

# CONTEMPORARY LEARNING ENVIRONMENT IN THE VOCATIONAL EDUCATION: THE NEW CHALLENGES

**Anita Zaiškalne**

University of Latvia, Riga, Latvia

E-mail: zaiskalne@inbox.lv

## Abstract

*The quantitative research basis is the data of surveys which were filled in by teachers of vocational education institutions and employers. The research is based on researches and reports regarding vocational education, strategic planning documents of development of education of Republic of Latvia and EU, studies, statistics on vocational education (data basis of the Central Statistical Bureau, statistics of the Ministry of Education and Science (MES) on vocational education) also are used. The aim of the research is to analyze factors of the internal and external environment that affect vocational education in order to determine how these factors create challenges for the vocational education system and educational institutions. The article analyzes the correlation between the elements of internal environment: resources, processes and results and external environment (political, demographic social) factors. The challenges make the vocational education change the existing paradigm of vocational education. The research was performed with a purpose to analyze the environmental factors; the quantitative research combines: an analysis of normative documents and a survey of employers and teachers of vocational education. The key results of the research: demographic trends in Latvia have an essential impact upon the human resources of the vocational education institutions; in order to implement the lifelong learning strategy, it is important to involve more adults in the vocational education; the learning environment of vocational education must be developed by following the principles of lifelong learning; cooperation between the state institutions, employers and teachers is required in order to provide effective solutions to the challenges that vocational education is facing. The cooperation between the employers' institution, educational institutions and state institutions is essential in the process of planning and implementation of the curriculum and evaluation of the results. The prestige of the vocational education in the society affects students' choice regarding their further education; it also influences the assessment of employers. If there were developed and implemented such curricular, which would imply the key competences that are relevant to the vocational areas of education and on the basis of which a flexible transformation of the content of curricular would be possible, the competitiveness and quality of the vocational education would be ensured.*

**Key words:** external environment, internal environment, learning environment, vocational education.

## Introduction

The introductory part of the article interprets the environment of vocational education as a totality of the internal and external elements.

Vocational education is an essential part of the education system of the Republic of Latvia (RL), and its quality is a combination of topical issues and problems.

Strategic planning documents of education and scientific studies reveal that it is necessary to improve the quality of vocational education. Studies performed in Latvia confirm that since regaining of the national independence, one of problems of the vocational education is the poor connection with demands of the labour market (the University of Latvia, labour market study "Conformity of programs of the vocational and the higher education to demands of the labour market", 2007). In 2009, the Ministry of Education and Science of the Republic of

Latvia developed the concept of “increasing the attractiveness of vocational education and the participation of social partners in professional quality assurance”. The main problems in need of solving at the national level that were singled out:

- the low prestige of vocational education;
- non-compliance of the professional qualification levels system with the European Qualifications Framework;
- non-compliance of the vocational education program for the needs of education of adults;
- non-equality of the conditions for gaining general secondary education and vocational secondary education;
- no recognition of knowledge, skills and competence gained outside of formal education (MES “Concept of increasing the attractiveness of vocational education and the participation of social partners in professional quality assurance”, 2009).

In the year 2011, effecting of the European Social Funding activity “Development of field qualification system and restructuring of the vocational education” was commenced with aim to improve the contents of the vocational education by providing a deeper connection between the vocational education and needs of the labour market. Normative bases for recognition of lifelong education skills is being prepared; in the year 2011, amendments to the Law on the Professional Education were passed prescribing recognition of skills obtained beside the formal way.

The economic and demographic situation in Latvia for the last two years has required reviewing of documents related to planning of national long-term strategy; “Key statements on development of the professional education for years 2010 to 2015” were elaborated.

The aim of key statements is providing of structural reforms of vocational education establishments. A plan for optimization of vocational education establishments is offered; this plan prescribes forming of competence centres of the vocational education.

Also in the second decade of the 21<sup>st</sup> century, despite the implementation of various reforms (the reorganization of vocational education institutions, development of occupational standards, offer of new education programs), the main problems have emerged: the quality of the vocational education as whether the qualification of the vocational institution graduates is relevant to the requirements of the labour market and whether the vocational education is competitive enough. It must be noted that the future perspectives of vocational education have been indicated as a challenge also in the education system of the member states of the European Union (EU).

