

Work-based Learning – Challenge for Competitive Vocational Education Experience of Latvia

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Abstract. Work-based learning is implemented in Latvia and there are many aspects to be investigated as work-based learning require several stakeholder mutual co-operation by vocational education institutions, by teaching staff at vocational education institutions, companies, as well as different employers' organisations in the situation of demographic changes by reducing of numbers of young people. Aim of research – investigate different approaches in realisation of work-based learning in seeking innovative approaches and findings in countries with bigger experience in realisation of this kind of vocational education. Research methods applied: analysis of experience and findings reflected in scientific publications, analysis of statistical data on vocational education development in Latvia and analysis of practical development of work-based learning at Ogre Technical School.

Keywords: Work-based learning, vocational education, employer, student, praxis, service, innovations.

1. Introduction

Professional education is becoming more and more important in development of national economy and ensuring competitiveness of the economy of the respective country. New training forms are introduced to educate highly qualified specialists whose knowledge and professional skills would correspond the labour market needs. One of forms for realisation of this task is work-based learning – it means that professional education process is realised in close co-operation of professional education establishment and companies from the respective branch.

Aim of research – investigate different approaches in realisation of work-based learning in seeking innovative approaches and findings in countries with bigger experience in realisation of this kind of vocational education.

Research methods applied: analysis of experience and findings reflected in scientific publications, analysis of statistical data on vocational education development in Latvia and analysis of practical development of work-based learning at Ogre Technical School.

2. Literature Review

Researchers world – wide are analysing requirements for qualified employees aspects in several dimensions and offer findings related to involvement in employment (Raudeliūnienė, et al, 2021, Raudeliūnienė & Szarucki, 2019; Davidaviciene, et al, 2019; Tang. & Cheung, 2010; Tang, et al, 2017), training on required skills as well as innovative co-operation of education establishments, companies and different employers organisations.

Different new activities and new tools used in work-based learning are implemented very carefully after careful investigation (Lemanski & Overton, 2016).

Several countries have different experience and different traditions in work-based learning taking into account respective country education framework (Baker, Peach & Cathcart, 2017; Garnett, 2020) and research findings in the field.

Researchers are devoting big attention to pedagogical findings and special requirements for realisation of work-based learning (Siebert, Mills & Tuff, 2009) with introducing new and innovative pedagogical ways of education and taking special care on practice organisation and realisation (Siebert & Costley, 2013).

Researchers (Garnett, 2001; Wall, et al, 2017) are rising questions on intellectual capital in work-based learning setting different requirements and developing new standards in organisation of involved stakeholders of work-based learning and rising questions on sustainability.

Aspects of change of leadership (Raelin, 2011) is under the investigation in the situation of realisation of work-based learning.

3. Research Results and Discussion

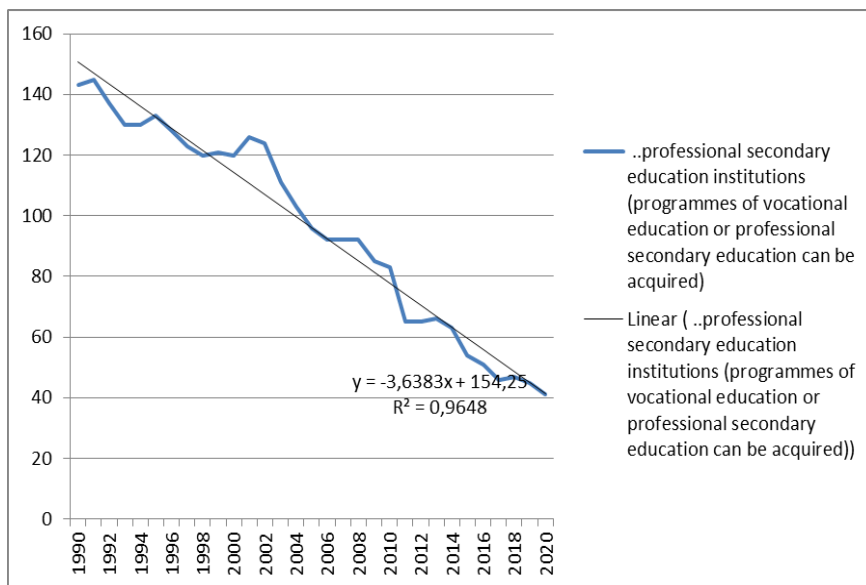
Data analysis - Research approach to the problem: analysis of data obtained in

official data on vocational education institutions, enrolment and graduates which are decreasing.

