THE CONTRIBUTION OF PROFESSIONAL EDUCATION TO ENTREPRENEURSHIP INNOVATION AND COMPETITIVENESS

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ABSTRACT
Professional education is becoming more and more important in the development of the national economy and ensuring the competitiveness of the economy of the respective country. New forms of training are introduced to educate highly qualified specialists with knowledge and professional skills that correspond with the needs of the labour market. One of the forms for the realisation of this task is work-based learning: this means that the professional education process is realised in close cooperation with professional education establishments and companies from their respective areas. The paper shows the reflected experience and stated challenges for the development of the study process in work-based learning and the cooperation of professional education institutions and companies in the realisation of work-based learning.
KEY WORDS: *qualified employees, work-based learning, professional education, entrepreneurship, company.*

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Introduction

As professional education is becoming more and more important in the development of the national economy and ensuring the competitiveness of the economy of the respective country, new forms of training are introduced to educate highly qualified specialists whose knowledge and professional skills correspond with the needs of the labour market. One form for the realisation of this task is work-based learning: this means that the professional education process is realised in close cooperation with professional education establishments and companies from the respective areas. Researchers worldwide have performed academic research on the influencing factors in work-based learning, as it is being used more and more in many countries.

The purpose of the paper is to suggest new aspects for the improvement of the efficiency of work-based learning, taking into account experience and stated challenges for cooperation between professional education institutions and companies in the realisation of work-based learning.

Object of research: aspects of cooperation between professional education institutions, employers and institutions representing employers for the realisation of work-based learning for the preparation of competitive employees.

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Tasks:

1) to analyse the research findings on influencing aspects of the efficient organisation of work-based learning;

2) to analyse changes in normative regulation in Latvia for the realisation of work-based learning;

3) to analyse statistical data on the realisation of work-based learning in Latvia;

4) to find the views of entrepreneurs for the better realisation of work-based learning for the better training of the possible labour force;

5) to find the achievements and weaknesses of work-based learning.

Research methods used in the paper: the analysis of scientific publications and previously conducted research on aspects of work-based learning; the analysis of changes in legislative regulation for the realisation of work-based learning in Latvia; the analysis of statistical data of professional educational establishments and Ogre Tehnikums in the realisation of work-based learning; the analysis of results of in-depth interviews with entrepreneurs on possible improvements to work-based learning.

1. Theoretical background

Work-based learning is being researched by many researchers, as this aspect is becoming more and more important in the education of a skilled workforce currently demanded by the labour market, and many approaches are discussed in scientific publications (Lewis, 2020: 247; Hatfield, 2007), including experience in Australia (Baker, Peach, Cathcart, 2017: 132). Researchers are devoting their academic research interests to many different aspects influencing the success of the realisation of work-based learning, including pedagogy issues (Siebert, Mills, Tuff, 2009). Work-based learning, as a catalyst for sustainability, has caught the attention of researchers, and they have performed a review of its prospects (Wall et al., 2017: 221). Researchers are looking for the best-possible organisation of work-based learning in different fields updating the clothing technician profile through synergies between industry and vocational and educational training (Cardodo et al., 2021: 593). Apprenticeship is analysed and discussed by researchers taking into account experience from the Netherlands (Onstenk, Blokhuis, 2007: 496; Edmond, Hillier, Price, 2007: 175).

Work-based learning provides a good opportunity for continuing education (Sobiechowska, Maisch, 2007: 187). Germany has long experience in the application of so-called dual education, where graduates of these programmes are very successful on the labour market, and this experience is shared (Fiesser, 2005: 252; Figel, 2008) and studied, as well as implemented in the real praxis by other countries. In work-based learning, co-operation with employers is very important (White, 2012: 17), as part of this education is realised in the work-place, and the practical cooperation and motivation of employers are of great importance, as is competence (Bravenboer, Lester, 2016: 411). Researchers have discovered that marketing for learning activities is very important (Hill, McGowan, Maclaran, 1998: 81).

Work-based learning: an approach towards entrepreneurial advancement is investigated by researchers (Ahmad, Hussain, Ekiz, Tang, 2020: 131). The researchers underline that: 'Learning entrepreneurship in a real-world environment can bridge the gap between traditional, classroom instruction and idea-driven product and service development. It is a business-effective approach that achieves measurable results. Traditional education, typified by the mastery of facts and evaluation by testing, can morph into creative, research-inspired solutions that fulfil public and private organizational need. Success is irrefutable, measured by tangible results. In WBL, students can use industry-standard technologies and collaborate with mentors, clients and customers. They can work as individuals and in teams, with their entrepreneurial education beginning as early as elementary school. In the process, students learn to be motivated by their own achievements, rather than grades. They learn to engage in creative problem-solving, based upon current data, and measure their ability to deal with challenge and failure through an iterative process of problem-solving' (Ahmad, Hussain, Ekiz, Tang, 2020: 131).