### *Problem of Research*

In order to be able to formulate and analyze the systemic functional correlations of vocational education in the 21<sup>st</sup> century, it is essential to study the changes in the existing paradigm of education. The change of paradigms as the establishment of a new system of perceptions initially was associated with the science. The term “paradigm” has been interpreted by T. Kuhn as a system or a pattern of world perceptions, which is characteristic of a specific development period of a society and which determines the theoretical basis (Kuhn, 1987). The governing concept regarding the structure of the system, goals of activity and objectives is determined within the framework of one paradigm. Facts or indicators, which do not fit in this system, are ignored until they become the dominating proportion. Then the existing framework of the world perceptions or the paradigm, as an inadequate one, is replaced with another paradigm, and a new framework is created instead of the previous one. This process is qualified as the change of paradigms; however, it must be noted that the acceptance of a new paradigm in the society is a time-consuming process (Zalaiskalne, 2011). The need for a new conceptual approach in the sector of education over the last fifteen years has been emphasized in the strategic planning documents of education at different levels. The EU White Paper contains indications regard-

ing a new approach in relation to the education based on ideas of human-orientated pedagogy (White Paper, 1995). Latvian development strategy "Latvia 2030" states that the quality assessment of education must include both internal and external assessment of the system (Latvia 2030). Analyses of future development perspectives of the professional education systems of the Republic of Latvia shows the following problematic issues and challenges:

- If skills mastered today will be useful in the future as well?
- Can the vocational secondary education compete with the general secondary education?
- How does the system of the vocational education effect the key statements of the lifelong education?

In the context of change of paradigms the external environment makes influence to the vocational education, the role of the teachers also changes in the education process. There is a necessity to create a new framework for vocational education content.

### *General Background of Research*

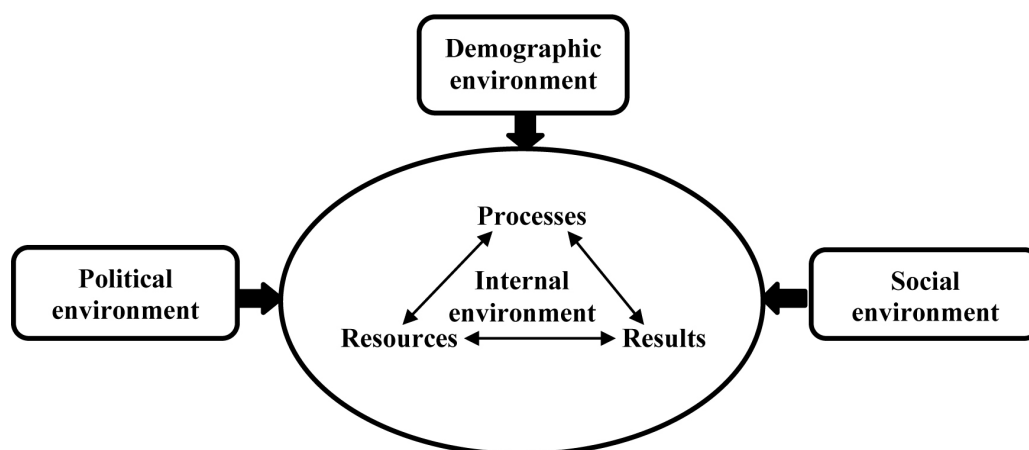
In the functioning model of the vocational education system the following interrelated elements can be distinguished:

- Resources (financial and human resources),
- Processes (teaching, learning),
- Results (quantitative, qualitative) (Shumer, 2001).

In order to ensure a long-term development of the vocational system it is essential to provide that all aforesaid elements are functioning, also the external environment or the context is very important. (Visscher, 2001, pp. 213-220). The demographic, political, social, economical, ecological, technological and cultural environments have been mentioned as the elements of the external environment. The correlation of the internal and external environment is emphasized by Raituma (Raituma, 2009). The following factors of the external environment will be analyzed further in the article:

- Demographic environment,
- Social environment,
- Political environment.

Connection these factors with the elements of the internal environment shows Figure 1.



Source: Raituma, 2009; Schumer, 2001.

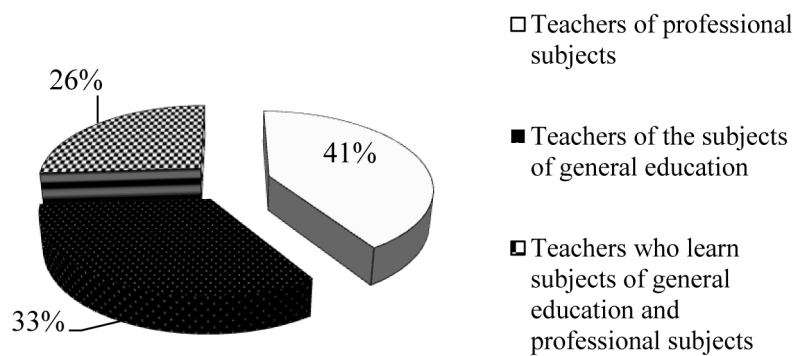
**Figure 1: The external environment factors in connection with the internal environment of vocational education.**

This research was performed in order to determine how these three factors of the external environment influence the internal environment of vocational education, and the data which were collected during the research reveal the challenges that the internal environment of vocational education is going to face in future.

