

CENTRE FOR
EDUCATION AND INNOVATION RESEARCH

**E-LEARNING
IN NON-FORMAL
ADULT EDUCATION
IN LATVIA:
CONTEXT ANALYSIS**

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1. INTRODUCTION

The Europe's 2020 strategy for smart, sustainable and inclusive growth is focused on three priorities (European Commission, 2010a, p. 12):

- Smart growth – developing an economy based on knowledge and innovation,
- Sustainable growth – promoting a more resource efficient, greener and more competitive economy, and
- Inclusive growth – fostering a high-employment economy delivering economic, social and territorial cohesion.

However, there is a disparity between the European Union's aim to ensure smart, sustainable and inclusive growth and the present situation in the European Union.

Currently, the modern Europe is facing

- global competition (European Centre for the Development of Vocational Training (CEDEFOP), 2012) as well as
- enormous socio-economic and unprecedented demographic challenges , including (Lifelong Learning, 2008, p. 2)
 - o regional disparities,
 - o aging populations,
 - o high rates of low-skilled adults and
 - o high rates of youth unemployment,
 - o low birth rates,
 - o changing family structures and
 - o migration.

This context influences the European economic climate. The contemporary economic climate in Europe is being shaped by such issues as (European Centre for the Development of Vocational Training (CEDEFOP), 2012)

- Demographic trends that continue to affect both society and labour supply, with the working population shrinking and ageing, the need for adults to stay longer in employment becomes more urgent.
- Global developments, technological evolutions, new working practices and greening economies that render skills obsolete quickly.
- Labour market mismatches that persist, resulting in simultaneous skills shortages/gaps and unemployment.
- The financial and economic crises that have increased unemployment, severely affecting low-skilled people; currently, some 73 million people aged 25-64 have no or few formal qualifications.
- Demand for those with medium and high qualifications that will increase at the expense of the low-qualified.

Due to these challenges, the search for opportunities to ensure smart, sustainable and inclusive growth has brought the European Union to the discovery of the power of education in general and adult education in particular needed to offer solutions to the key challenges that Europe is facing in the form of demographic change, global competition, technological development and the current economic crisis (European Centre for the Development of Vocational Training (CEDEFOP), 2012).

Education in general and adult education in particular have become a priority for reaching the objectives of the Europe 2020 such as (European Centre for the Development of Vocational Training (CEDEFOP), 2012)

- Europe's sustainable growth and
- a competitive economy,
- an inclusive economy,
- high levels of employment,
- productivity and
- social cohesion.

Thus, ageing European population and workforce, the recent economic downturns and the labour market's increased flexibility (Maniscalco, 2013) increase the demand for adult learning.

Against this background, there is a growing consensus that adult learning is currently the weakest link in developing national lifelong-learning systems (The Council of the European Union, 2011). Participation in adult learning has continued to fall, from 9,8 % of the 25-64 year-old population in 2005 to only 9,1 % in 2010, thus making the increased 'ET2020' target of 15 % by 2020 an even greater challenge (The Council of the European Union, 2011). In 2012, this figure was 9.0%, 0.5 percentage points lower than the corresponding share for 2006: in five Member States adult participation is 5% or less (European Centre for the Development of Vocational Training (CEDEFOP), 2012). Such obstacles need attention (The Council of the European Union, 2011) as

- low motivation and

- a lack of care facilities to help women and men combine family and work responsibilities with learning.

Further on, adult learning systems require (The Council of the European Union, 2011)

- high-quality learning opportunities at any time,
- high-quality formal and non-formal education and training for adults aimed at acquiring key competences or leading to qualifications at all levels of the European Qualifications Framework (EQF), supported by civil society and the social partners, as well as by local authorities;
- flexible arrangements adapted to different training needs of adults high quality.

Hence, adult education including non-formal adult education as shown in Figure 1 is becoming a hot topic for the educational policy's agenda of the European Union.

