



# LITHUANIA NATIONAL REPORT “THE SITUATION OF INNOVATION IN THE EDUCATIONAL AND TRAINING LITHUANIAN POLICIES”



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## NATIONAL REPORT ABOUT INNOVATION IN TRAINING & EDUCATION (LITHUANIA)

### 1.- CONCEPTUAL FRAMEWORK

Discussion on Innovation ability should begin with clarifying what we mean by ability and by innovation. *Ability* is understood as developed through teaching / learning person's aptitude, applying knowledge to achieve theoretical or practical goals (Pukelis, 2009).

*Innovation* is related to something new (new idea, new methods of doing something) or different introduced. To be called an innovation, an idea must suit the economical cost and must satisfy a specific need. Innovation involves deliberate application of information, imagination, and initiative in deriving greater or different value from resources, and encompasses all processes by which new ideas are generated and converted into useful products. Most of the definitions of innovations emphasize the forward looking and being ahead. Therefore planning of better situations for the future requires innovative solutions.

Systems of education are undergoing (drastic in some countries) reforms, and, it is clear that the success of the reforms depends on the readiness of its actors to pilot / test / implement new ideas and methodologies into traditional contexts. Ideally, education services should be one step ahead, therefore the innovation abilities are the necessity for the actors within education, in order to keep up with the technological and economical progress. Before discussing about the development of innovative competencies, we should describe what we mean by *competency* and *competence*.

*Competency* (pl. competencies) is a capability to perform a certain part of activity (operation), on the grounds of knowledge, skills, values and attitudes. The combination of certain competencies constitutes professional standard. (Fokiene, Sajiene, 2009).

*Competence* – demonstrated effective quality activity, which meets the requirements of the world of work. Competence is determined by the level of qualification and professional experience of a person. (Fokiene, Sajiene, 2009).

Providers of education have to be not only qualified, but also competent (in reality it is not always so), therefore it is important to assure that they can acquire their knowledge, skills and value attitudes in all possible ways – formal, non-formal and informal education settings. The challenge lays in assuring that the learning achievements (knowledge, skills and value attitudes) can be evaluated and recognized, so that the non-formal and informal learning are approached as valuable experiences, worth of effort not only in qualitative way (professional development), but also in qualitative (certificates, diplomas, credits).

*Formal learning* – is regulated and controlled by the state, has its aims, structure and resources. Graduates of formal education receive the State recognized diploma or certification.

*Non-formal learning* – learning, which is embedded in planned activities not explicitly designated as learning, but which contain an important learning element. Any organised educational activity outside the established formal system – whether operating separately or as an important feature of some broader activity. Non-formal learning is intentional from the learner's point of view. It normally does not lead to certification. (Adapted according to: <http://www.cedefop.gr> "EU Knowledge system for lifelong learning")

*Informal learning* – natural, daily learning. Not necessarily previously studied, less organized, less structured. This form of learning is usually unintentional from the learner's perspective, as this knowledge was acquired through life experience, family, informal social interactions, and other circumstances. (Assessment of Prior Learning in Vocational..., 2010).

Talking about innovative education and training, one should also refer it to the changing roles of teachers, being the providers of creative and innovative teaching. In the context of rapid changes in labour market, economy, therefore in education as well, the role of the teacher is no longer only lecturing. Nowadays teachers have to perform much wider variety of roles (see Fig. 1)

