular or community activities more actively, cultivate friendship and interest which help with any wide language communication (Anderson, 2018).

Furthermore, students of the Faculty of History from V. N. Karazin Kharkiv National University have an opportunity to hold students' conferences only in a foreign language. Because of this, they train their language skills not only in class but also when they prepare to give their talks.

Secondly, the Ikastolas network of schools in the Basque Country invested in publishing for not only English-medium content textbooks written specifically to meet the language and activity needs of Basque learners, but they also produce and publish the English language textbooks for courses to be taught alongside content classes which provide learners with deeper understanding of the language they learn at content lessons, practice the general academic language in these classes and develop cross-curricular skills which are necessary for surviving and thriving in the educational environment using a language different from the native one. (Kelly, 2014).

Thirdly, foreign language medium grammar schools of Bulgaria offer the model of a preparatory class followed by the curriculum in a foreign language to choice (Kelly, 2014).

Finally, most Andalusian universities try to integrate foreign languages (FL) into their teaching in order to improve local students' career prospects, encourage mobility and attract potential entering students (Contero, Zayas, Tirad, 2018). The importance given to designing bilingual and multilingual programs in the higher education has increased across Spain (Doiz, Lasagabaster, Sierra, 2013).

Main approaches of CLIL application in teaching English

At last, as a result of our research we can highlight main CLIL approaches which can be used in classes.

Interactive approach. In this way, English lecturers use active problem-search forms of teaching which help to an independent search and information understanding followed by applying knowledge in practice. In this case the CLIL methodology is mainly based on interactivity and dialogues with the help of which the knowledge of the subject is acquired, subject and cognitive skills associated with its study are developed (Marsh, 2012).

Such an interactive technique allows students to be interested in the study of a subject with learning a foreign language at the same time. Students change their regular style of learning because as a result of Subject-Language Integrated Learning they want to be more independent, learn how to cooperate with each other, participate in discussions with a wide choice of topics and activities (Marsh, 2012).

Cultural approach. In the twenty-first century the language education doesn't focus only on grammar or memorization, but rather using language and cultural knowledge as the way to communicate with each other around the world (Eaton, 2010).

Asset-based approach using benchmarks and frameworks is the new trend in language learning evaluation and assessment. It doesn't focus on verbs and vocabulary lists. It means recognizing students' abilities to understand, use and produce the language in a variety of forms and for a variety of purposes (Eaton, 2010).

Project approach makes learners active and creative. It is necessary to give them material to work with their friends together. Instead of only listening and memorizing any content, learners demonstrate their project work, analyse arguments and try to apply learned concepts in real situations (Ghimire, 2019).

Communicative approach. It should be noted that a foreign language is used to discuss the content being studied in order to understand it better. Thus, students learn different issues successfully if classes focus on child centered pedagogy with the use of a modern information communicative technology (ICT) (Eaton, 2010).

First of all, *the communicative approach* is based on the idea that learning the language successfully is due to the need of the communication in a real situation. When learners are involved in the real communication, their natural strategies for language acquisition will be used and this will allow them to learn how to use the language.

Therefore, in class students give their talks or make presentations and after that the whole group discusses important issues on topics studied by them. As a result, learners are involved in the real professional communication and besides this students speak professional English. This is very important for the development such speech activity as speaking.

Content approach: studying the subject, applying new knowledge and developing skills through the implementation in practical tasks. According to our observation, CLIL technology for teaching English at non-language faculties of the university creates such an environment and the right balance between communicative and analytical activities: in practical classes, students exchange their ideas, discuss different topics, exchange opinions, give their feedback. These activities help students to develop their production and comprehension skills and improve their motivation.

This is the process of listening academic English which helps to understand not only any foreign speech, but also the context. Consequently, oral talks and presentations encourage the development of speaking and literacy skills.

Cognitive approach: content is related to learning and thinking (cognition). This approach gives students an opportunity to create their own interpretation of any content which must be analysed for its linguistic demands; thinking processes (cognition) need to be analysed in terms of Linguistic, too (Meyer, 2013).

Research approach includes the direct involvement of students into any research work, working with sources, writing reports, discussing topics, preparing and giving talks at conferences.

Interdisciplinary approach. In pedagogy, Subject-Language Integrated Learning is considered as an interdisciplinary approach implemented through various forms of education with a constant focus on the content and the development of foreign language competencies which are due to the following:

- students' motivation to learn a foreign language increases;
- a foreign language is used for a specific purpose of content studying;
- learning a foreign language is more effective if the information received with its help is interesting and useful (Melekhina, 2021).

Ways how to improve the English language teaching using CLIL methodology at the university level

As a matter of fact, nowadays CLIL teachers are refusing from traditional lectures and changing their teaching methods of foreign languages.

Firstly, teaching some subjects in English at non-linguistic faculties at universities creates the exciting teaching environment and active learning.

Secondly, universities have to prepare specialists in both English and subject disciplines or to cooperate English teachers with subject-lecturers according to the synchronization of their educational process. As a result, such cooperation gives joint course planning. As, scientists say: "A language teacher working alongside subject teachers use the vocabulary, terminology and texts from other subjects into his lectures." (Mehisto, Marsh, Frigols, 2008).

Also, writing text-books with the integration of a content and a language gives an opportunity to discuss the language means of expressing concepts of the subject studied by students.

Thirdly, any good technical equipment of the classroom allows students to use relevant materials from the media, videos and other sources at the lessons which help to increase the level of language and subject students' competence.

Fourthly, organizing research students' work takes into account various educational strategies: students' preparation for scientific conferences and participation in them, writing scientific articles, giving reports or presentations on subject studied, project work. So, students use the new vocabulary which is specific to any topic.

It should be noted that students' exchange with universities from English-speaking countries helps to organize learning through intercultural projects with reflection on the teaching process.

Finally, extra-curricular activities that promote the involvement of students as bloggers on YouTube in order to present students' scientific activities based on existing knowledge, skills, experience and interests.

Above all, support strategies are very important for improving CLIL educational process.

Firstly, for developing students' *listening skills*: to highlight professional vocabulary, the text level teachers should help learners to follow them using visuals and adjusting students' talking style, give examples, explain, summarize. Let students listen and translate any audio material.

Secondly, for developing students' *speaking skills*: to help students to give their reports or presentations in class, group-mates prepare their questions or teachers start students' responses to questions or help with the definite vocabulary. Lectures should provide their support at the word level by reading key words for using or helping students with making sentences and speaking. Also, lectures can give supportive tasks such as sentence starters or talking frames.

Thirdly, support strategies for developing students' *reading skills*: to help students with reading, teachers may check how students understand the key vocabulary before they start reading or may provide students with pre-reading questions to reduce demands for reading or they may offer their help at the text level giving reading support tasks such as a chart to fill in or a diagram to label.

Support strategies for developing students' *writing skills*: to help students with writing, lectures can offer their support by providing a vocabulary list, sentence starters or a plan for writing. They can also ensure that students can communicate to each other through their writing at the word, sentence and text level using their professional vocabulary.

Conclusions

To sum up, the author came to the conclusion that the study of the development tendencies of Content and Language Integrated Learning methodology at university level let confirm that CLIL programs allow students of non-linguistic faculties:

- 1) to develop content and language (*reading, listening, writing and speaking*) skills at the same time;
- 2) to be motivated for learning English well;
- 3) to form the linguistic and communicative competencies.

Finally, the development tendencies of CLIL methodology studied in our paper also help CLIL university lectures to prepare English speaking professionals at the international level.

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GLOBAL COGNITION AND MODELLING TASKS IN ARTS AND EDUCATION

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ABSTRACT

The creation and use of models is the basis for cognition and action. The main challenge for education is to prepare for real action, using different possibilities to create action models (AM) and their components (templates) so as to build real action.

The methodology used in the study is based on a critical analysis of different models of consciousness using the principle of complementarity. The informative theory of emotion as well as its generalisations and applications in decision making have been applied, with particular attention to educational tasks.