Between 1990 and 2020 in Republic of Latvia it has been decreased number of vocational education institutions – see figure 1.

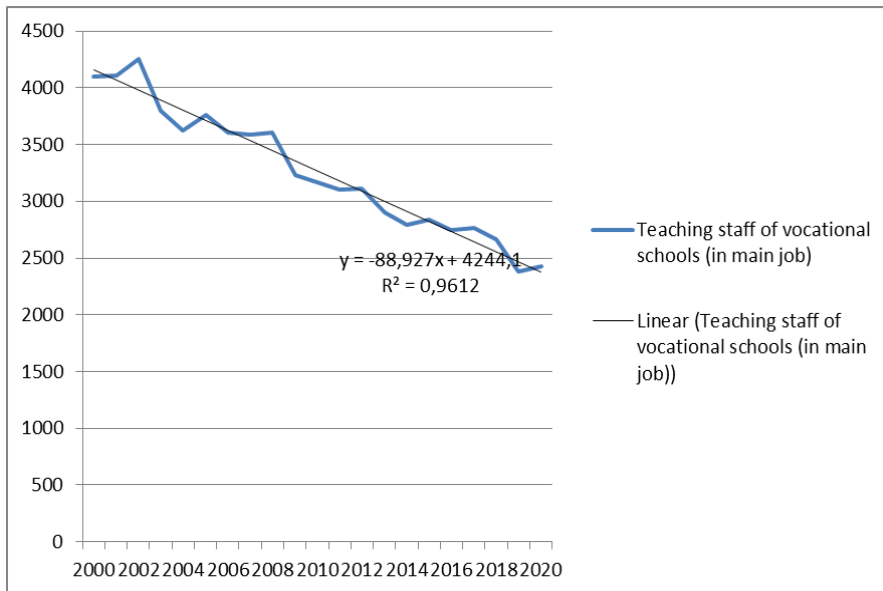
Data of figure 1 indicate that number of vocational education establishments is decreasing in average annually by 3,6 vocational education institutions in period 1990-2020.

Data on the operation of a vocational education institution (number of enrolments by educational programmes and school years, distribution of enrolled students by age and sex, number of teachers) are obtained from State Education Information System of the Ministry of Education and Science (State Education Information System of the Ministry of Education and Science, Republic of Latvia, 2021).



Source: Official Data Portal, Republic of Latvia, author’s construction and calculations

Figure. 1. Number of Professional secondary education institutions in Republic of Latvia in 1990 till 2020

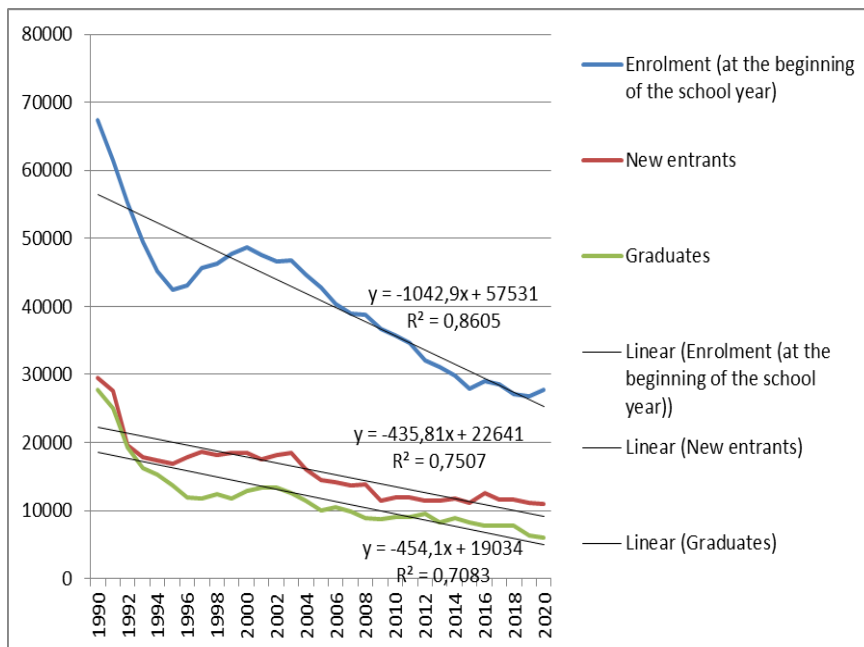


Source: Official Data Portal, Republic of Latvia, authors construction and calculations

Figure. 2. Number of teaching staff of vocational schools (in main job) in professional secondary education institutions in Republic of Latvia in 2020 till 2020

Data of Figure 2 indicate that number of teaching staff of vocational schools (in main job) in vocational education establishments is decreasing in average annually by 88,9 vocational education teachers in period 2000-2020.