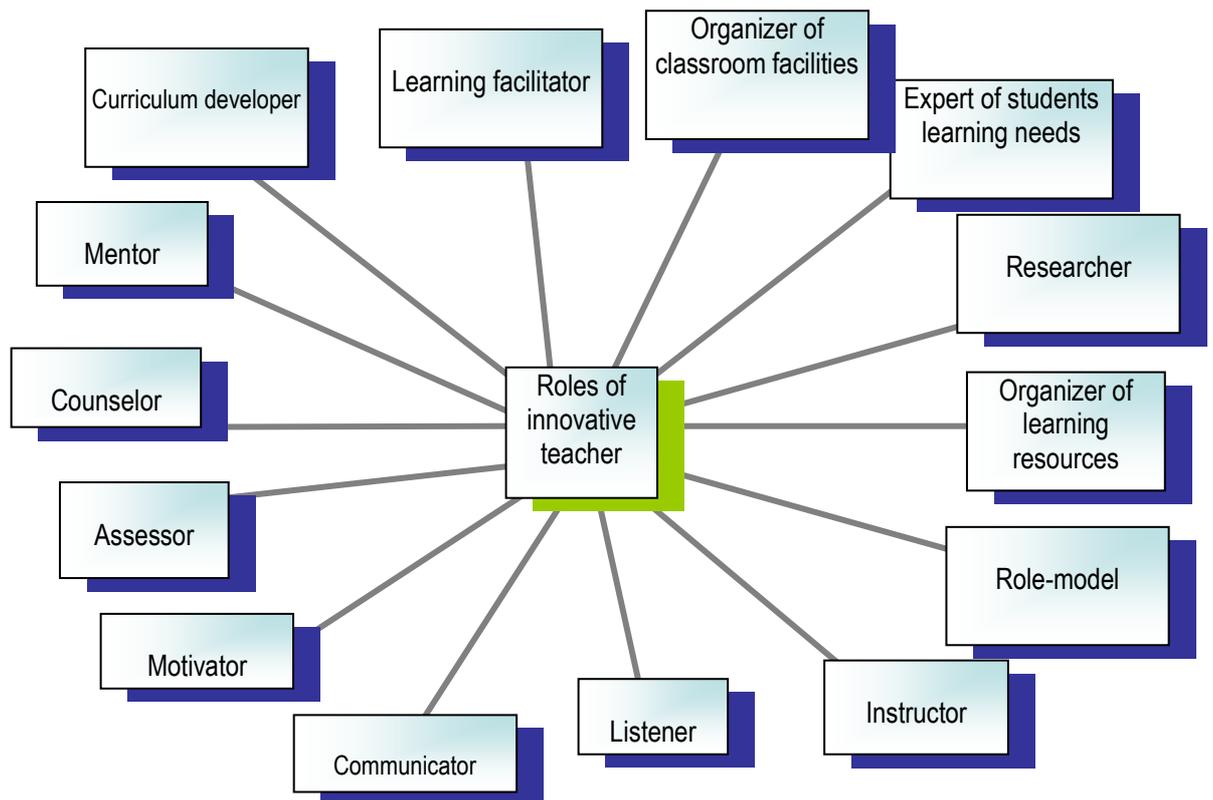


Fig.1. Roles of a teacher

As it can be seen from the Fig.1., the multiple roles that teachers have to play in modern schools, is one of the challenges for teacher education institutions as well. The curriculum, assuring the possibility to acquire certain knowledge and skills in order to perform these roles at schools, is needed. Reshaping of teacher education system towards better teaching services is one of the priority tasks of educational reform in Lithuania.

### Education system in Lithuania

The present-day educational system in Lithuania covers:

- Formal Education (primary, secondary vocational education and training (VET) as well as higher education);
- Non-formal Education (pre-school development, pre-primary education, other non-formal forms of children, youth and adults education);

- Self-education;
- Assistance for School Children (disseminating information, psychological, social pedagogical, special pedagogical as well as special and medical assistance);
- Assistance for Teachers and Schools (disseminating information, consultations, improvement of qualifications).

The education is provided by the following education institutions: pre-school development establishments; general education schools; gymnasiums; VET establishments and enterprises; VET schools; higher education institutions (universities and colleges); as well as supplementary education establishments etc. In Lithuania there are State or non-State (municipal, private or other) education institutions. Public education institutions are financed by the government while non-state schools in most of cases have no financial assistance.

In Lithuania school attendance is compulsory for pupils up to 16 years old. The school calendar covers a minimum of 175 days for compulsory education. The school year generally starts on the 1st September and ends after the 30th of June.

Nowadays tendency to reduce the differences between formal and non-formal learning: the qualification acquisition in vocational training, higher education institutions, non-formally and informally and to integrate to the uniform national qualifications system would open bridges to all learners to obtain desired qualification that will ensure competitive job positions in the labour market.

Lithuanian education system (see Fig. 2) is implemented at 6 levels, which are comparable to the ISCED classification system. Education institutions can be state or non-state (municipal, private or other). According to the Lithuanian Constitution, education is compulsory until the age of 16 (ISCED levels 1 and 2).