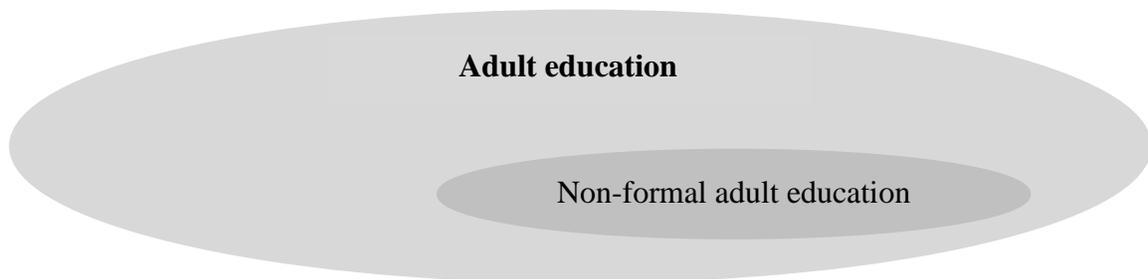


Figure 1: The relationship between adult education and non-formal adult education

In order to ensure Europe's success and enhance employability, the impact of non-formal adult education has to be improved as the demand for non-formal education increases with regard to learning without leaving the place of residence, not interrupting work performance, family life (Vilkonis, Bakanoviene & Turskiene, 2013, p. 181). For the

creation of empowerment opportunities within non-formal adult education, non-formal adult education should address four strategic objectives (The Council of the European Union, 2009) such as

1. Making lifelong learning and mobility a reality;
2. Improving the quality and efficiency of education and training;
3. Promoting equity, social cohesion and active citizenship;
4. Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training.

Non-formal adult education and training systems need

- to create empowerment opportunities for all adults,
- to provide learning opportunities for all (The Council of the European Union, 2011) as well as
- to create the appropriate conditions for enhancing adult learning (European Centre for the Development of Vocational Training (CEDEFOP), 2012).

The research question is as follows: what is training for teachers who provide e-learning in non-formal adult education?

The aim of the contribution is to analyse scientific literature on e-learning in non-formal adult education underpinning context analysis of e-learning in non-formal adult education in Latvia as well as elaboration of recommendations on training for teachers who provide e-learning in non-formal adult education.

The meaning of the key concepts of *adult*, *adult education*, *non-formal adult education*, *e-learning*, *e-process* and *context analysis* is studied. Moreover, the study demonstrates how the key concepts are related to the idea of *teacher training*. The study demonstrates a

potential model for development, indicating how the steps of the process are related following a logical chain: non-formal adult education → context analysis → an empirical study within a multicultural environment → conclusions.

The novel contribution of this paper is the newly formulated recommendations on training for teachers who provide e-learning in non-formal adult education.

This book draws implications for promotion of the quality, attractiveness and accessibility of non-formal adult education by forming the interface of the contextual approach to the analysis of the present situation in non-formal adult education in Latvia.

The book comprises

- the state-of-the-art,
- theoretical analysis,
- empirical study:
 - research design,
 - research results with the focus on the
 - desk research,
 - focus group interview,
 - individual in-depth interviews,
 - observation,
 - research findings,
- conclusions and
- recommendations.

The state-of-the-art section reveals the authors' interpretation of the contextual approach. Further on, the methodological background of the contextual approach will be presented.

Each part of the present contribution illustrates the use of the contextual approach to a particular field of the context analysis in non-formal adult education in Latvia such as

- the state-of-the-art,
- theoretical analysis,
- empirical study:
 - research design,
 - research results with the focus on the
 - desk research,
 - focus group interview,
 - individual in-depth interviews,
 - observation,
 - research findings,
- conclusions and
- recommendations.

2. ABOUT THE AUTHORS

Jeļena Zaščerinska received the diploma in Russian Philology in 1994 from the Daugavpils University, Daugavpils, Latvia, Master Degree in English Philology in 2002 from the University of Latvia, Riga, Latvia. In 2011 she was awarded Dr. paed. Degree for her promotion thesis “Development of Students’ Communicative Competence in English studies for Academic Purposes” focused on the evaluation of efficiency of the process of the development of students’ communicative competence within English for Academic Purposes studies.

In January 2012 Dr. paed. Jeļena Zaščerinska became a leading researcher at the Centre for Education and Innovation Research, Riga, Latvia.

In 2014 Dr. paed. Jeļena Zaščerinska served as a manager of Internship *Interdisciplinary Approach in University Studies* carried out by senior researcher Dr. Julija Melnikova, Klaipeda University, Lithuania, at Centre for Education and Innovation Research, Riga, Latvia, from November 24, 2014 to November 28, 2014.

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In 2012 Dr. paed. Jeļena Zaščerinska was bestowed expert rights by the Latvian Council of Science, Riga, Latvia and by Education, Audiovisual and Culture Executive Agency, Brussels, Belgium.