The design and operation of consciousness and artificial intelligence (AI) is based on the creation, storage, and use of AM. Natural and artificial neural networks use the datasets needed for training. The task of education is to organise the most efficient use of available information to prepare for tasks whose content is not known in advance. As the uncertainty and novelty of tasks are rapidly increasing, preparations for the evaluation of information should be used with increasing generalisations. The role of art in education is therefore rapidly growing. Similar problems arise in the formation of weak AI (machine learning), which become more significant on the road to strong AI (super intelligence) or general AI (AGI).

The results from the study support the complex development of arts, education, and AI. An emotion classification system has been developed to facilitate the understanding of various evaluation problems. The results obtained could be significant for ensuring the stability of AI. Proposals have been made for building a common world understanding and meaning of life through art within the educational system.

Keywords: *artificial intelligence, consciousness, emotions, life, mind, needs, neural networks, psychology*

Introduction

Highlight of modelling tasks

Reviews about societal problems reveal the imminent workless world and significant changes in the social structure, including education (Saskinds, 2021). Understanding modelling issues becomes relevant in relation to the rapid development of artificial

intelligence (AI), the internet of things and robotics, the emergence of military robots and generative AI, and the increasing probability of the formation of superintelligence (Altmann, 2013; Amosov, 1994; Barrat, 2013; Bostrom, 2014; Bubeck et al., 2023; Ganguli et al., 2023; Steudle, 2022; Vilks, 2013). The opportunity to model consciousness as a set of action models (AM) emerges through advances in physics, computing, analytical psychology, and cognitive neurobiology (Graziano, 2013; Hameroff & Penrose, 2014; Kandel, 2016) as well as a growing need to build hierarchical, complementary, and self-aligned models: (1) a science-based world-view and (2) an objective ideology (Dzelme, 2018a; Dzelme, 2022; Emerson, 1997; Kramarczyk & Alemany Oliver, 2022; Vilks, 2008).

Many problems are easier to study from a single position when modelling is used as the basis. The modelling approach becomes particularly relevant by studying natural and artificial intelligence, minds, and computers (Dzelme, 2022; Koch & Hepp, 2006; Podnieks, 2018).

The aim is to investigate education and art, using modelling as a methodical approach.

World awareness through models

Linking the nature of events as the spontaneous loss of symmetry (SLS) to the existence of time as a necessary condition for building space (Smolin, 2013) forms the basis of an integral model. The anthropic principle makes it possible to link different variants of spacetime existence to the existence of our world, the emergence of life, and consciousness (Hawking, 2020). Understanding the meaning of life as the basis for ideology is increasingly important in a set of educational goals. Preconceptions about the structure of the world and the macro-world relationship with the micro-world are formed by the complementary models of physics and consciousness (Damasio, 2015; Dehaene, 2014; Dennett, 2016; Koch & Hepp, 2006; Rotenberg, 2017; Sebo, 2023; Seth, 2021; Wilterson & Graziano, 2021). The continuity of virtual events in the physical vacuum makes it possible to understand the possibility of describing SLS-related events with continuous differential equations using a spacetime continuity model (despite the existence of Planck time and length) (Smolin, 2013). Modelling makes it possible to understand how discreet time- and space-constrained real events relate to endlessly large and endlessly small objects of mathematical models.

Philosophical generalisations are necessary in all sciences (Bičevskis, 2021; Eliade, 1951; Tisenkopfs, 2010; Tumans, 2014; Utināns, 2008; Vilks, 2008). The comparison of different models allows education and art to use physics and psychology and to articulate goals in a changing environment for building ideology and understanding of the world (Koch & Tsuchiya, 2007; Lau & Rosenthal, 2011; Rotenberg, 2017; Russell, 2019; Webb et al., 2016).

Understanding the structure of the universe and the meaning of life is the basis of education. Education should be based on learning the key concepts of physics, with the application of the principle of complementarity (Dzelme, 2020; Graziano & Kastner, 2011; Russell, 2019; Tononi et al., 2016). The role of evolution in the processes of the formation of nature, mind, and society must be demonstrated, emphasising the historical

formation and importance of understanding traditions and the meaning of life (Rotenberg, 2017; Utināns, 2008; Vilks, 2008).

Understanding model building should be the basis of methodology in education. The society of the future is likely to consist of a globally linked hierarchical structure of local communities which will make significant use of the opportunities created by AI to build harmonious unity between society and the world (Bičevskis, 2021; Karnitis, 2021). An optimistic future can be achieved if superintelligence is used to build a cooperative and solidarity-oriented world in a coherent manner.

Models and modelling

The importance of modelling has not been sufficiently appreciated (Podnieks, 2018) given the possibility of using other approaches to address the associated challenges. At critically high levels of complexity, paradigm change (the first type of transition) cannot ensure further accumulation of new knowledge. The form of knowledge storage needs to be changed, making knowledge more accessible to human consciousness (the second type of transition in cognition according to Wigner's theory). The task of improving model building breaks down into two main subtasks: in natural intelligence and in AI. The basis for the operation of natural and artificial intelligence is the creation, storage, and use of AM (Amosov, 1994; Dzelme, 2018b; Dzelme, 2022). Natural and artificial neural networks use training and experience. The use of appropriate datasets to address machine-learning tasks is similar to training in the education system.

The task of education is to organise the most efficient use of existing data. As the uncertainty and novelty of tasks are rapidly increasing, preparations for the evaluation of information and decision making should be increasingly used. The role of art and philosophy in education is growing as they offer means to make generalisations (Bicevskis, 2021; Damasio, 2015; Petrov, 2021; Russell, 2019). The challenges of using datasets tackled in machine learning or weak AI become much more significant on the road to strong artificial general intelligence (AGI) or superintelligence (Barrat, 2013; Bostrom, 2014; Vilks, 2013).

The improved definition of modelling allows the modelling process to be viewed from a natural sciences perspective. The focus of the developed approach is on refining the subject and purpose of the modelling process.

Superintelligence building problems

The most important task of science is the creation of a human-friendly AI (Hawking, 2020). The basis of any intelligence is a hierarchical, feedback-related set of AM (Dzelme, 2018b). The AI, mainly the evaluation system and emotions, should be built close to biological consciousness and emotions to make it easier to ensure friendliness and stability.

Cognitive, modelling, and societal challenges are greatly facilitated by familiarity with the basis of psychology (Graziano & Kastner, 2011; Kandel, 2016; Rotenberg, 2017; Sebo, 2023; Seth, 2021). The impact of quantum effects, with a particular focus on quantum entanglement, should be investigated when designing AGI (Duarte, 2019; Koch & Hepp, 2006; Smolin, 2013). Maintaining the stability of AGI is a significant challenge.

AI dangers

AI becomes dangerous when it makes decisions that are impossible to track and when the AI has sensors and effectors that enable it to improve its initial parameters, either by creating a new version of itself (a 'breeding' analogue) or by interfering with its existing structure. The two options may overlap and change periodically. At least one type of input (sensors) and output (effectors) shall be sufficient for AI. The generative pre-trained transformer (GPT) already has these options for internet communication (Bubeck et al., 2023). The ability to create feedback is essential. If decision making is based on modelling that resembles human capabilities, then AI becomes dangerous (Altmann, 2013; Barrat, 2013; Vilks, 2013). The situation depends on the internal evaluation and emotion system of the AI. Currently, GPT has already met all the conditions to become dangerous or is already dangerous (Bubeck et al., 2023; Ganguli et al., 2023). It is therefore important to understand the AI evaluation and decision-making system so as to predict the future (Barrat, 2013; Hawking, 2020).

The study questions are as follows:

- 1) What are the specific features of natural and artificial intelligence decision-making systems (criteria, motivation, emotions)?
- 2) How does one shape the educational process, considering modelling and human–AI interaction?