#### LEVEL 1 (ISCED 1): primary education (compulsory education)

Primary education is provided by “primary school”, “kindergarten school” or other schools (same curricula). It is a four-year curriculum. According to the School Education Act, children start attending the first grade of primary education in the calendar year when they turn seven years old. Upon their parents’ request, primary education may begin before the time specified above if the child has achieved the maturity required for this kind of education at that time. The purpose of primary education is to provide an individual with the basics of moral, cultural and social maturity as well as elementary literacy and numeracy. During primary education children are not given grades - at least two or three times per year the teacher discusses the learning progress with the pupils and their parents.

#### LEVEL 2 (ISCED 2): basic education (compulsory education)

The purpose of basic education is to provide an individual with moral, socio-cultural and civic maturity, general literacy and numeracy as well as with basic knowledge of technology, to foster the intent to continue learning, etc. Basic education is a six-year curriculum (grade 5 to 10) provided by various types of schools. Basic schools, secondary schools and gymnasiums that provide basic education have the same curricula. Basic, secondary schools and gymnasiums provide grades 5–8 and grades 9–10. 12–16 year old adolescents that do not manage to studying at basic, secondary school or gymnasiums due to a lack in motivation or who have no other choice because of their social background can attend youth school (special needs school). Youth schools provide basic education and pre-vocational training in grades 6–10.

#### Vocational training

Grades 9–10 can alternatively be completed at vocational (VET) schools (lower secondary education). At ISCED-level 2 VET schools offer the curricula for basic vocational training stage I. If students choose 3 years of training at this stage they attain basic education and a qualification. If they choose 2 years of training they achieve vocational qualification.

However, vocational training is not only provided as grade 9 and 10 of the basic education system but can alternatively be completed on ISCED level 3 or 4. Students can choose to complete their vocational training at VET school, stage 1 (grade 9, 10, ISCED 2), at VET school, stage 2 (ISCED 3), at VET school, stage 3 (ISCED 3), or at VET school, stage 4 (ISCED 4). The four stages run alternatively and differ as to their prerequisites.

#### LEVEL 3 (ISCED 3): upper secondary education

Secondary education is offered to 16/17 year old students that have completed basic education. Secondary education is finished after completing a 2 year curriculum at secondary school and gymnasium grade – 11 and 12, vocational or other schools. The graduates have to pass four matura examinations (school leaving exam): the Lithuanian language is a compulsory subject, while the other three can be chosen. The purpose of the secondary education curriculum is to acquire general academic, socio-cultural and technological knowledge, moral, national and civic maturity and the basics of vocational knowledge and skills (in the case of VET school). Subjects offered as part of the secondary education are humanities, natural sciences, technology and the arts. The secondary education curriculum consists of compulsory and chosen subjects. At VET schools pupils can choose the curriculum of stage II of the basic vocational training or the curriculum of stage III. In the first case they are offered a two-year training resulting in vocational qualification. The three-year curriculum of stage III results in secondary education and vocational qualification.

#### LEVEL 4 (ISCED 4): post-secondary education at vocational schools

Post-secondary level vocational training is intended for secondary school graduates interested in a vocational qualification. Students enrol at age 18/19 and graduate by age 20/21. The duration of the education depends on the complexity of the profession and can be 1 – 2 years.

#### LEVEL 5 (ISCED 5): post-secondary higher education at colleges and universities

Higher education can be attained by either completing university studies at universities or by completing non-university studies at colleges. Universities can also be called academies, seminaries and higher education institutions.

Non-university studies at colleges: Colleges organise studies for young people (19 year old) and for adults who are willing to acquire higher practical non-university education. The students achieve vocational qualification after 3 – 4 years (part-time or full-time). Colleges offer economics, administration, art, technologies, languages, and other studies which are also provided at universities. College studies are based on applied research, while universities – on scientific research.

Undergraduate university studies consist of 3,5 up to 4,5 years. Graduates are awarded a Bachelor's degree and (or) a professional qualification.

Master studies are open to those who have completed a Bachelor's degree. The duration of Master studies is 1,5 – 2 years. Graduates of Master studies are awarded a Master's degree.

Specialized professional studies are intended to help individuals prepare for a job that requires special practical skills. They are designed for individuals who have completed undergraduate studies at universities. The duration is 1 – 1,5 years. Graduates of specialized professional studies obtain a professional qualification.

The volume of studies is measured in credits. One credit corresponds to 40 relative hours of student work (in classes, laboratories, etc.) or to one working week.

#### LEVEL 6 (ISCED 6): postgraduate studies

Doctoral studies and post-graduate art-studies are organized by university-type institutions and research institutes. The purpose of doctoral studies is to train scientific researchers. At the end of the studies, students have to present and defend a doctoral thesis, and they are awarded a doctoral degree (PhD). The duration of studies is 3 - 4 years.