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Dr. Jeļena Zaščerinska is a member of international research teams focused on interdisciplinary investigations of the inter-relationships between modern educational technologies and higher education. The research results obtained in the international research projects are revealed in a number of scientific publications indexed by a number of widely-recognized international research publication databases such as Thomson Reuters Conference Proceedings Citations Index, DBLP, Library of Congress and others. Her main field of research interest comprises cognitive linguistics, linguistic semantics and pragmatics, entrepreneurship education, teacher education as well as interdisciplinary (linguistic and engineering) research.

Anastasija Aļeksejeva is a second year student withinf the programme „Accounting” at Riga State Technical School, Riga, Latvia.

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Anastasija Aļeksejeva has obtained an extensive experience in international projects. From February 10, 2013 to February 17, 2013 she took part in the European Union’s Lifelong Learning programme GRUNDTVIG sub-programme’s Workshop Video: A Key Resource, Workshop Reference number: 2012-1-FR1-GRU13-35441, Montendre, France. From March 8, 2013 to March 10, 2013 Anastasija Aļeksejeva was involved in Part 1 of the seminar *A Higher Goal* devivered by the Agency for International Programs for Youth in cooperation with the association *Baltic Regional Fund* as well as Swiss - Latvian cooperation programme *Support youth development initiatives in peripheral or disadvantaged regions*, Guest House „Ievu līcis”, „Umuri”, Tomes pagasts, Ķeguma novads, Latvia. On April 6, 2013 Anastasija Aļeksejeva actively participated in the seminar *Entrepreneurship and Environment for School Pupils* carried out by the New Entrepreneur University of the Faculty of Economics and Management at the University of Latvia, Riga, Latvia. From April 19, 2013 to April 24, 2013 Anastasija Aļeksejeva was involved in Part 2 of the seminar *A Higher Goal* devivered by the Agency for International Programs for Youth in cooperation with the association *Baltic Regional Fund* as well as Swiss - Latvian cooperation programme *Support youth development*

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In 1991, Ludmila Aļeksejeva started her working as a pre-primary school teacher at the pre-primary school “Dzirnaviņas”, Riga, Latvia.

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She has received Dr. paed. Degree in Russia.

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that Dr. Natalia Andreeva's publications have made a decisive contribution to the advancement of such scientific disciplines as linguistics, sociology, anthropology, pedagogy and, in particular, pedagogy of higher education and research methodology.

Olga Gloņina received a Bachelor Degree in Pre-primary Pedagogy after having finished the Bachelor programme Pre-primary Teacher at Daugavpils University, Daugavpils, Latvia, in 2007.

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Olga Gloņina has obtained an extensive experience in international projects. From October 15, 2012 to October 21, 2012 she participated in the European Union's Lifelong Learning programme GRUNDTVIG sub-programme's Workshop "Hidden Heritage - Scoprire la storia nascosta dell'Europa attraverso la fotografia d'epoca", Workshop Reference number: 2012-1-IT2-GRU13-37423, Altamura, Italy. From February 10, 2013 to February 17, 2013 she took part in the European Union's Lifelong Learning programme GRUNDTVIG sub-programme's Workshop Video: A Key Resource,

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Resource, Workshop Reference number: 2012-1-FR1-GRU13-35441, Montendre, France. From March 8, 2013 to March 10, 2013 Mihails Zašcerinskis was involved in Part 1 of the seminar *A Higher Goal* delivered by the Agency for International Programs for Youth in cooperation with the association *Baltic Regional Fund* as well as Swiss - Latvian cooperation programme *Support youth development initiatives in peripheral or disadvantaged regions*, Guest House „Ievu līcis”, „Umuri”, Tomes pagasts, Ķeguma novads, Latvia. From April 19, 2013 to April 24, 2013 Mihails Zašcerinskis was involved in Part 2 of the seminar *A Higher Goal* delivered by the Agency for International Programs for Youth in cooperation with the association *Baltic Regional Fund* as well as Swiss - Latvian cooperation programme *Support youth development initiatives in peripheral or disadvantaged regions*, „Baltvilla”, Senču prospekts 45, Baltezers, Garkalnes novads, Latvia.

Mihails Zašcerinskis is a member of international research team. His research interests include intercultural communication and social pedagogy. He takes part in an international research project, too. The results of his participation in international research projects has been revealed in a number of publications indexed by a number of widely-recognized international research publication databases such as Thomson Reuters Conference Proceedings Citations Index, DBLP, Library of Congress and others.