According the Central Statistical Bureau of Republic of Latvia (CSB, Latvia, 2021) - information on vocational school entrants and graduates is collected on the period from 1 October 199X to 30 September 199Y or from 1 October 20XX to 30 September 20XY, respectively.



Source: Official Data Portal, Republic of Latvia, author's construction and calculations

Fig. 3. Number of enrolled students and graduates in professional secondary education institutions in Republic of Latvia in 1990 till 2020

Data of figure 3 indicate that number of graduates of vocational schools is decreasing in average annually by 454 graduates in period 1990-2020. Data of figure 3 indicate that number of new entrants of vocational schools is decreasing in average annually by 463 students in period 1990-2020.

For realisation of work-based learning in Ogre technical school in cooperation with companies in the sector, the following plans are set in place:

- Content - audit of the content of professional training modules - what achievable results (from one or more modules) can be reached in WBL in a company;
- Duration and time of implementation - when and how many hours from the total amount of hours to plan for WBL in the company;
- Preparation of an individual plan for the implementation of WBL and coordination of the content.

In order to ensure the implementation of WBL, an educational institution (Ogre State Technical School experience) requires the following for each student: 1. an individual plan for a certain number of WBL hours per academic year; 2. a training contract for the implementation of the individual plan, which provides for the procedure for amending the contract and terminating the contract. The contract is signed by: 2.1. The vocational training institution; 2.2. A representative of the company; 2.3. The student or his or her legal representative, if the student is a minor. 3. A contract for the learner's insurance against accidents during the implementation of the individual plan; 4. A contract on the student's civil liability insurance during the implementation of the individual plan.

Vocational education institution (Ogre State Technical School experience): 1. in co-operation with the company, develops and approves an individual plan for each learner in accordance with the implementation plan, determining the proportion of the theory and practice of the professional content of the educational program in the educational institution and the company; 2. provides or approves the student's chosen company for the implementation of the individual plan; 3. evaluates and decides on the company's compliance with the implementation of the individual plan; 4. ensures the conclusion of a training contract after the approval of the individual plan; 5. introduces the student to: 5.1. The objectives, tasks and content of the individual plan; 5.2. The basic principles of the implementation of the content of the individual plan and the assessment of the learning achievements of the student; 5.3. His or her rights and obligations during the implementation of the individual plan; 6. If necessary, provides the student with transport and accommodation during the implementation of the individual plan and covers the

related expenses; 7. Designates a person responsible for work-based learning who coordinates the implementation of work-based learning in the educational institution and the company; 8. Provides methodological support to the work-based learning supervisor in the company, who manages the implementation of the student's individual plan; 9. ensures the completion of the lesson log on the basis of the content of the individual plan and the assessment of the student's knowledge, professional skills and abilities agreed with the company during the implementation of the individual plan; 10. Performs the assessment of the knowledge, professional skills and abilities of the student, observing the basic principles and procedures for the assessment of vocational secondary education and vocational education in accordance with the regulatory framework regarding the state vocational secondary education standard and the state vocational education standard; 11. Ensures the student's insurance against accidents during the implementation of the individual plan, determining the student's life, health and physical condition as the object of insurance; 12. Implements co-operation with sectoral expert councils regarding the promotion of the quality, efficiency and compliance of the implementation of vocational education in the relevant sector with the requirements of the labor market in work-based learning.

Vocational education institution establishes a system for WBL management (Ogre State Technical School experience): 1. WBL stakeholder structure: Deputy Director for Education and Practical Training - responsible for WBL training in general; Head of the Study Department - responsible for the implementation of the study schedule, in the vocational education institution and in the WBL company; Head of the Educational Programs Department - responsible for the development of the content of the internship program, implementation of the individual plan; Internship supervisor from the vocational education institution - in cooperation with the internship supervisor from the company for the implementation WBL according to the individual plan. 2. Order on the responsibilities of each participant involved.