### Sample Selection

The quantitative research basis is the data of surveys which were filled in by teachers of vocational education institutions and employers.

By the statistics of the Ministry of Education and Science, 3164 vocational education teachers were selected as the general multitude of participants for the study, who were working full time in the school year of 2010/11. The sample size with confidence level 95% and confidence interval +/- 3% is 798. Distribution of teachers by subjects of teaching shows Figure 2.



**Figure 2: Distribution of respondents due to subjects learned by the teachers.**

The employer survey collected data from 56 respondents - employers representatives who were working in the professional qualification exam evaluation committees during school year 2010/11. The total number of respondents is 56. The respondents represent a variety of industries. Sectoral breakdown of employers is shown in Table 1.

**Table 1. Sectoral breakdown of the respondents.**

No.	Industry	Number of respondents
1.	Textile processing	6
2.	Hotel industry	18
3.	Woodworking	9
4.	Beauty services	8
5.	Tourism industry	15
Total		56

### Instrument and Procedures

The instrument of the research is questionnaire which implies 3 sections of questions. The first section deals with general questions (information about the seniority of respondents, the location of the educational institution, employers' industry, etc.). The second section of

questions provides information about the respondents' participation in the development of the vocational education curriculum (development of curricular of subjects, curricular of the secondary vocational education and the content of occupational standards). The third section of questions reveals the teachers' and employers' opinions about the content of vocational education, about the implemented reforms in the sector of vocational education and the quality of education.

During the period from March, 2011, till January, 2012, data from 814 respondents were collected in the survey of teachers, 16 questionnaires have been found unfit for processing. For further data processing and interpretation of the results, data from 798 questionnaires were used. During the period from May, 2011, till June 2011, data from 58 employers were collected, for further data processing data from 56 questionnaires were used.

#### *Data Analysis*

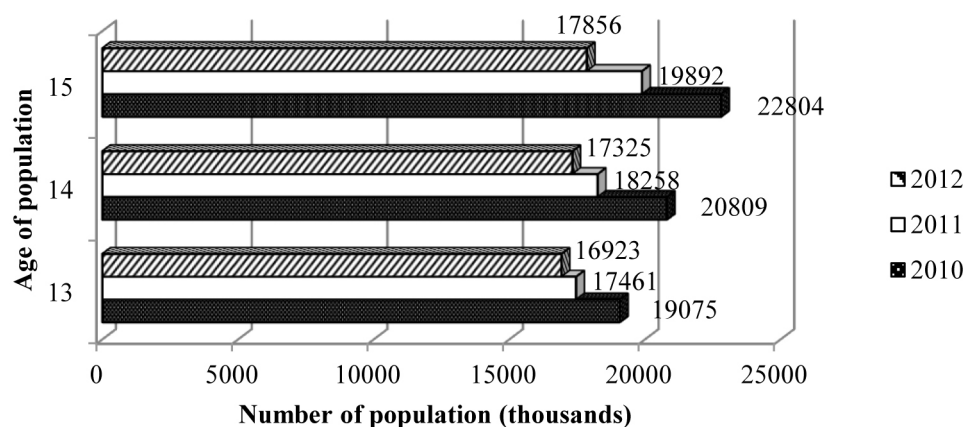
For the data processing and analysis, the SPSS 19.0 programme was applied. Descriptive statistical methods – frequencies, crosstabs were used.

### **Results of Research**

#### *Demographic Environment*

The forecast of the European Centre for the Development of Vocational Training (CEDEFOP) regarding the number of students involved in vocational education (ISCED 2-5) reveals that in 2020, in comparison with 2005, there will be 26 000 students less in Latvia (CEDEFOP, 2009).

The demographic rates of EU and RL prove that the number of residents who are close to the retirement age will increase in the next decade, and these residents will be forced to acquire new skills and knowledge in order to be able to compete in the labour market, however, the number of youth is decreasing. The demographic trends in the population of Latvia are shown in the data about the population dynamics in RL and the enrolment of students in vocational education institutions (see Figure 3; Table 1).



Source: Data of Statistic Bureau, 2012

**Figure 3: Population dynamics of the Republic of Latvia 2010 - 2012 (age group: 13 – 15 years old).**

**Table 2. Enrolment results in the vocational education institutions of the Republic of Latvia from school year 2000/2001 to 2011/2012.**

School years	Total number of accepted students	Including graduated from class 9	Including graduated from class 12
School year 2000 / 01	18440	12221	3900
School year 2001 / 02	17461	11701	3834
School year 2002 / 03	18114	12287	3745
School year 2003 / 04	18525	13219	3167
School year 2004 / 05	16096	11929	2221
School year 2005 / 06 14521		11647	1661
School year 2006 / 07	14142	11608	1443
School year 2007 / 08*	13268	11002	1282
School year 2008 / 09	13883	11448	1425
School year 2009 / 10	11367	9545	1039
School year 2010 / 11	11914	9577	1488
School year 2011 / 12	11920	8842	2100

\* - number does not include private vocational education students

Source: statistics of MES about vocational education, 2012

Demographic trends – ageing of the population has been proved also by the survey data provided by teachers of the vocational education institutions: distribution according to age groups (Table 3).