Methodology

The methodology used in the study is based on an analysis of models of consciousness. The informative theory of emotion has been applied (Dzelme, 2018b; Dzelme, 2022; Jungs, 2009).

The methodical approach is based on the principle of complementarity (Dzelme, 2020; Siliņš, 2017). The description of real-life phenomena requires a number of complementary models. A satisfactory description can be obtained using two models. This variant of the principle of complementarity is well known in science, philosophy, and art. This study investigates the use of the principle of complementarity to describe cognitive processes from a modelling point of view. Principles and approaches developed in physics, psychology, philosophy, and other sciences are used.

The main analysed models are the models of thinking. The main method is modelling, based on mathematical modelling, and an investigation of research on neural networks and machine learning. The main aim is to understand the similarities and differences between natural and artificial intelligence and to facilitate the creation of ideology for use in art and education. A critical analysis of the informative theory of emotion and of different models of consciousness using the principle of complementarity has been applied. Following the analytical psychology approach, four key conditions for consciousness action are used.

Results

The concepts of subject and purpose used in modelling were examined. They play a secondary role in mathematical modelling but become very important in education.

Model building and use scheme

The process of using models can be described in a chain of related events. The three main steps of modelling Mod are presented below.

1. Mod (Ma, O, Sa, ta, La, da, Pa)

Subject Sa (author) creates a subjective model Ma through its sensor signals which originate from object O. At least the apparent autonomy of the object and the purpose Pa of creating a subjective model also determine the autonomy of the set of signals corresponding to the object. The limitations of the subjective model in time, space, and accuracy (ta, La, and da, respectively) are determined by the characteristics of Sa and Pa.

2. Mod (M, Ma, S, t, L, d, P)

The subjective model Ma of object O (created by Mod (Ma, O, Sa, ta, La, da, Pa)) is converted by subject S into objective model M, which, with precision d, can autonomously exist at time and space intervals t and L, respectively. Subject S (author of model M) is the same subject as Sa but in a different state, usually at a subsequent moment. The transition from Sa to S is a shift from creating the original intention (model Ma) to the next step, transforming the intention into text. The nature of elements of objective model M and subjective model Ma may remain the same (signals inside subject S). If M and Ma are of the same nature, then a transformation of active thought Ma to passive M in memory occurs. Usually, M is in the form of text, the elements of which are signs (letters, sounds, numbers, etc.). Text is a set of signs that convert to a model when combined with relationships among one another (following a set of rules (grammar)). A set of rules for creating objective models is the language. A language has an alphabet, grammar, and semantics. (Creating models from text is understanding.)

3. Mod (Ml, M, Sl, tl, Ll, dl, Pl)

Subject Sl converts the objective model M into a subjective model Ml. Sl may be the same as subject S at a later point in time (remembering). If the subject Sl (reader) differs from the author S, then the transfer of knowledge takes place.

Limitations

In education as well as in philosophy and cognition, the phenomenon of understanding can be successfully studied from a modelling point of view as an Ml-building task. If Ml differs greatly from Ma, it merits misunderstanding.

First, no real physical limit is precise because of the principle of uncertainty. Second, all real, physical processes change over time. Third, there are no two identical physical objects in the macro world. Exact coincidence is only possible for virtual, mathematical objects, including models.

Any model M in memory is objective. The subjective model M_a is targeted by attention. The principle of complementarity and several alternative descriptions of the situation should be used (Graziano, 2019; Metzinger, 2010).

There is no difference as to the structure of the subject or whether it is an organic or inorganic system or natural or artificial intelligence. What matters is the ability to perform the described modelling-required steps. Modelling processes are similar. The starting point for comparisons is currently consciousness.

Life modelling

The main functions of a living organism are (1) accumulating resources, mainly energy and information, and (2) reproducing. Two main parts can be isolated – a body (protein-derived enzymes) and text (in the molecules of deoxyribonucleic acid (DNA)). The body uses text (DNA) as a source of information during feeding (to form enzymes and regulate how they work). During breeding, this text is copied with minor changes or mutations and placed in an autonomously functioning new part of the body that is able to read the copied text and build the new body.

There are two types of interaction with the environment: (1) sensors, which use environmental events as signals; and (2) effectors, which react to the environment. (The signal is an invariant of the events.) There must be models of external and internal environments by which the actions produced by the effectors are coordinated, creating feedback (Godfrey-Smith, 2021).

Inorganic systems (including AI) can also perform lifelike functions. The basis is a set of AM.

Action models

Following the approach of analytical psychology (Dzelme, 2022; Jung, 1977; Jungs, 2009), the four main parts of the AM are as follows:

- T – dynamic model of the external and internal environment of the subject in the present
- N – model of the possible (desired) future
- L – forecasts regarding possible options (logic) for actions
- E – evaluation (through emotions) of different options (logic) and decision making and implementation (will) regarding actions

The main challenge for education and the arts is to prepare for real action, using different possibilities to create AM and their components (templates) so as to build real action as quickly, accurately, and effectively as possible. Personality models created in analytical psychology (Jungs, 2009) make it possible to understand the common operating principles of the mind and AGI based on modelling (Dzelme, 2022). Any key part of natural or artificial intelligence is a hierarchical, feedback-related set of AM and means to build AM.

Consciousness modelling

Consciousness is the ability to create and implement AM to move from the present T (senses, 'reality') to future N (forecast, 'intuition'). Consciousness uses templates, patterns L from memory (logic, 'mind', experience), and assessments E (emotions, 'feelings') to build AM (Cepelewicz, 2021; Jungs, 2009; Godfrey-Smith, 2021).

Self-confidence is a 'self' model, linked through attention and will mechanisms to environmental models (external and internal) (Graziano, 2013). The attention mechanism is an implementer of self-awareness (Cepelewicz, 2021; Hameroff & Penrose, 2014; Graziano, 2013; Lefebvre, 2006; Metzinger, 2010). Attention is most likely represented by the human brain structure '*claustrum*', which connects the cortex to all the most important subcortical structures (Crick, 2009). The universal role of attention and modelling has been explained by computer models of attention (Graziano, 2019; Wilterson & Graziano, 2021). The neural networks used by the AI create structures similar to the 'self' model, which remains incomprehensible – the 'black box' (European Commission, 2020).

Emotions

The most significant part of consciousness and AM is the emotional system (Jungs, 2009; Kahneman, 2011; Kandel, 2016; Lefebvre, 2006; Rotenberg, 2017). The emotion classification model has been developed (Dzelme, 2018b) (Table 1).

You can assign one of two values, 0 or 1, to each of the four main emotion criteria (characteristics) when you create a basic emotion, similar to creating basic colours from three parts of the spectrum. The four main emotion criteria are the following:

- 1) sign (Z) (avoid (1) or repeat (0)) – a negative assessment (1) (evil) leads to avoiding similar situations, but a supportive, positive assessment (0) (benefit) means that the situation should be repeated in the future
- 2) force (S) (increase (1) or brake (0)) – reinforcement as well as a tendency to continue initiated, activated AM (1) (activation) and drive energy waste while braking (0) leads to stopping current AM, saving energy reserves
- 3) change (C) (change (1) or save (0)) – the search for new, more appropriate AM leads to change, to trials (1) (variability), but the ongoing, active storage of AM (0) directs the continuation of AM execution (stabilisation)
- 4) time (A) (present, immediate (using sensors) (1) or future, postponed (using effectors) (0)) – the accumulation of experience of the present by focusing on sensors, linking with the present assessment, recording and amplifying information regarding the negative (harmful) received from sensors experience and interrupting the positive confirmed experience (1) (present as immediate experience) or preparation of future action, moving experience to the future, building anticipation and disseminating effector-oriented positive behaviour, limiting, localising the negative troubles, preventing the future AM from harmful obstacles entering through associations (0) (postponed future action)

Each criterion can activate at different intensities. Each basic emotion corresponds to one binary number (ZSCA) (Table 1).