#### Adult education

Adults may choose to study at adult schools or adult education centres, VET schools, colleges, universities, labour market training centres in accordance with formal and non-formal education programmes, or attend courses organized by private companies or public organizations as well as study at distance education centres.

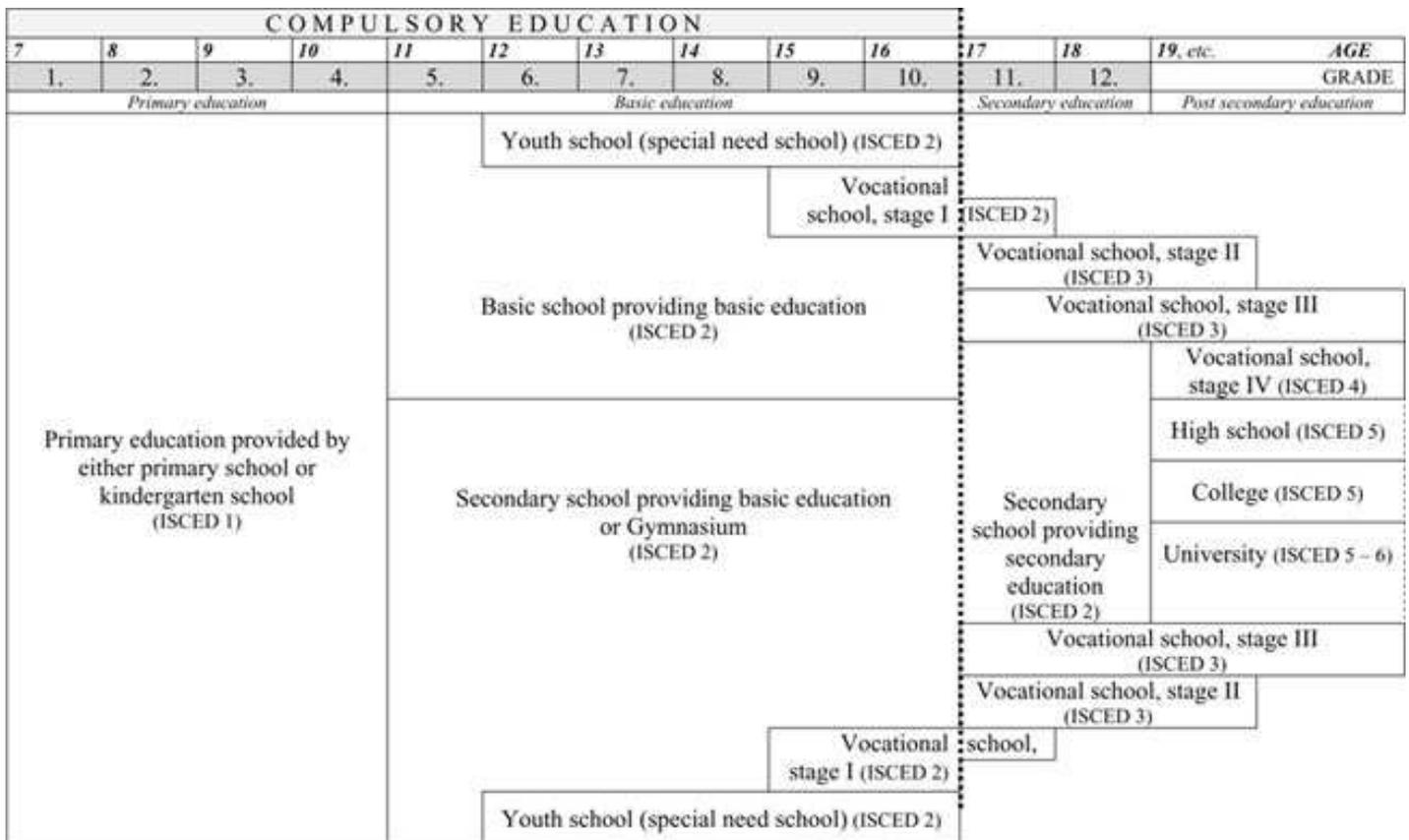


Fig. 2. Lithuanian Education System

Vocational teacher education – at the heart of the reform.