The company, by concluding a training contract (Ogre State Technical School experience): 1. ensures that a work-based learning supervisor is appointed by the company; 2. within the term and in accordance with the procedures specified in the training agreement, provide the student with instruction on labor protection issues and acquaint him or her with the rules of procedure of the company; 3. provides the student with work-based learning in accordance with the individual plan, observing the company's internal regulations, labor protection, fire safety and electrical safety requirements, as well as sanitary and hygienic norms; 4. during the implementation of the individual plan, provide the student with individual labor protection means in accordance with the regulatory enactments regarding labor protection requirements, using individual protection equipment; 5. supervises the student during the implementation of the individual plan; 6. determines the number of student per work-based learning supervisor in the company; 7. submits to the educational

institution an assessment of the knowledge, professional skills and abilities of the student regarding the acquisition of the individual plan in accordance with the procedures and to the extent specified in the training contract; 8. enters into an employment contract with the student or his or her legal representative, if the student is a minor, in accordance with the regulatory enactments of legal employment relations or an agreement regarding the granting of a work-based learning scholarship; 9. implements co-operation with sectoral expert councils regarding the promotion of the quality, efficiency and compliance of the implementation of vocational education in the relevant sector with the requirements of the labor market in work-based learning; 10. provides the student's civil liability insurance during the implementation of the individual plan in accordance with the training contract.

A work-based learning supervisor in a company meets the following requirements:

1. Pedagogical competence: 1.1. the person has a professional qualification of a teacher; 1.2. the person has pedagogical knowledge acquired by completing a program for the improvement of the professional competence for teachers in the amount of at least 72 hours; 1.3. the person has pedagogical knowledge acquired by completing an education program for supervisors of work-based learning in the amount of at least 32 academic hours.

2. Professional knowledge: 2.1. the person has a master craftsman qualification awarded by the Latvian Chamber of Crafts and a relevant master's practice certificate; 2.2. the person has professional education in the field; 2.3. the person has at least three years of work experience in the industry;

3. The person is able to ensure the implementation of the student's individual plan in the company and prepare the student's assessment;

4. The person complies with the requirements specified in Section 72 of the Law on the Protection of the Rights of the Child (if the learner is a minor).

Responsibilities of the student: 1. to get acquainted with study documents; 2. to get acquainted with the requirements specified in the company's work procedures, labor protection and other internal regulatory documents of the company and to observe them; 3. to fulfill the tasks specified in the individual plan and to follow the instructions of the work-based learning supervisor in the company.

Student's rights are: 1. to choose the company in which he or she implements WBL; 2. to use transportation and accommodation services; 3. to receive personal protection equipment and special work clothes; 4. to receive mandatory accident insurance; 5. to receive civil liability insurance.

The role of Sectoral Expert Councils in the implementation of WBL is essential (Ogre State Technical School experience): the professional qualification of an electronics technician is governed by the Council of Industry Experts for the Production of Electronic and Optical Equipment, Information and Communication

Technologies; the Latvian Electrical Engineering and Electronics Association (LETERA) represents the electronics industry in the industry expert council.

Ogre Technical School is a member of LETERA and cooperates with the association in implementing further education seminars; in organizing professional mastery competitions; in promoting the professional qualification of an electronics technician.

LETERA delegates a representative of the association to participate in the Ogre Technical School Convention. LETERA awards Recognition to talented students of Ogre Technical School and expresses gratitude to teachers.

The role of Sectoral Expert Councils in the implementation of WBL is essential: 1. to promote work-based learning and make proposals for the improvement of the WBL system; 2. to disseminate information on work-based learning opportunities, encouraging companies to become involved; 3. upon request, to provide recommendations on the involvement of companies in the implementation of work-based learning in accordance with their competence; 4. to provide companies with information on the implementation of work-based learning in accordance with their competence; 5. to evaluate and provide an opinion to the educational institution regarding the compliance of the company with the implementation of the implementation plan and the individual plan or a part thereof; 6. to report to the Vocational Education and Employment Tripartite Cooperation Sub-Council of the National Tripartite Cooperation Council on the progress of the implementation of work-based learning and the companies involved.

Information about JSC “Hansa Matrix” – one of the companies involved in work-based learning in Ogre Technical School: JSC "HansaMatrix" is a fast-growing high-tech company that develops new industrial products and systems, industrializes and provides full production services in data network equipment, Internet of Things, industrial systems and other high value-added market segments.

4. Conclusions

Vocational education is becoming more and more important in Latvia especially in the situation of decrease of number of vocational education institutions, number of students and number of teaching staff.

Work-based learning is introduced in Latvia and requires to find the best optimal and innovative solutions for better work and professional training realisation.

Importance of involvement of employees and companies in work-based learning is increasing in the situations of labour market demand for qualified employees.

Every situation in work-based learning is a multiple aim task requiring innovative solutions for each separate case for each student and respective company involved in work-based learning.

5. Acknowledgements

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