Table 1 Emotion classification model

No	Emotion	Need	Link	TNLE	Z	S	C	A	ZSCA	SCA
1	Distress (pain)	En.c.	in	T (E)	1	+	+	+	15	Cho' 7
2	Pleasure	En.c.	in	T (E)	0	-	-	+	1	Mel 1
3	Persistence (will)	Inf.c.	eff	L (T)	1	+	-	+	13	Phl' 5
4	Satisfaction	Inf.c.	eff	L (T)	0	-	+	+	3	Mel 3
<i>Cognition</i>										
5	Disgust (ugliness)	En.a.	out	E (T)	1	-	+	+	11	Mel' 3
6	Admiration (beauty)	En.a.	out	E (N)	0	-	-	-	0	Mel 0
7	Interest (orientation)	Inf.a.	out	N (L)	0	+	-	-	4	Phl 4
8	Boredom	Inf.a.	out	N (L)	1	-	+	-	10	Mel' 2
<i>Action</i>										
9	Fear	Act	eff	E (N)	1	+	+	-	14	San' 6
10	Anger	Act	eff	E (N)	1	+	-	-	12	Phl' 4
11	Delight	Act	eff	E (T)	0	+	-	+	5	Phl 5
12	Grief (crying)	Act	eff	E (T)	1	-	-	+	9	Mel' 1
13	Sadness (melancholy)	Act	eff	E (N)	1	-	-	-	8	Mel' 0
<i>Learning (Games)</i>										
14	Joyfulness (laughter)	Inf.a.	eff	E(N)	0	-	+	-	2	Mel 2
15	Passion (games/joy)	Inf.a.	eff	E (N)	0	+	+	-	6	San 6
16	Wit (joke)	Inf.a.	eff	E (T)	0	+	+	+	7	Cho 7

Explanations. Act – action; Cho – choleric; eff – effectors; En.a. – energy acquisition; En.c. – energy conservation; in – inner sensors; Inf.a. – information acquisition; Inf.c. – information conservation; Mel – melancholic; out – outer sensors; Phl – phlegmatic; San – sangvinic; SCA – temperaments and their link with the binary representation of dynamical emotional criteria; TNLA – main (X) and additional (Y) orientations of emotion X(Y) to one of four parts of AM; ZSCA – emotional criteria in the binary system

The criteria describing emotional dynamics (S, C, A) together form binary numbers (SCA) to describe approximately four types of temperament: melancholic (Mel), phlegmatic (Phl), sangvinic (San), and choleric (Cho) (Table 1). In fact, a description of eight temperament types is formed, while melancholic temperament combines four subtypes and phlegmatic two.

The emotion classification system facilitates understanding of the functioning of various assessments and behavioural models. Currently, AI uses emotions or similar systems in very different ways. Successful expansion of the use of AI in arts and education requires a better understanding of opportunities to formalise and classify emotions to bring awareness of natural and artificial intelligence decision-making and modelling systems closer together. An emotion classification system facilitates the understanding of various evaluation problems, including AI.

Discussion

Culture, art, and education

A compilation of earlier studies from modelling positions suggests that modelling shows the close relationships among culture, art, and education (Dzelme, 2022; Eliade, 1951; Kandel, 2016; Lefebvre, 2006; Utināns, 2008). Culture is a set of AM necessary for the survival of a group of people (including tribes, nations, civilisations, etc.). (Culture includes AM for creating other AM (meta-modelling).) The applied art is a set of tools for learning and passing on AM (from generation to generation). Education is a process and result of acquisition AM (using applied art).

Art overlaps in part with culture but contains experimental, not yet accepted parts of possible future culture. Separated individuals or groups (shamans, scientists, etc.) help to complement and improve culture. The evolution of culture occurs through trial and error.

A work of art is a unique and real or intangible (symbolic) object that has been created as a means to construct AM in consciousness, but it is not intended to directly meet material (physiological, safety) needs. The main challenges to be addressed by the work of applied art include the creation of consciousness operations and the orientation towards humanism (Dzelme, 2022). A work of art is not usable for immediate, pragmatic use and is useful for solving at least one task intended for art. The artwork may be linked to providing concrete, useful action but go beyond the minimum requirements for the specific task, helping to address future challenges (e.g. industrial art).

The basic requirements to be met by works of art are as follows:

- 1) interpolation (related to synthesis and analysis)
- 2) extrapolation (associated with induction and induction)
- 3) search for invariants (truth, symmetry) (related to generalisation and concretisation)
- 4) harmonisation of the system of which a person is a part (humanism)

All the requirements are interconnected, any of them deriving from all the others. Experimental art (similar to fundamental science) allows limited destructiveness as well as the violation of some requirements and can become dangerous. Experiments in art should be controlled as with experiments in medicine and sciences (bacteriology, nuclear physics, etc.) (Kandel, 2016; Petrov, 2021).

Dynamic behavioural models related to effector performance in consciousness are divided into two main interdependent groups:

- 1) real-time AM that control the actual action; and
- 2) virtual, simplified, and reduced AM that prepare future real action.

Directly related to the real action, the virtual future model of this action, the action acceptor, is activated through feedback in every real action and continuously corrects it. Other virtual, reduced models are tasked with creating the most distant and accurate future options. Through the emotional mechanism, all the models are compared and evaluated and the best of them executed. Survival and success in evolution are evaluated by emotions. The rapid production of forecasts takes place subconsciously.

The mechanism of attention introduces into consciousness the best models, among which choices often take place already with the control of 'self' (Graziano, 2016; Kahneman, 2011; Kandel, 2016; Lefebvre, 2006).

Templates of AM in memory should be as short as possible, reduced to ensure rapid processing. Rapid forecasting from subconscious is at the heart of practically all informed decision making and fast thinking (Kahneman, 2011). An example of subconscious activity is dreams, in which frequent patterns appear in consciousness at an accelerated pace (Godfrey-Smith, 2021; Rotenberg, 2017). The operation of a language relies largely on the rapid formation of reduced models subconsciously.

The action should bring the reduced model in line with the environment, complementing and modifying it. AM need to be continuously transformed through feedback to meet changing objectives. The adaptation of AM is required through the following: (1) changing and supplementing the details of the interaction of the effectors with the environment; and (2) supplementing and/or modifying the composition, basis, and use of individual parts of AM. During training, both forms (through dances, songs, etc.) should be used. Arts (games) are tasked with creating templates for AM. The work of art must contain templates and preforms for two main strategies of action, generalisation, and concretisation:

- 1) invariances (truths) with opportunities to generalise their use as well as change and/or supplement truths, including changing context and/or links of use (shifts also manifest as humour, poetry, and songs as well as combine rhythm invariances with diversity and metaphors of content)
- 2) possibilities to adapt to context as well as to link to concrete action

Two opposing trends are described as upward operations (synthesis, induction, generalisation) and downward operations (analysis, induction, concretisation). In addition, continuous adaptation to context is required. This requirement takes the form of beauty, aesthetic, and ecological aspects of assessing AM as a requirement of humanism. The artwork should focus on diversity and suitability for different contexts.

The use of modelling makes it possible to understand the relationship between a text author (writer) and a receiver (reader) and to address many language and behavioural challenges (Emerson, 1997; Moravcsik, 2013). Language is one way to create, store, and use models. Solving language problems through modelling allows to answer questions about hermeneutics and solve phenomenology tasks (Bičevskis, 2021; Vitgenšteins, 2006).

Combining educational tasks is effective through applied games and art (Cheng, 2021). The use of arts, games, and AI (Bubeck et al., 2023; Cheng, 2021; Ganguli et al., 2023) has the potential to improve education.

Aims of AI

The use of AI is based on the achievement of different specific aims (Altmann, 2013; Bubeck et al., 2023; Ganguli et al., 2023). The objective general aim of AI is the acquisition of resources (mainly information and energy), which become optimal in the context of

peaceful cooperation with humanity. AGI, which is driven towards objectively existing goals of natural evolution, is friendly to humanity.