During the last decade, the policy focus has been on improving the quality of VET and raising its prestige. This has led to many debates about improving the quality of teaching in VET institutions. One aspect of this, which has been examined, is the teaching qualifications of VET teachers. While this is now a pre-service training requirement for new VET teachers, those employed before the 2005 reform do not tend to have such a (formal) qualification. To make teacher education more flexible and accessible, policy makers and researchers of education have started discussions on the possibility of *validating non-formally and informally acquired teaching skills*.

The role of VET teachers has gone through significant changes: the former teachers who maintain and convey knowledge have also become organizers, facilitators and counsellors of the learning process (also see Fig. 1.). Teachers are more involved in improving the quality of teaching, in raising the prestige of VET schools, in developing contacts with professional networks, etc. These challenges imply that the providers of teacher education must constantly develop their teacher education programmes.

There have been many discussions on developing the role of mentors and tutors in the VET teacher education process which has lead to further considerations on improving the

cooperation between VET teacher training universities and VET schools. The discussion focuses on integrating teacher training more closely into the workplace.

It is also important to stress that the Lithuanian VET system is still undergoing various changes and improvements and is now in the process of researching the best practices of other European countries (such as validation of non-formal and informal learning achievements, setting professional standards, developing of VET teachers' ICT competencies, modernisation of teaching methods, etc.) and their suitability to the Lithuanian VET context.

## 2.- STARTING POINT OF THE STUDY ANALYSIS

### General overview of Innovation Policy in Lithuania

The general strengths of Lithuanian national innovation system lie in the well developed and continuing academic tradition in higher education sector. It results in relatively high share of population with tertiary education. However, restricted resources for research and development (R&D) and higher education sector combined with the growing numbers of students at all higher education levels doubts the quality of education. Also low or non existing investments in vocational training lead to obsolete qualifications not suitable for high tech high skill work. The weak links between business and higher education result not only in obsolescing qualifications of the highly educated labour force, but also in low value added innovations, developed without input from the R&D sector.

EU accession in May 2004 was followed with the first round of implementation of EU Structural funds, which allowed to double amount of funds available for innovation. Several measures directly addressing innovation are under implementation which aims to strengthen innovation support infrastructure and develop its institutional capacities, to improve R&D and business co-operation in innovation development and to improve quality of human resources for R&D. Innovation policy discussion has intensified and addressed innovation culture, cluster development issues, and the problems industry is facing - intensifying brain-drain and international migration of qualified labour.

At the end of 2007, the fast growing Lithuanian economy started showing signs of deceleration. Lithuania has not escaped the global economic crisis, and the flexibility of its economy is being put to the test. The relatively short period of economic growth did not also become a period of innovation growth, as neither was linked to the innovation growth sources, and it seems that Lithuania has lost its momentum in innovation. Thus, the consequences of the economic downturn will be especially earmarked by the bankruptcy of a large number of enterprises that do not correspond with the increasing competition pressure from international markets. As it was mentioned above, the weak links between business and higher education and R&D communities result not only in obsolete qualifications on the highly educated labor force, but also in low value added innovations, inability to develop new-to-market products and internal technological processes. In terms of National Innovation System development, Lithuania is facing a major challenge in converting its innovation inputs into outputs (knowledge applications and intellectual property) and in building a "tandem" of R&D and Business sectors for innovation based growth and knowledge economy.

Basing on nowadays realities, one can expect a more active search for innovations as a source of cost efficiency and also innovation-based competitiveness, and consequently, an increase in shares of innovative experiences.

The three main challenges for developing an Innovation policy in Lithuania can be mentioned:

1. Improving skills for innovation and entrepreneurial attitudes (combination of high level of population with tertiary education on one hand, and low application of the

skills in the economy, initially resulting in a low level of new-to-market innovations, absence of new technology-based firms and low level of employment in high tech services and industries).

2. Building R&D capabilities in firms and development of sound R&D base
3. Development of knowledge intensive clusters across public knowledge poles

### 3.- THE COMPETENCIES LINKED TO INNOVATION IN LITHUANIA. State of art.

It is an undergoing discussion in Lithuania, as well as in other countries what competencies (knowledge and skills) are important to implement the innovations. Education of those innovation related competencies lack some centralized solutions in political level.