Innovations are also of great importance in educating staff involved in work-based education (Durrani, Smallwood, 2008: 684), as they have to be advanced in the application of recent technologies, and recent and advanced software.

These findings are also reflected in other publications looking for the achievements and challenges of work-based learning (Rogers, 2011: 339; Bolli, Renold, 2017: 23; Gibson, Tavlaridis, 2018: 12; Cheetham, Chivers, 2001: 286). Researchers (Gibson, Tavlaridis, 2018: 2) ask the question: Work-based learning for enterprise education? These questions, and the ensuing analysis agenda, are dealt with by many researchers. Special attention is paid to placements (Smith, 2018: 144), as the success of this education depends to a great extent on the organisation of this part. Ethical aspects are also important for work-based learning (Moore, 2007: 168). Student experience is taken into account and analysed as well (Fergusson, Van Der Laan, White, Balfour, 2019: 706).

Many policy documents are accepted and used as the main tools for better vocational education (the Osnabrück Declaration on Vocational Education and Training as an Enabler of Recovery and Just Transitions to Digital and Green Economies, endorsed on 30 November 2020) which in many cases are developed taking into account needs, and also best practice and best experience (Slotte, Herbert, 2006: 242). Theoretical findings are very important to take into consideration when policy documents and realised practical work-based training involving all relevant stakeholders are developed practically.

2. Empirical research results

Practical experience in the realisation of work-based learning is analysed taking into account several steps in organising this education, which is quite different to the vocational education system of before, see Table 1.

Table 1. Changes in the process of the professional education process by introducing work-based learning

The professional education process before the introduction of work-based learning	The professional education process after the introduction of work-based learning
Practical training from the 1st to the 3rd year is implemented in a vocational education institution, in the 4th year in a qualification practice company	Practical training in a branch company is implemented from the 1st year. There are professions in which practical training in a branch company is implemented from the 2nd or 3rd year
Theory and practical training classes within the turn of the week: 2 days of theory in a vocational education institution, 3 days of practical training in a vocational education institution's training workshops	Theory and practical training classes are planned within the semester, in such a way that all the practical training planned for the semester takes place in the branch company not by days, but by months or weeks
Acquisition of the subject 'Society and Human Security' is implemented in the 3rd year	Acquisition of the subject 'Society and Human Security' is implemented in the 1st year before the start of students' WBL studies in the company
	The content of the internship programme is developed/ updated in cooperation with industry companies in accordance with an accredited vocational secondary education programme

Source: compiled by the authors, based on legislative documents.

Legislative decisions form the basis of practical changes to the real study programme to realise successful work-based learning, taking the best from the process. The main principles of the organisation of work-based learning in the study process are reflected in Table 2.

Table 2. The Department of Information Technology, Electronics and Administrative Work Professional secondary education programme Electronics with Professional Qualification Electronics Technician; study time 4 years; number of WBL hours by school years

School year	Number of hours in study plan	WBL not less than 25% of total amount
1 course	1440 hours	4 weeks, 136 hours
2 course	1440 hours	6 weeks, 192 hours
3 course	1368 hours	8 weeks, 240 hours
4 course	1520 hours	24 weeks, 960 hours
Total:	5768 hours	1528 hours (26.5%)

Source: compiled by the author, based on legislative documents and training plans.

The data indicate that the share of work-based learning is increasing with every study year having much more hours devoted to work-based learning in the fourth course compared with other courses in the education time. The practice titles for each study course for the education programme are included in Table 3.

Table 3. The Computer, Electronics and Administrative Work Department professional secondary education programme Electronics with Professional Qualification Electronics Technician; study time 4 years; WBL practice tasks for the respective study plan

Course	Practice title	Practice amount
1 course	Brazing practice	4 weeks
2 course	Measurement in construction practice	6 weeks
3 course	Electronics practice	8 weeks
4 course	Qualification practice	24 weeks

Source: compiled by the authors, based on legislative documents and training plans.

The data indicate that the biggest share of practice time is devoted to qualification practice to become a qualified employee, and this requires much attention from the educational institution, and also the employer. In this sense, it is very important to develop good and professional connections and support, to provide the best possible solutions for people involved in work-based learning in vocational education.