**Table 3. Research data: distribution of teachers according to age groups (by sex).**

Age group	Sex		Total
	Male	Female	
20-29 years	7	28	35
30-39 years	12	55	67
40-49 years	84	371	455
50-62 years	28	151	179
63-70 years	10	32	42
> than 70 years	7	13	20
Total	148	650	798

#### *Political Environment*

The policy decisions affecting the objectives and content of a vocational education system. One of the strategic objectives in the member states of the EU is to involve 15% of adults in the lifelong learning system by 2020.

The report “Development of European Lifelong Learning Environment” provides a broader definition of lifelong learning. It is defined as follows: „all learning activity undertaken independently, with the aim of improving knowledge, skills and competence, within a personal, civic, social and/or employment-related perspective” (European Commission, 2001, 11). In 2011 the implementation of the activity of the European Social Fund “Elaboration of Sectoral

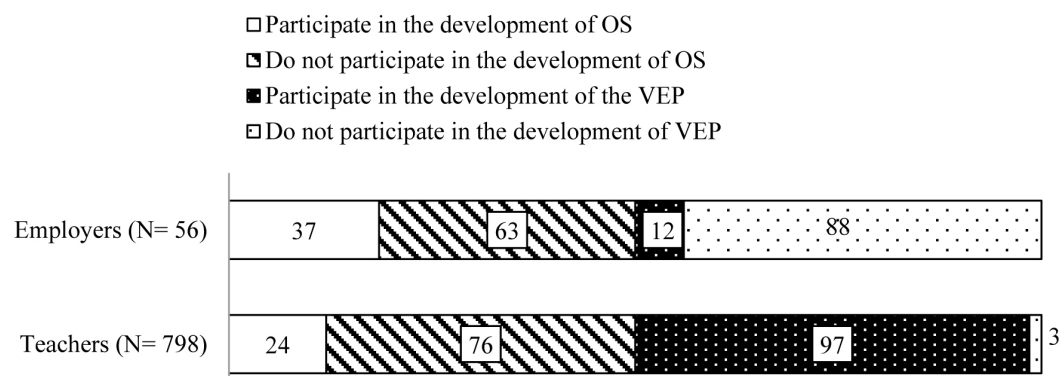
Qualification System and Restructuring of the Vocational Education” began with the aim to improve the content of vocational education and to provide a closer link between vocational education and the requirements of the labour market. The normative documents have been prepared for recognition of skills acquired through lifelong learning; in 2011 amendments in the Law on Vocational Education were implemented (the Law on Vocational Education, current edition, 2012), which stipulates the recognition of informally acquired skills.

In the field of vocational education and training a strategy is developed called „Europe 2020”, which contains the key aspects that must be taken into account when developing the content of vocational education. The key aspects are the following:

- the attractiveness of the vocational education (qualified teachers, progressive teaching methods, qualitative training base);
- the availability of education (opportunities to develop professional skills for different age groups and fields);
- acknowledgement of daily and informal learning (a possibility to obtain a documentary evidence about skills that have been acquired at work and life skills);
- improvement of mobility opportunities (student and teacher training abroad, comparability of the levels of vocational education) (Brugge communique, 2010).

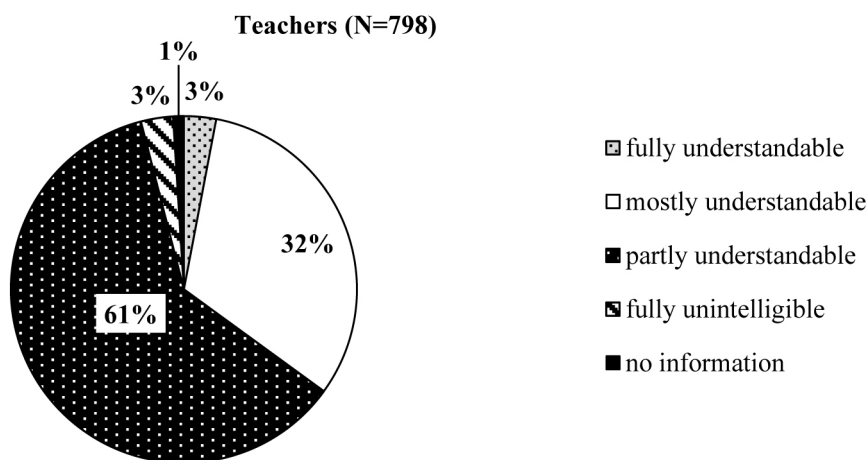
Internal rules No. 22 of Ministry of Education and Science of the Republic of Latvia, October 11th, 2010 „Development procedure of vocational education programs” determine the shape, length, volume, basics for the program execution plans (which are theory, practice, and tests) for the execution of vocational education programs. Part of the theory in vocational education programs consists of general education courses and professional training courses. The inclusion of general subjects in vocational secondary education programs is the equivalent of general secondary education programs, the distribution of the objects to be included is determined by the state vocational secondary education standard.