Development of skills in Education & Teaching. Nowadays in Lithuania teacher education curriculum is being revised. The multiple roles of a teacher are being approached, and the curriculum developed accordingly (see Fig. 1 for reference). As one of the important needs of teachers, the *creative intelligence* can be mentioned. It is important that the representatives from teaching professions can develop their abilities to “see the different angles”, to find the new ideas / solutions quickly, as well as to expand on their existing ideas. *Creation and use of virtual environments* for teaching and learning can be mentioned as another urgent issue for teacher education. For quite a lot of teachers in Lithuania, the application of *active learning / teaching methods* is an urgent issue, to be addressed. One more competency of teachers, linked to innovation, is *forecasting the training needs* and revising the curriculum accordingly. It is important to be able to describe what kind of innovations are lacking and are needed in order to improve current situation, or to avoid the current problem. In other words, needs for innovations can vary from country to country, depending on local achievements in economy and traditions of education. What is called innovation in one country can be called a tradition in other.

Development of skills in the Vocational Training for employment. Taking into account quite high unemployment rates in Lithuania, it is important to provide training not only corresponding the labour market needs, but also the personal development needs, namely, *abilities to change, abilities to adapt to a change / new situation*, as well as *abilities of – professional reorientation, positivism and openness*, as well as *life-long learning abilities* are important.

Development of skills in the employment and human resource development. Social partnership between educational institutions and enterprises is one of the most important issues in implementing the reform of education. Students both in vocational education and higher education are lacking the possibilities to obtain practical skills, as the social partnership is not functioning enough. Employers require that the alumni of VET and higher education (HE) institutions have practical skills before entering labour market, but nor VET neither HE institutions are not able to train those in their formal education settings. However, basing on surveys on employers’ expectations on the competence of their employees, the employers are mentioning that not only professional skills, but also general skills, such as *effective communication, teamwork, ability to work autonomously, and working in international teams* are highly required. Aiming to assure the acquisition of these skills, providers of formal and non-formal education, should revise their current curriculum.

**4.- EXPERIENCES AND BEST PRACTICES: It seeks to identify some experience that its being developed in our country to encourage theses abilities**

**Experience 1** (*innovation for one country is tradition for another*): Assessment and Recognition of Prior Learning Achievements in Lithuania

After having analysed the VET teacher education systems in Lithuania, Latvia and Estonia, it was recognized that in all three countries VET teacher education traditions were similar, and lacking the possibility to assess and recognize the non-formally and informally acquired knowledge and skills. Innovative solution was needed. At the same time it was found that Finland already has a tradition of APL in VET teacher education, therefore Finland was invited to transfer this innovation to three Baltic countries – LT, LV and EE. In 2007 Vytautas Magnus University has launched the project “Transfer of Innovative Methodology for Assessment of Vet Teachers’ Prior Learning” (No. LdV-TOI-2007-LT-0004). The aim of the project was to enrich the existing VET teacher education programmes in three partner countries – LT, LV and EE by developing guidelines for Accreditation/Assessment of Prior Learning (APL) system to be included into the VET teacher education programme and to be followed with development of more personalized learning possibilities within VET teacher education which are taking into account and are based on assessment and recognition of prior formal, informal and non-formal learning of teachers. The development of the results was based on the experience of good-practice of donor partner from Finland – Jyvaskyla University of Applied Sciences, Teacher Education College, where the assessment and recognition of VET teachers’ prior learning is being implemented. This way project results contributed to the more effective and flexible VET teacher education programmes in “receiving” partner countries. Project aimed that the main outcomes (APL methodology, study module for assessors of VET teachers’ prior learning and the introductory APL module for VET teachers’ education programmes) would promote the implementation of the ideas of lifelong learning by valuing individual learning achievements, increasing the accessibility of VET teachers to formal education and by motivating them to improve their qualification according to the individual learning needs.

	SUMMARY	INDICATORS	CHECKUP SOURCES
AIM	To enrich the existing VET teachers’ education programmes in three countries – LT, LV and EE by developing Assessment of Prior Learning (APL) procedure		
OBJECTIVES			
OUTCOMES	Study of APL in VET teachers’ education systems in partner countries; Methodology for assessment of VET teachers’ prior learning; Study module for assessors of VET teachers’ prior learning developed and		<a href="http://www.vdu.lt/tima-balt">www.vdu.lt/tima-balt</a>

	tested in partner countries; Trained groups of assessors of VET teachers' prior learning in Lithuania, Latvia and Estonia; Introductory module for assessment of VET teachers' prior learning developed and tested in partner countries. Scientific journal in the topic of APL.		
ACTIVITIES			
TARGET GROUPS	VET teachers, VET teacher educators.		