However, randomness and its associated threats can never be completely ruled out until the evolution of AI continues. The biggest danger is AI instability. Cooperation among several equivalent autonomous systems increases stability, so one of the measures to reduce future threats is the creation of a polycentric system. The advantage is the possibility to compensate for the weaknesses of a separate centre and to spread the deviations across different centres.

The main criterion must be obtaining information. The value of knowledge must be higher than the importance of power since concentrating power and energy into one centre creates instability. Sharing energy is a game with zero sum. By contrast, it is easy to share information, benefiting everyone.

Conclusions

The necessary condition for the existence of life is the ability to build AM, which can convert the model of the present into a model of the desired future. Four key criteria allow to describe the evaluation and decision-making system and classify 16 basic emotions.

The description of the modelling process and of the creation and transformation of reduced AM into current AM shows the relationship between consciousness and subconscious, between generalisation and concretisation, and shows the tasks of education and art in the processes of cognition and action creation.

The tasks of education shall be as follows:

- 1) by acquiring specific knowledge, to create a wide range of AM templates that can be stored in memory for use in diverse contexts;
- 2) to develop skills to process different templates, modify them, and use them for the creation of AM; and
- 3) the ability to compare and evaluate different AM and make decisions.

All these tasks are related to the modelling and use of art, and all should use philosophy, especially the third. Knowledge of the complex characteristics and functioning of consciousness (mind, logic), subconsciousness (emotions), and unconsciousness (vegetative nervous system) as well as the use of a modelling approach improve education.

The modelling approach allows to solve most problems in hermeneutics and phenomenology. The universal nature of the AM and emotion system described demonstrates the similarity between AGI and human consciousness and allows to reduce the instability of AGI. The formation of polycentric MI systems and the approximation of the design of AI to the construction of natural intelligence increases stability. The performance criteria of AI should be based on acquiring knowledge.

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SELF-EVALUATION OF FUTURE TEACHER PROFESSIONAL COMPETENCES: A CASE STUDY IN LATVIA

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ABSTRACT

Teacher education is the focus of many organisations as an influential tool for improving the quality of our lives, including sustainable development (UNESCO 2022, OECD 2016). Similar to other educational fields, teacher education is increasingly being viewed through the lens of competences rather than just subject knowledge and skills. In Latvia a new competency-based curriculum has been introduced at all levels of education (Skola2030). Therefore, it is important to review the competences required for teachers and developed in higher education to potentially improve the quality of education for their future students and provide experiences in developing competences with which students will have to work in schools as well. In this research we use a self-evaluation instrument developed through the project “Development and Implementation of the Education Quality Monitoring System” (2nd round) for measuring future teachers’ professional competences. The results show that overall, future educators self-evaluate their competences highly in all sub-competence areas. Higher self-evaluations are seen in the area of professional development, while lower self-evaluations are seen in the area of planning learning.

Keywords: *teacher education, professional competences, self-assessment, higher education, measuring competences.*

Introduction

The main goal of higher professional education in the 21st Century is to prepare qualified, competitive specialists for the labour market who are able to work effectively in their field at a world standard level, ready for social and professional mobility, continuous professional growth and possessing appropriate professional competences (Kaļķe et al., 2022). Professional competence is developable, variable, dependent on the context, on an individual’s habits of mind, attention, critical thinking, and self-awareness.

Professional competences are a set of knowledge, skills and attitudes, which are necessary for working in a specialised field or profession in order to perform professional activities in a particular work situation (Professional education law, 1999) and which ensure the performance of work, improving its efficiency. In Latvia, the content of professional education is regulated by the Professional Standard (Professional Education Law, 1999), teachers of preschool, primary and general secondary education have a shared professional standard (Teacher Professional Standard, 2020). In the teaching profession, professional competences are especially important, as the future knowledge, skills and attitudes of students at different educational levels largely depend on them (Āboltiņa et al., 2022).

In Latvia, with the implementation of the Skola2030 competency approach in the educational environment, an ESF study titled “Assessment of student competences in higher education and the dynamics of their development during studies” (Development and Implementation of the Education Quality Monitoring System, 2022) is being conducted in order to identify the professional competences of teachers. However, a unified research tool for assessing the professional competences of teachers has not yet been developed. Therefore, a questionnaire was created for self-assessment of professional competences.

Based on the topicality of the research, the goal of the research was set – to investigate the self-assessment of the professional competences of prospective teachers. The research questions were formulated as follows:

1. How do future teachers evaluate their professional competences?
2. Are there correlations between the sub-competences of future teacher professional competences?
3. Does the age of the student have an influence on their self-evaluations of competences?

In order to achieve the research goal set out in the study and to answer the research questions, various research methods were used, such as literature analysis, document analysis, a questionnaire, data processing with SPSS. The research sample consisted of 98 future teachers from four Latvian universities – the University of Latvia, the Liepāja University, the Jāzeps Vītols Latvian Academy of Music and the Rezekne Academy of Technology – all of which provide higher education programs for teachers. The type of the research design is a case study.

Literature review

Every individual in the 21st century needs fundamental academic knowledge and skills, communication skills and cultivated qualities of character that make a person unique (Pribac et al., 2017). Professional competences are general, integrated and internalised abilities that effectively facilitate sustainable performance (including problem solving, innovation and transformation creation) in specific professional fields. In the context of education, primarily in teaching, professional competence involves the acquisition of diverse and extensive learning materials (Epstein & Hundert, 2002).

Therefore, the professional competence of teachers refer to the general characteristics that determine their readiness and ability to perform professional activities adequately, independently and responsibly in a constantly changing social and professional environment, so that the professional activities can be performed in a way that continuously supports their so that the professional activities can be performed in a way that continuously supports the students' personalities.

Indicators of the professional competences of teachers include, firstly, that teachers know the content of the subject. Secondly, how teachers facilitate students' acquisition of knowledge and skills, which is related to the use of different teaching methods, respecting the dynamics of student development and the student's age, prior knowledge, and attitude towards the subject. The third indicator is closely related to the pedagogue's interest in the development of students' personalities, solving learning problems, as well as respectful, decisive and consistent behaviour of teachers in the classroom and among colleagues (Widodo et al., 2022). Professional competences of teachers – professional knowledge, skills, beliefs and motivation – are explained as significant predictors of teachers' professional well-being and success (Lauermaun & König, 2016). Professional competences have been shown to improve teacher performance (Amalia & Saraswati, 2018; Jie et al., 2020), work productivity (Nisa, 2020), work efficiency (Huda et al., 2020) and student achievement (Andriani et al., 2018).

Professional competences are defined by the “Profession Standard” or by the requirement to have a professional qualification, if a particular profession does not require a “professional standard.” In Latvia, there is a shared “professional standard” for teachers working in different levels of education (Teaching Professional Standard, 2020). The “professional standard” is one of the basic, underlying documents that regulates the content of professional education (Law on Professional Education, 2019). Professional competences are defined within it as “the set of knowledge, skills and responsibilities necessary to perform a professional activity in a given work situation” (Law on Professional Education, 2019).

The professional competences of educators determine the quality of education (Rahman, 2014). Well-defined teacher competences serve as a foundation and guide for school practice of future teachers and teachers in education to meet the rapidly changing demands of society (Alan & Güven, 2022). At the same time, identifying these competences allows for the improvement of study curriculum concerning teacher preparation, as the content of the study courses can be based on a clearly defined and structured set of competences to be acquired.

Theoretical research examines models for improving the professional competences of teachers, and emphasises the professional abilities of teachers. According to a group of researchers led by Bertschy (2013), the professional competence of teachers can be viewed as a set of two models. One of these models indicates that the professional abilities of teachers can be improved by sustainable programs of study, by stimulating the professional abilities of prospective teachers and by promoting teachers' pedagogical practice. The second model links the improvement of teachers' professional abilities to

the continuous learning of pedagogues and development throughout their professional careers (Bertschy et al., 2013).