Answers provided by employers and teachers regarding the involvement in the development process of occupational standards and vocational education curricular reveal that employers are rather inactive in relation to the involvement in the development of the content of vocational education at the level of the curriculum, however, teachers – at the level of the occupational standards. (See Figure 4).



**Figure 4: Participation in the development of occupational standards (OS) and vocational education programs (VEP), percentage.**

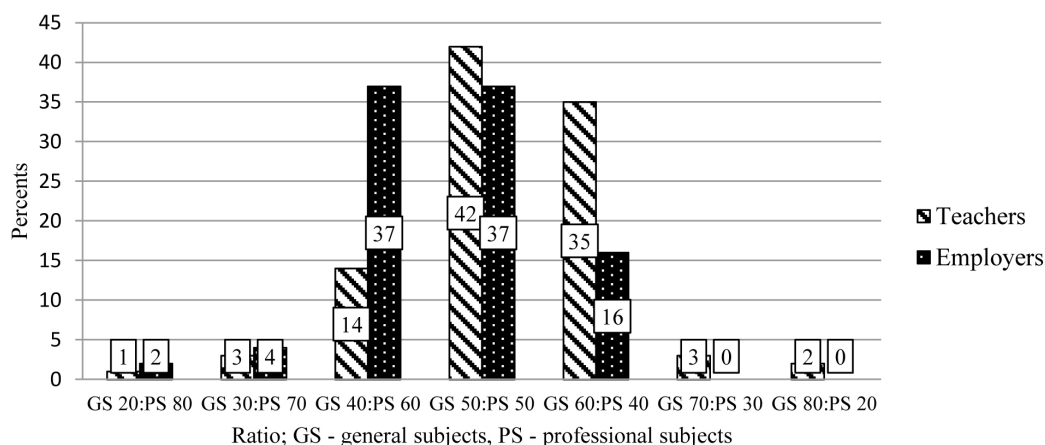
Figure 5 shows the percentage of replies that have been provided by employers and teachers to the question “Do you understand the development procedure of the vocational education curriculum that has been determined in Internal rules No. 22 of Ministry of Education and Science of the Republic of Latvia?”. Only 3% of teachers have fully understood this procedure.



**Figure 5: Understanding of normative documents, percentage.**

16 respondents in the employers survey also evaluated the regulations set by the Ministry of Education and Science as completely understandable, 14 of 56 respondents acknowledged it as partially understandable, but 12 were completely baffled. Six respondents had no information of such regulations.

Teacher and employers surveys included the question about the desired ratio between general and professional subjects of vocational secondary education programs; the response shows a lot of difference in opinion from the one set in the normative documents (60% of general and 40% of professional subjects), the opinion of employers and educators also differs (see Figure 6).



**Figure 6: The desirable ratio of general and professional subjects in the vocational secondary education programmes: teachers and employers replies, percentage.**

*Social Environment*

The impact of the social environment was evaluated as the impact of two factors. The first factor – requirements of the society towards education which occur as the impact on the learning process. It requires students to integrate diverse knowledge and skills, and exactly the entity of integrated knowledge is the factor which determines the quality of education today (Delor, 2001). A. Spona points out the following types of the learning process:



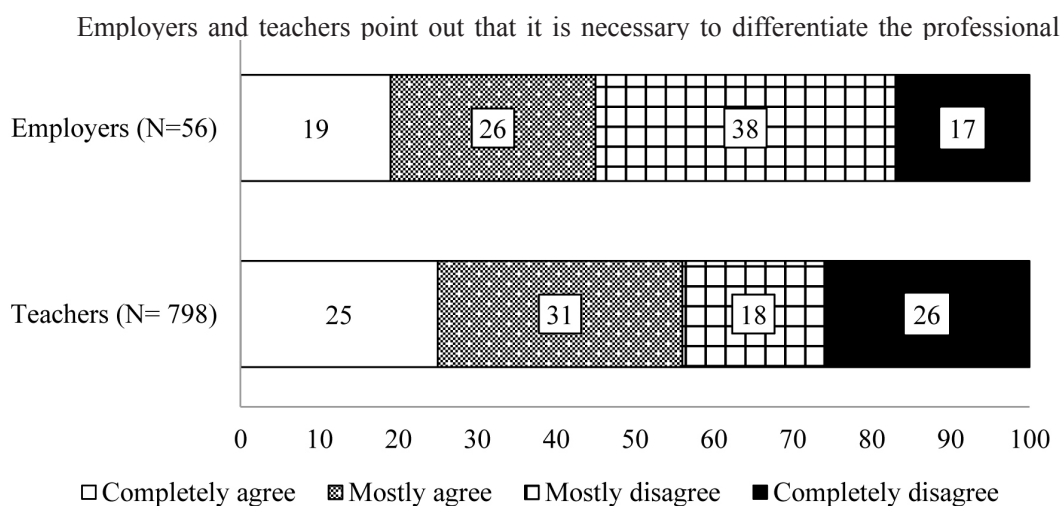
1) the dogmatic process – only dogmas are acquired (mostly without understanding), when the main components of the learning process is perception and remembering,