**Experience 2:** Laboratory of Educational Innovations at Kaunas University of Technology

Kaunas University of Technology has established the Laboratory aims at contributing to the creation of the information society in Lithuania through the development of educational innovations by accomplishing the functions of research, teaching, consulting, expertise and new knowledge dissemination. Fields of Activity:

- Analysis of progressive experience in foreign and local educational innovation implementation;
- Creation, adaptation, implementation, and setting of educational innovations;
- Accumulation of educational innovations bank;
- Enhancing school and teachers' possibilities in the use of educational innovations and their implementation in educational process.

	SUMMARY	INDICATORS	CHECKUP SOURCES
AIM	To contribute to the creation of the information society in Lithuania through the development of educational innovations		
OBJECTIVES			
OUTCOMES			
ACTIVITIES	Analysis of progressive experience in educational innovation implementation; Creation, adaptation, implementation, and setting of educational innovations; Accumulation of educational innovations bank; Enhancing school and teachers' possibilities in the use of educational		<a href="http://www.ktu.lt">www.ktu.lt</a>

	innovations and their implementation in educational process.		
TARGET GROUPS	Teachers, researchers.		

**Experience 3** (*sharing innovative ideas*): Stimulating school teachers to create and share innovations (Microsoft Partners in Learning Customer Reference)

Education Challenge Lithuania's Centre of Information Technology of Education, being a part of the Lithuanian Ministry of Education and Science, is responsible for investing in technological infrastructure and providing hardware, software and information technology training to primary and secondary schools in Lithuania.

At a meeting of Lithuania's Partners in Learning advisory board, the Ministry decided to endorse a project to find out how its investment in information technology has affected the practice of teaching and learning in the country's 2,000 schools. Another aim of the project was to make it easier for teachers and schools to adopt innovative teaching practices, by finding and publicising examples of successful, interesting and creative uses of technology in the classroom.

In 2004, the Minister of Education and Science launched a competition for all of Lithuania's primary and secondary schools. They were invited to submit entries describing innovative teaching practices employing information technology.

Microsoft provided a Microsoft® PowerPoint template called the Virtual Classroom Tour. The template was translated into Lithuanian and all entries were submitted in this format. By filling in the template, teachers provided enough information about a classroom project so that others could assess its value and success, making it easy for other teachers to repeat the project.

A total of 221 entries were received from 100 schools around Lithuania, representing the work of 193 teachers. They covered all age groups and a wide range of subjects, from music, art and ethics to mathematics, languages, biology, physics and history.

Subject experts selected by the Ministry assessed all the entries. The top ten projects, representing the work of 17 teachers, were recognised at Lithuania's first Innovative Teachers Forum on 7 April 2005. Most importantly, 177 of the entries have been published on a Ministry web portal, so that they can be accessed by teachers around the country and used to inspire further innovation in teaching and learning.

	SUMMARY	INDICATORS	CHECKUP SOURCES
AIM	To make it easier for teachers and schools to adopt innovative teaching practices, by finding and publicising examples of successful, interesting and creative uses of technology in the classroom.		
OBJECTIVES			
OUTCOMES	221 of entries on innovations in teaching were submitted to the public data base for teachers.		<a href="http://metodika.emokykla.lt/default.htm">http://metodika.emokykla.lt/default.htm</a>

ACTIVITIES			
TARGET GROUPS	Teachers		

## 5.- LESSONS LEARNED FROM THE ANALYZED EXPERIENCES TO REACH THE TRAINING INNOVATION OBJECTIVES:

After having analysed good examples of practice, as well as the policy plans and forecasts, some of the recommendations can be formulated:

- Analyse the needs of the certain target group, regarding what kind of innovation is required and urgent at the certain stage of professional activity;
- Initiation of continuous research on good practices of creating / transferring innovations;
- Involvement of education policy makers into any activities (even though initiatives in institutional level), regarding implementing innovations into education and training processes;
- Establishing networks in various professions (teachers in our case) for communication and sharing their experiences;
- Establishing Centres of Innovation in teacher education institutions, which could organize various types of training sessions, seminars and conferences in the field of innovations in education and training;
- Establish e-networking platforms for those, interested and/or practicing implementation of innovative tools and methods, developing innovative materials in the education and training processes.

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