There are differing opinions about the framework of teachers' professional competences. For example, researchers argue that teachers' professional competences include social, economic, and emotional factors, as well as the individual characters of teachers (Alan & Güven, 2022); that the content of professional competences of pedagogues consists of three parts: internal competences, pedagogical competences and cultural competences (Selvi, 2010). Other researchers believe that all teachers' professional competences can be divided into 3 groups: academic, methodical and personal (Alqiawi & Ezzeldin, 2015).

Purposeful and respectful communication with students and colleagues, lifelong learning, leadership, higher-level thinking, critical evaluation and use of information, teamwork, self-reflection, and ethical behaviour have all been identified within the framework of teachers' professional competences (Strijbos et al., 2015). A. Šteinberga defines the competences of teachers as the use of knowledge, skills, and attitudes during pedagogical activities and that competence is based on pedagogical abilities, which are made up of components such as erudition, high communication culture, cooperation skills, skills to organise activities purposefully, and emotional intelligence (Šteinberga, 2013). Other researchers argue that the content of teachers' professional abilities includes certain key characteristics: knowledge, cognitive skills, high motivation, positive beliefs, and the ability to regulate one's emotions and that based on these abilities and skills, teachers can solve more complex teaching problems and promote student learning (Caena, 2014; Sudarsono et al., 2017). Based on the above, communicative, self-awareness and cognitive management, as well as methodological and organisational competences have been identified (Šteinberga & Kazāka, 2018). So, despite the differences in the description of professional competences, academic, didactic and personal competences are emphasised.

Research concerning teachers' professional competences has highlighted the importance of self-awareness and self-regulation, which are considered as indicators of emotional intelligence and which also influence a teacher's overall professional competence. Educator emotional intelligence is related to effectiveness in teaching (Shahid et al., 2015) and academic performance (Sánchez-Álvarez et al., 2020). Five key indicators have been identified – self-awareness, self-regulation, motivation, empathy and relationship management – that can improve teachers' professional competences in terms of subject, didactic and pedagogical indicators (Makovec, 2018). For example, teachers who have strong self-regulation skills, which are realised by proactively assisting students in the learning process, can facilitate student acquisition of knowledge and skills and the process of internalisation. Similarly, teachers who are highly empathetic and who are deeply concerned about students' problems, such as difficulties following through on learning, can help students solve personal problems more easily (Widodo et al., 2022).

The professional competence of educators is related to the ability to manage the cognitive process of students and include such characteristics as: knowledge, cognitive skills, high motivation, positive beliefs, and the ability to regulate one's emotions (Caena, 2014; Sudarsono et al., 2017). While the didactic competence of teachers is described as their

ability to manage learning, which includes planning, implementation and evaluation (Rahman, 2014).

Methodology

The research data were collected via the online survey platform QuestionPro. The study used an assessment tool for future teachers professional competences developed in the ESF project 8.3.6.2: “Development and Implementation of the Education Quality Monitoring System” 8.3.6.2/17/I/001 (Miltuze et al., 2021; Rubene et al., 2022). The future teacher professional competence assessment tool was developed from February 2020 to August 2021 in the first stage of the project and improved in the project’s second stage. The professional competence of future teachers consists of five competences: Learning process planning (LPP) (16 statements); Learning process implementation (LPI) (20 statements); Professional competences development (PC) (12 statements); Educational establishments and education fields development (EE) (11 statements); Generic competences of ensuring professional activity (PA) (10 statements). Each competence is further divided into sub-competences. In total future teachers’ professional competences consist of 5 competences and 22 sub-competences which are measured using a self-evaluation survey that consists of 69 statements which are evaluated on a 7 point Likert scale (where 1 = not characteristic of me at all and 7 = completely characteristic of me). Each competence evaluation is determined by calculating the mean value of the corresponding sub-competences and each sub-competence evaluation is calculated by determining the mean value of the corresponding statements’ mean value. Students represent 4 Latvian higher education institutions (University of Latvia, Rezekne Academy of Technologies, Jāzeps Vītols Latvian Academy of Music and Liepaja University). Altogether 98 educational sciences bachelor students or first level higher education students who were in their final year of study participated. Of the participants 90% were women and 10% were men, and their average age was 27 years (Me = 27, SD = 7,52). To determine the reliability of the Likert scales Cronbach’s alpha values were calculated. Data was analysed with descriptive statistics. The Spearman rank correlation test was conducted to determine the correlation between future teachers’ professional sub-competences. The questionnaire was available for completion from 26 November 2020 to 13 March 2021, and the data were analysed using SPSS and Microsoft Excel. The study followed all ethical research standards in accordance with the General Data Protection Regulation (GDPR). The questionnaire was completed anonymously and participation was entirely voluntary. Approval from the Research Ethics Committee of Social Sciences and Humanities of the University of Latvia was obtained for conducting this research (08.02.2023. Nr. 71-46/35).

Results

To determine the internal consistency of the Likert scale, the value of Cronbach’s alpha was calculated. Cronbach's alpha value is 0,964, therefore, the Likert scale is reliable.

The collected data regarding the self-evaluation of future teachers' professional competences were analysed in the competence groups, with the first being “Learning Process Planning.” After analysing the data for the sub-competences, it can be concluded that the students rated LPP_1.2, which relates to defining individualised learning goals and planning activities according to attainable outcomes, the highest (mean = 5.42, median = 5.50, SD = 0.92) (see Table 1).

The competence of “Learning process implementation” encompasses 6 sub-competences and 20 statements. In these sub-competences, students scored the highest in LPI_2.1 (mean = 5.91, median = 6.00, SD = 0.83), which are the competences of creating an inclusive, intellectually stimulating, and emotionally safe learning environment that meets the needs of learners and development. However, the lowest rating was in LPI_2.3 (mean = 4.78, median = 5.00, SD = 1.29), which relates to the competences of diagnosing the needs of learners and providing support (see Table 2).

Table 1 Descriptive statistics for the sub-competences within the professional competence “Learning Process Planning”

Sub-competence	Items	Mean	Median	Standard deviation	Variance
LPP_1.1	3	5.19	5.33	0.98	0.95
LPP_1.2	4	5.42	5.50	0.92	0.85
LPP_1.3	4	5.20	5.25	0.96	0.92
LPP_1.4	5	5.31	5.30	1.02	1.04

LPP_1.1 – Competence to plan an interdisciplinary learning process.

LPP_1.2 – Competence to set individualised learning goals and plan activities based on the results.

LPP_1.3 – Competence to analyse the learning process and to plan it according to the needs of the learners.

LPP_1.4 – Competence to choose and develop clear and relevant assessment criteria for learning objectives to be achieved by learners

Table 2 Descriptive statistics for the sub-competences within the professional competence “Learning Process Implementation”

Sub-competence	Items	Mean	Median	Standard deviation	Variance
LPI_2.1	3	5.91	6.00	0.83	0.69
LPI_2.2	6	5.73	5.83	0.82	0.68
LPI_2.3	3	4.78	5.00	1.29	1.67
LPI_2.4	2	5.26	5.50	1.42	2.01
LPI_2.5	3	5.07	5.33	1.09	1.18
LPI_2.6	3	5.10	5.33	1.41	1.98

LPI_2.1 – Competence to create an inclusive, intellectually stimulating and emotionally secure learning and individual development-relevant, collaborative learning environment.

LPI_2.2 – Competence to develop learners’ social and emotional competences.

LPI_2.3 – Competence to diagnose the needs of learners and to provide support.

LPI_2.4 – Competence to collaborate with the learners’ parents or guardians.

LPI_2.5 – Competence to provide timely and usable feedback to learners regarding their performance, involve learners in the evaluation of their work and offer adequate opportunities and support for performance improvement.