The realisation of work-based learning in the Ogres Tehnikums Professional Education Competence Centre

The Ogres Tehnikums Professional Education Competence Centre is one of the leading professional education establishments in Latvia, with much experience of organising and realising work-based learning involving employers from the fields of all study programmes realised in this education establishment. It is important in cooperating with employer organisations, municipalities, and different ministries and branch councils, as there are many parts involved in this work-based learning process.

The appropriate company involvement in work-based learning has a special importance, as this involvement requires different resources from the company, mainly by providing qualified specialists to work with vocational education students.

Representatives from the companies have to be able to teach the students involved in work-based learning, as, besides professional knowledge, adequate pedagogical skills and pedagogical experience are also required in this process, to transfer experience from the company to the students. The situation on numbers of students and companies involved in the education process in the realisation of work-based learning in the Ogres Tehnikums Professional Education Competence Centre is reflected in Figure 1.

The data indicate that there is a reduction in the number of students and companies involved in work-based education during the last year; it is caused by the pandemic situation, but even in this case more information on education could also be used in limited conditions, as qualified specialists are always required.

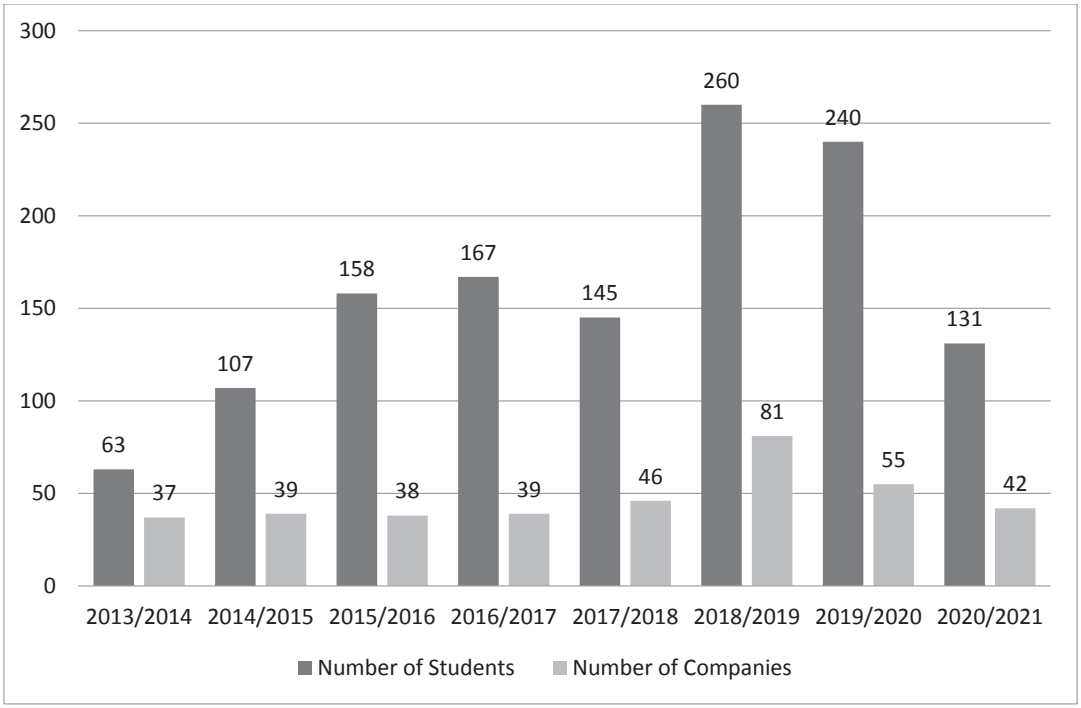

Figure 1. The number of trainees and companies involved in professional education at the Ogres Tehnikums Professional Education Competence Centre, 2013 to 2021

Source: compiled by the authors, based on statistical data from Ogres Tehnikums.

The demographic situation has an influence on the number of students in different specialities: the main information is reflected in Figure 2.