2) illustratively explanatory process – creates awareness about processes of the nature, but learning takes place by making use of already prepared means which is the teacher’s explanation and visual aids; stimulates development of attention and logical thinking,

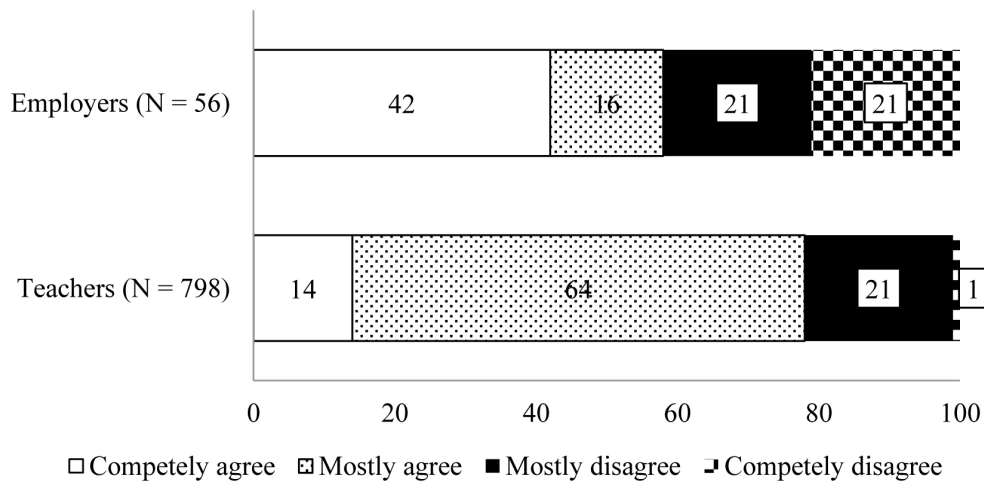
3) problem solving research – develops thinking by creating the logic of scientific cognition, persistent remembrance and creative personal experience (Špona, 2006).

Employers and teachers provided their opinion regarding the following statement of the survey: „ It is necessary to develop such vocational education programs where the content of the secondary education subjects would be integrated into the professional subjects”. 19 % of teachers and 25 % of employers completely agree with the aforesaid statement. (Figure 7). At the same time the 17 % of teachers and 26 % of employers have an opposite opinion: completely disagree.

**Figure 7: Necessity for integration the general secondary education subjects in the professional subject curricula: teachers and employers replies, percentage.**

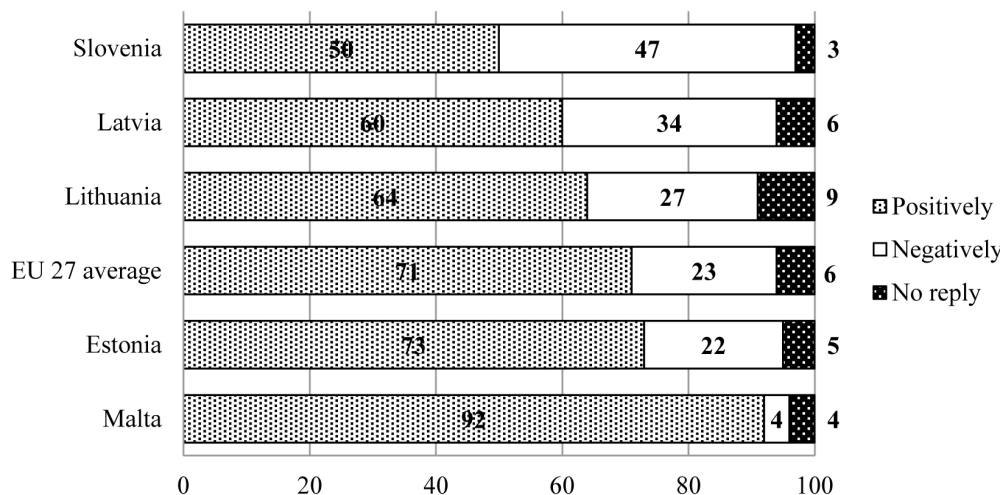


qualification, depending on the results in the professional qualification examination (Figure 8). Also these replies shows the distinctions between the teachers and employers. Only 14 % of teachers completely agree with this statement. In comparison, 42 % of employers completely encourage follows differentiation.