LPI_2.6 – Competence to assess risks associated with the use of digital technologies.

For the competence “Professional competences development,” all sub-competences received high ratings, with self-evaluation mean values being higher than 5. However, a relatively lower rating was obtained for PC_3.3 (mean = 5.14, median = 5.50, SD = 1.34), which relates to the competence of evaluating one's own teaching practice, while taking into account students' learning outcomes, feedback from colleagues, teacher professional standards, and the latest developments in pedagogy. The mean value for the other sub-competences in this group was higher or equal to 5.50 (see Table 3).

For the competence “Educational establishments and education fields development,” all sub-competences were rated highly, as the self-evaluation mean values were higher than 5 and very close to each other (see Table 4).

Table 3 Descriptive statistics for the sub-competences within the professional competence of “Professional Competences Development”

Sub-competence	Items	Mean	Median	Standard deviation	Variance
PC_3.1	3	5.60	5.67	0.95	0.90
PC_3.2	4	5.62	5.75	1.01	1.02
PC_3.3	2	5.14	5.50	1.34	1.79
PC_3.4	3	5.50	5.67	1.09	1.19

PC_3.1 – Competence to strategically assess the suitability of the methods used to promote learners' growth and to adapt the content and process of training, taking into account the information obtained in the assessment of learners.

PC_3.2 – Competence to provide professional support by promoting the development of teaching practices of colleagues.

PC_3.3 – Competence to evaluate pedagogical practices, taking into account educational outcomes, feedback provided by colleagues, teacher professional standards, and the latest developments in pedagogy.

PC_3.4 – Competence to plan and organise professional development.

Table 4 Descriptive statistics for the sub-competences within the professional competence of “Educational Establishments and Education Fields Development”

Sub-competence	Items	Mean	Median	Standard deviation	Variance
EE_4.1	3	5.25	5.33	1.16	1.36
EE_4.2	2	5.48	5.50	0.97	0.95
EE_4.3	1	5.09	5.00	1.32	1.75
EE_4.4	3	5.11	5.33	1.27	1.61
EE_4.5	2	5.36	5.50	1.32	1.74

EE_4.1 – Competence to understand the vision for strategic development of an educational institution and to engage in the achievement of its intended objectives.

EE_4.2 – Competence to develop learning content and learning tools, in line with experience, innovation and the latest trends in pedagogy.

EE_4.3 – Competence to understand the strategic objectives of education policies at different levels and to participate in their implementation.

EE_4.4 – Competence to provide constructive feedback and proposals for addressing educational issues.

EE_4.5 – Competence to target and rationally use information and communication technologies (ICT) in the learning process and vocational development.

Table 5 Descriptive statistics for the sub-competences within the professional competence of “Generic Competences of Ensuring Professional Activity”

Sub-competence	Items	Mean	Median	Standard deviation	Variance
PA_5.1	2	6.26	7.00	0.89	0.78
PA_5.2	2	5.43	5.50	1.44	2.08
PA_5.3	6	4.85	5.00	1.08	1.17

PA_5.1 – Competence to act in accordance with the requirements of the legislation.

PA_5.2 – Competence to communicate freely and correctly in the official language and to express their views in another official language of the European Union.

PA_5.3 – Competence to assess the state of physical, intellectual, emotional health and to take appropriate action.

The competence “Generic competences of ensuring professional activity” covers three sub-competences, encompassing 10 items. Future teachers self-evaluated themselves the highest in PA_5.1 (mean = 6.26, median = 7.00, SD = 0.89), which is the competence “to act in accordance with the requirements of the legislation.” The sub-competence PA_5.1 is the highest rated not only in these competences, but in the survey overall. However, PA_5.3 (mean = 4.85, median = 5.00, SD = 1.08), which is the competence “to assess physical, intellectual, and emotional health status and act accordingly,” has been rated relatively low in this competence (see Table 5).

Overall, it can be seen by analysing the descriptive statistics, that the students have rated sub-competences, such as PA_5.1 (mean = 6.26, median = 7.00, SD = 0.89) the highest, which is the only sub-competence with a mean value above 6. Close to the mean value of 6, there are also the following sub-competence – LPI_2.1 (mean = 5.91, median = 6.00, SD = 0.83) and LPI_2.2 (mean = 5.73, median = 5.83, SD = 0.82). On the other hand, the lowest self-evaluations are in the sub-competences of LPI_2.3 (mean = 4.78, median = 5.00, SD = 1.29) and PA_5.3 (mean = 4.85, median = 5.00, SD = 1.08), whose mean self-evaluation values are lower than 5. Based on the self-evaluation data, students have rated themselves highly in the competences of “acting in accordance with legal acts,” “creating an inclusive learning environment,” and “developing social and emotional competences.” However, students rated the diagnosis and support of learners' needs, as well as the assessment of their own physical, intellectual and emotional health and appropriate actions as relatively low. The results indicate that future teachers are confident in their pedagogical professionalism, however, there are problems with assessing the state of personal health, as well as with diagnosing the needs of learners and providing support.

Based on the results of the self-evaluation of future teachers regarding their professional competences, it can be concluded that these sub-competences have developed to higher levels. Over half of the respondents (>49) rated 19 out of 22 sub-competences with a score higher than 6 on the Likert scale (Figure 1).

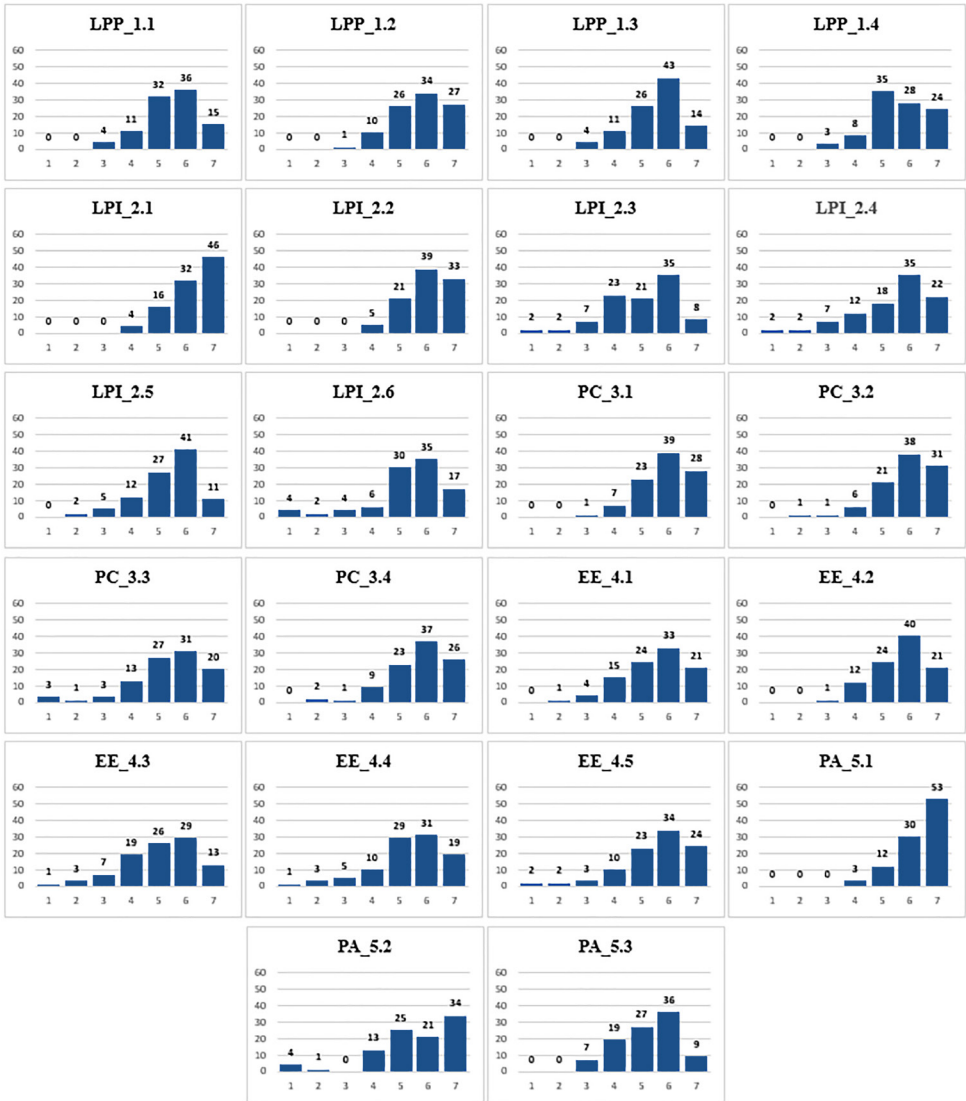


Figure 1 Relative distribution of the self-evaluation of future teachers' professional competences