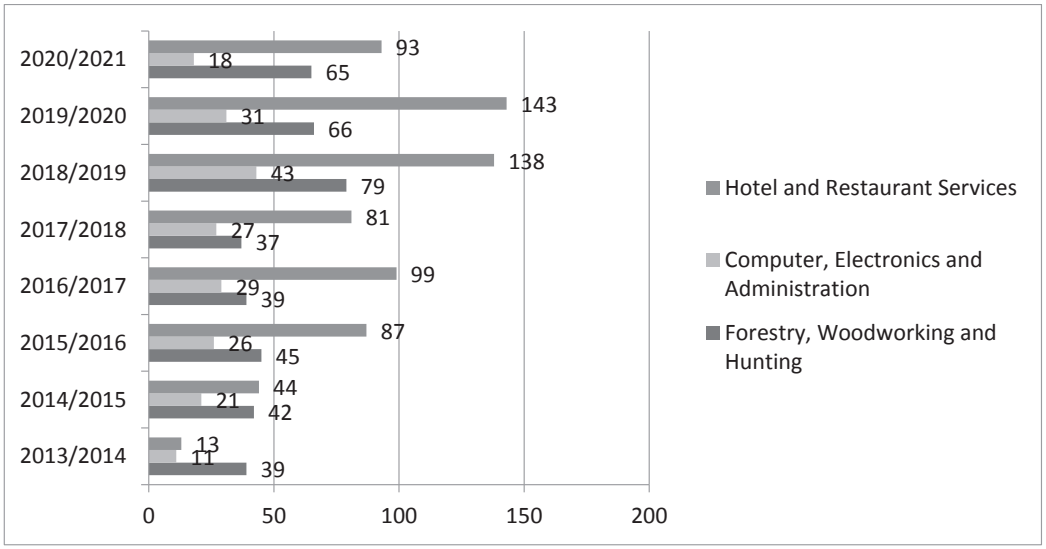

Figure 2. The number of trainees by training year in professional education at the Ogres Tehnikums Professional Education Competence Centre in different fields, 2013 to 2021

Source: compiled by the authors, based on statistical data from Ogres Tehnikums.

Conclusions

Work-based learning aspects involving entrepreneurs, educational establishments, students and teaching staff are analysed deeply in academic research and scientific publications. Latvia already has good experience in introducing work-based learning and involving entrepreneurs in educating professionals in several specialities. Changes in the organisation of vocational education in work-based learning have changed study plans, to give more time to join the education process directly at a company involved in work-based learning. It is a great challenge to involve companies in work-based learning, but also a good advantage in getting well-educated and ready-to-work specialists. Marketing activities often fail to inform about the possibilities in work-based learning and the advantages of this system.

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PROFESINIO ŠVIETIMO ĮNAŠAS DIEGIANT VERSLO INOVACIJAS IR SKATINANT KONKURENCINGUMĄ

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Santrauka

Profesinis išsilavinimas, kuriant šalies ekonomiką ir siekiant užtikrinti jos konkurencingumą, tampa vis svarbesnis. Norint ugdyti aukštos kvalifikacijos specialistus, kurių žinios ir profesiniai įgūdžiai atitiktų darbo rinkos poreikius, kuriamos naujos mokymo formos. Viena iš šios užduoties įgyvendinimo formų – mokymasis darbe, kai profesinio mokymo procesas vyksta profesinio mokymo įstaigai ir atitinkamos šakos įmonėms glaudžiai bendradarbiaujant. Straipsnyje analizuojami studijų procese kylantys iššūkiai, kai studentas ir mokosi, ir dirba.

Aptariami nauji mokymosi darbe veiksmingumo didinimo aspektai, atsižvelgiant į turimą patirtį ir iškeltus iššūkius, susijusius su profesinio mokymo įstaigos ir įmonių bendradarbiavimu įgyvendinant mokymosi darbe principus. Tyrimo objektas: profesinio mokymo įstaigos, darbdaviai, bendradarbiavimo aspektai, siekiant realizuoti mokymąsi darbo vietoje ir parengti konkurencingus darbuotojus. Remiantis atliktais mokslininiais tyrimais išsamiai analizuojami darbinio mokymosi procesai, kuriuose dalyvauja verslininkai, švietimo įstaigos, studentai ir dėstytojai. Latvija jau turi gerosios mokymosi darbe, įtraukiant į šį procesą verslininkus, kurie moko įvairių specialybių specialistus, patirties. Švietimo organizavimo pokyčius, kurie susiję su profesiniu mokymu, atskleidžia mokymosi darbe akcentavimas: pakeitus studijų planus, daugiau laiko mokoma tiesiogiai įmonėje, kuri dalyvauja mokymosi darbe procese. Įtraukti įmones į mokymosi procesą, viena vertus, yra didelis iššūkis, kita vertus, pranašumas, siekiant parengti išsilavinusius ir dirbti pasirengusius specialistus. Rinkodaros veikloje dažnai trūksta informacijos apie mokymosi darbe galimybes ir šios sistemos pranašumus, šią spragą ir bandoma užpildyti.

PAGRINDINIAI ŽODŽIAI: *kvalifikuoti darbuotojai, mokymasis darbe, profesinis išsilavinimas, verslumas, įmonė.*

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