**Figure 8: Needs for the differentiation of the professional qualification by the results of qualification exams: teachers and employers replies, percentage.**

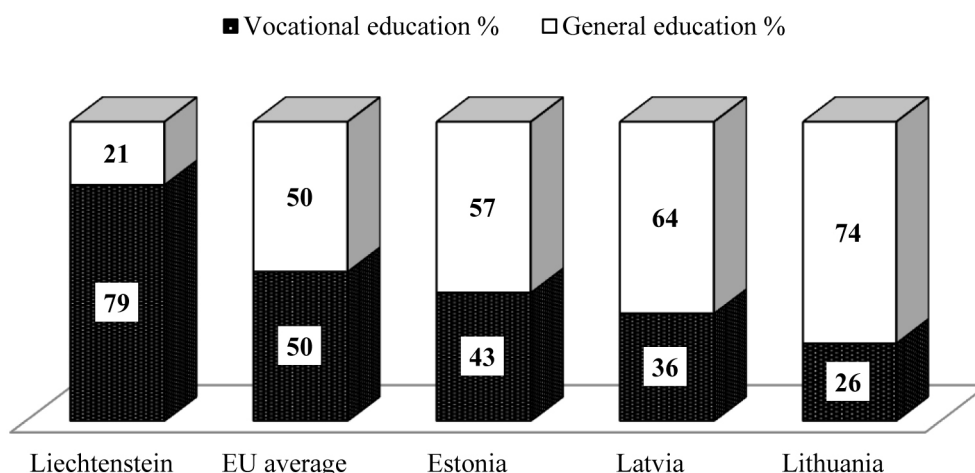
The prestige of vocational education and its assessment in the society was analyzed as the second factor of the social environment. According to the survey that was carried out in the EU member states by Eurobarometer in 2011, where 26 840 respondents were interviewed from 27 member states of the EU, in general vocational education is assessed as a positive aspect, the average rate in the EU member states - 71%. In comparison, rates of Latvia are lower than the average rates of the EU – 60% of respondents have provided a positive assessment of the vocational education (the number of respondents in Latvia – 10019). Also, if compared to the other Baltic States, the assessment rates of Latvia are lower. The table includes the countries which have provided the highest and the lowest positive assessment, the average rate of the EU states, the Baltic States (see Figure 9).



Source: Eurobarometer survey „Attitudes towards vocational education and training”, 2011.

**Figure 9: Assessment of the vocational education in EU countries, percentage.**

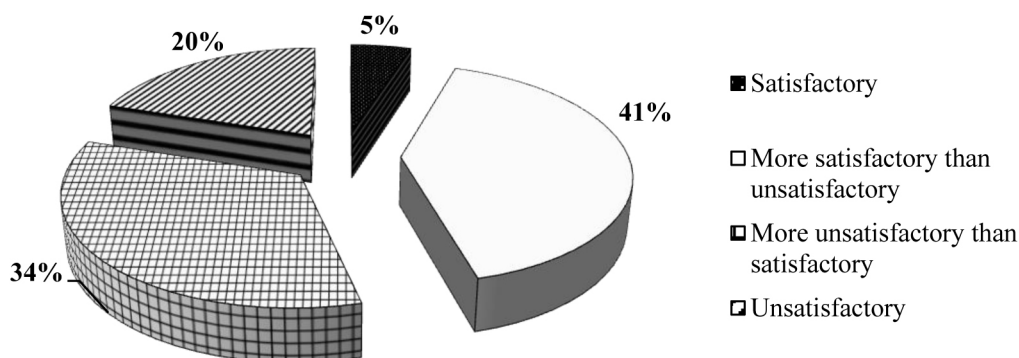
The data about the proportional distribution of students between the secondary education and vocational education at ISCED level 3 reveal that only 36% of students in Latvia choose vocational education, which is a lower rate than the average rate in the EU, (Figure 10), and in order to compare the situation the highest rate has been shown, as well the data of the Baltic States.



Source: Key Data on Education, 2012.