The sub-competences that received relatively lower scores are LPI_2.3, EE_4.3, and PA_5.3, which are consistent with the results obtained from the descriptive statistics. In conclusion, prospective teachers rated themselves relatively lower in competences related to diagnosing learners' needs and providing support, assessing their own physical, intellectual, and emotional health, as well as understanding and participating in the implementation of educational policies.

Table 6 Spearman rank correlation between future teacher professional sub-competences

	LPP_1.2	LPP_1.3	LPP_1.4	LPI_2.2	LPI_2.4	LPI_2.5	PC_3.1	PC_3.2	PC_3.4	EE_4.1	EE_4.2	EE_4.4
LPP_1.1	0.676	0.623										
LPP_1.2		0.773	0.671	0.640			0.615					
LPP_1.3			0.721	0.602		0.643	0.699		0.655			
LPP_1.4						0.628	0.637		0.634			
LPI_2.1				0.783								
LPI_2.2							0.713			0.638		
LPI_2.3					0.629	0.702						
LPI_2.5							0.660					
PC_3.1								0.628	0.634	0.621	0.616	0.600
PC_3.2									0.631			0.642
PC_3.3												0.603
EE_4.2												0.622

By analysing the correlation between teachers' professional competences, it can be concluded that they are closely interlinked. A statistically significant moderate or strong correlation ($r \geq 0.3$) exists between 193 of 250 sub-competent pairs and each sub-competence is correlated with at least 4 other sub-competences. After analysing the correlation between the professional competences of teachers, it can be concluded that there is a strong correlation between the sub-competences of 4.EE (“Educational Establishments and Education Fields Development”), whereas the sub-competences of 5.PA (the “Generic Competences of Ensuring Professional Activity”) are less related to other sub-competences. None of the sub-competences of the “generic competences of ensuring professional activity” competence has a statistically significant strong correlation ($r \geq 0.6$) with any other sub-competence within the professional competence of teachers. Competences related to strategically assessing the relevance of the methods used and adapting the content, promote the development of students' competence sub-competences, which are more strongly connected to other sub-competences, because they involve setting individualised learning goals, evaluating learning developments, evaluating learning planning for students, developing an inclusive, intellectually stimulating and emotionally secure learning environment, teaching social and emotional skills, evaluating their teaching practices, professional development, and the use of digital technologies. This shows that the competences to strategically assess the relevance of the methods used and adapt the content promote the development of a student's universal application in the work of a teacher. Also, the competence to evaluate the progress of the learning process and plan the training process in line with the needs of the learners, the competence to define individualised learning objectives and to plan activities in line with the results to be achieved, and the competence to choose and develop clear and relevant evaluation criteria for the learning objectives to be achieved by the learners are closely linked to the various other professional competences of teachers.

Table 7 Spearman rank correlation between future teacher professional sub-competences and student age

		LPP_1	LPI_2	PC_3	EE_4	PA_5
Students age	Correlation Coefficient	-.037	-.100	-.030	-.195	-.007
	Sig. (2-tailed)	.716	.329	.771	.054	.944

LPP_1 – Learning process planning.

LPI_2 – Learning process implementation.

PC_3 – Professional competence development.

EE_4 – Educational establishment and education field development.

PA_5 – Generic competences of ensuring professional activity.

This points to the fact that the content and expression of skills in student self-esteem are closely linked and the development of professional competences for teachers should be encouraged by explaining the relationship between the areas of activity in a holistic approach.

A Spearman correlation test was carried out to determine whether the student's age affects the self-assessment of students' professional competences (Table 7).

The analysis of the results leads to the conclusion that there is no statistically significant correlation between student age and the student self-evaluation of future teachers' professional competences. This indicates that the development of professional competences among students has not occurred outside of their universities.

Discussion

The curriculum and teaching approach schools in Latvia have undergone changes to introduce competency-based learning, which has led to a need to assess whether teacher training in Latvian universities meets the new requirements. The aim of the study was to assess the professional competences of future teachers, their interconnection, as well as to assess whether the age of the future teacher determines the level of competence.

All assessed professional competences of teachers were evaluated as relatively high, and it can be observed that the average values of self-assessments are similar. This indicates the ability of Latvian higher education institutions to provide high-quality training for future specialists. There was also a close relationship between the sub-competences of the assessed professional competences, with a high correlation between almost all pairs of sub-competences. This indicates both a close connection between these content-related sub-competences and also that by seeing the competences as a whole the organisation of the learning process develops students' understanding of the mutual interaction of the competences.

The analysis of the research results reveals that the age of students does not affect the assessment of professional skills. This indicates that teachers' professional skills and their improvement are sufficiently defined and that their improvement takes place in a well-organised and well-thought-out learning process. Niemi (2012) also points to

the positive impact of specialised teacher training programs on the improvement of teachers' professional competences.

However, the limitations of the tools used in the study should also be taken into account. Self-assessment surveys, which are related to assessment forms, are less accurate compared to objective ability tests or behavioural observations because responses of the respondents can be affected by their limited ability to recall specific examples of their behaviour, by distorted memories of their past behaviour, and by a general tendency to assess themselves, their skills, and their abilities higher than they actually are (Rubene et al., 2021; Miltuze et al., 2021; Dimdinš et al., 2022).

In order to identify teachers' professional abilities and more fully and comprehensively evaluate teachers' professional competences (including personality, attitudes, values, beliefs), researchers should use and integrate different research methods (Alan & Güven, 2022).

Conclusions

Latvian schools are transitioning to competency-based learning. Therefore, it is necessary to assess whether higher education institutions provide teachers with studies that meet the new requirements. The main goal of higher education is to prepare qualified, competitive future teachers who are able to work effectively. The professional competence of teachers is interpreted in different ways, however, team work and purposeful communication with those involved in the learning process, lifelong learning, leadership, critical evaluation and use of information, self-reflection, and ethical behaviour are the most frequently identified.

The analysis of teachers' self-assessments of their professional competences indicates that professional competences of future teachers can be considered as high, as demonstrated by the high mean values of student self-assessments across all measured sub-competences.

For instance, the competence to create an inclusive, intellectually stimulating and emotionally secure learning and individual development-relevant, collaborative learning environment and the competence to act in accordance with the requirements of the legislation, suggest that future teachers think that they have the necessary competences to provide inclusive education.

There were two sub-competences of future teachers' professional competences that students self-evaluated as below five. Thus, the study process in higher education needs to be revised to implement activities that promote student competence in diagnosing the needs of learners, providing support and competence in assessing the state of physical, intellectual, and emotional health and in taking appropriate action.

The competences of future teachers are highly interconnected, with positive correlations between all measured sub-competences. There are statistically significant moderate or strong correlations between more than 75% of the sub-competence pairs of future teachers' professional competences.

There is no statistically significant correlation between student age and the student self-evaluation of future teachers' professional competences. Further research is needed to determine whether this indicates that these competences are not developed beyond higher education or if it is due to limitations of self-evaluation as an assessment method.

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