**Figure 10. Distribution of upper secondary (ISCED 3) students by programme type (general or vocational) overall, 2009.**

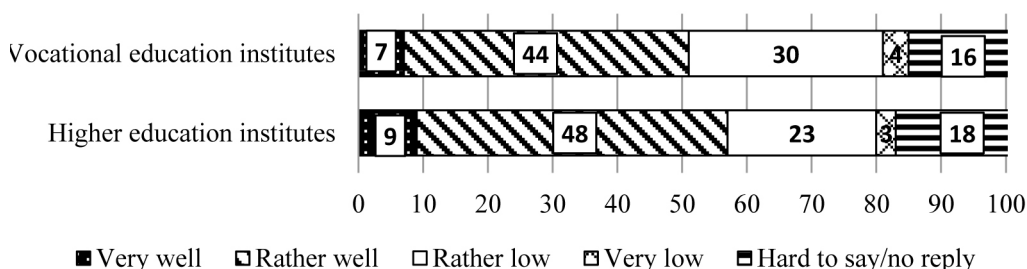
When employers answered to the question of the survey „How would you assess the professional preparation of the professional education graduates?“, only 5% responded that it was satisfactory, 20% provided the assessment (Figure 11).



**Figure 11: Assessment of the professional qualifications of the VET graduates: distribution of employers replies.**

In June 2011 Survey No. 39 of “DnB NORD Latvian Barometer” was carried out regarding public opinions and attitudes towards vocational education. When answering to the question: „How do you think the educational institutions prepare their students for the labour market?“, only 7% of respondents assessed the vocational education as “very well” (Figure 12).

**"How do you think the educational institutions prepare their students for the labour market?"**



Source: Survey No. 39 of “DnB NORD Latvian Barometer”, 2011.

**Figure 12: Public attitudes towards education, percentage.**

**Discussion**

When examining the analysis of normative documents and results of the quantitative research, it can be seen that the demographic, political and social environment has a considerable impact on the internal environment of vocational education. The impact refers to all elements of the internal environment: resources, processes and results.

Demographic rates of the EU and Latvia, which prove that the number of population, which is close to the age of retirement, is going to increase in the next decade, and this part of the population have to learn new skills in order to be able to compete in the labour market. However, the number of youth decreases which will cause certain difficulties regarding the enrolment of a sufficient number of students in the formal educational institutions. In the next few years it is essential to increase substantially the proportion of the population which is involved in the lifelong learning processes in Latvia. It is a tough challenge for the whole system of vocational education.

The development of the curriculum of vocational education implies cooperation between the employers’ institution, educational institutions and state institutions in the process of planning and implementation of the curriculum and evaluation of the results. Mainly the educational institutions are responsible for development of the curriculum, and the employers’ institutions are involved in the curriculum development processes only from time to time. The results suggest a lack of mutual awareness between representatives of the employers who are involved in the process of education, and public institutions, where the legal documents for the content of vocational education are developed and approved.

The normative documents in relation to the occupational standard of vocational education and development of education programs do not stipulate the participation of students of vocational education in the implementation of the curriculum of vocational education. This opportunity must be implied in accordance with the guidelines of lifelong learning regarding self-directed learning.

In order to implement the model of integrative cooperation, there is an internal environment required which would provide new-level cooperation between a student and a teacher. A learning process which is based on integrative cooperation gradually changes and as a result the teacher’s role becomes merely consultative.

Within the context of the education policy of Latvia and the EU, the key competences for lifelong learning, which are defined as the most important ones in the reference document of the European Council (European Council and Parliament, 2006), can be regarded as a condition which has triggered changes in the paradigm of the internal environment of vocational education.

These key competences within the context of vocational education should be integrated into the content of education curricular, thus providing an opportunity to transform information into knowledge, and then to transform knowledge into competences.

The prestige of vocational education in Latvian society is regarded as low; it influences the choice of students regarding their further education; it affects the assessment of employers. As a result also the internal environment is affected.

## Conclusions

As the role of lifelong learning increases, it creates serious challenges for the system of vocational education. Firstly, they refer to the policy of vocational education and planning at national level. Secondly, the challenges refer to the development of the content of vocational education curricular, application of teaching methods and forms. The content of vocational education requires reforms by putting emphasis on the following:

- integration of lifelong learning principles in the content of vocational education curricular,
- orientation of the vocational education curriculum to the grown-ups as an essential part of the target audience of vocational education,
- at the level of the secondary vocational education – integration of the content of the secondary education subjects into the professional subjects,
- involvement of the employers' institutions, educational institutions and state institutions in the process of planning and implementation of the curriculum and evaluation of the results.

In order to be able to implement the strategic reforms that have been planned in respect to vocational education, a complex concept is required – consistency of the strategic objectives of the secondary, vocational and higher education; mutual consistency of the normative documents which are required in order to provide a relevant operation of educational institutions, cooperation with employers' institutions.

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**Anita Zaļaiskalne**

Mg. Edu. Man., Doctoral Student, University of Latvia, Faculty of Education, Psychology and Art, 74/76 Jūrmalas avenue, Riga, LV – 1083, Latvia.  
E-mail: [zalaiskalne@inbox.lv](mailto:zalaiskalne@inbox.lv)