3. STATE-OF-THE-ART

The methodological background of the present research is based on the System-Constructivist Theory. The System-Constructivist Theory is introduced as the New or Social Constructivism Pedagogical Theory. The System-Constructivist Theory is formed by

- Parsons's System Theory (Parsons, 1976) on any activity as a system,
- Luhmann's Theory (Luhmann, 1988) on communication as a system,
- the Theory of Symbolic Interactionism (Mead, 1973; Goffman, 1977),
- the Theory of Subjectivism (Groeben, 1986).

It should be noted the authors of the present contribution imply that any product, technology or social system can be represented at three levels (Souchkov, 2004):

- System level: a system itself,
- Supersystem level: everything that does not belong to a system but interacts or might interact with the system, or produce influence upon functioning of the system, and
- Subsystem level: everything that belongs to a system, each system's component and assembly.

Souchkov (Souchkov, 2004) explains that once we face a contradiction, that is one of the key concepts which allows formulating problems and guiding towards really innovative ideas, in a certain system, we can solve it at each of the three levels:

- First, we explore if the problem can be solved at the subsystem level: by modifying, removing or adding components to the system.

- If solutions cannot be found at the subsystem level, next we explore the supersystem: how can we change a supersystem to provide the effect required?
- And finally, if no solution can be found at these two levels, this means that the main working principle of the system has no potential to evolve further to deliver its function as required and should be replaced with a new principle.

For instance, take a multimedia projector (beamer) (Souchkov, 2004). One of the problems regarding the beamer is that we can see the image projected to the screen quite well under the darkened conditions (Souchkov, 2004). And if the room is brightly lightened, we have difficulties with clarity of the image (Souchkov, 2004). So what the contradiction can be (Souchkov, 2004)? Well, we need light in the room to make notes, etc. and there should be no light in the room. Note, that the same situation might be expressed by several different contradictions, so we usually limit ourselves to the most important to us (Souchkov, 2004). We can solve the problem at three levels (Souchkov, 2004):

- At the level of subsystem (adding new or redesigning existing subsystems): making a very bright source lamp; adding more powerful optics.
- At the level of super-system (changing the surrounding system in such a way that it eliminates the problem): Making the whole room dark but installing light spots in places where we need to make notes; making the surface of the screen with tiny light concentrators (the screen is not a part of the system “beamer”); using several beamers instead of a single one; using illuminated notepads; etc.
- At the level of system: replacing the beamer with another system, for instance, a large autonomous LCD screen.

But still, solving a core problem might (and in most cases, will) generate other problems (Souchkov, 2004). If we increase the power of the lamp in a beamer, we need to install a more powerful cooling system which will consume a lot of energy and will produce more noise (Souchkov, 2004). Or, if to formulate a new contradiction: the lamp is hot since it should be bright, but it must be cold to avoid large heat generation... (Souchkov, 2004). Again, cooling systems that are known are mostly compromises: a core contradiction still remains with this solution (Souchkov, 2004). Can the lamp be very bright and cold at the same time (Souchkov, 2004)? We need a new idea for the lamp, in this case the lamp becomes a new system we should analyze while solving the subsequent problems (Souchkov, 2004). Or, we should forget about the lamp and chose other directions mentioned above (Souchkov, 2004). But eventually, every direction should be explored: there might often be some “hidden” benefits in the ideas that are invisible during superficial analysis (Souchkov, 2004).

Let us have a look at another problem (Souchkov, 2004). Many road accidents happen when two or more cars collide at crossroads (Souchkov, 2004). What can be a contradiction here (Souchkov, 2004)? We need cars to move fast across the crossroads to move as efficient as possible, and at the same time they should not move too fast since they might collide (Souchkov, 2004). How do we solve this problem (Souchkov, 2004)? According to what is mentioned above, we can solve it at three levels (Souchkov, 2004):

- At the level of a subsystem (adding new or redesigning existing subsystems): bumpers (actually, a compromising solution: to soften symptoms rather than solving the core problem); ultrasonic distance sensors; etc.

- At the level of a supersystem (changing the surrounding system in such a way that it eliminates the problem): road signs; traffic lights; “sleeping policeman”; putting the crossing roads at different levels; fully automated road traffic control with feedback to the cars.
- At the level of a system: redesign cars in such a way that they do not experience collision when they collide. Examples are unknown yet since they do not seem to be physically feasible. “Flying cars” that jump over other cars during collision? Sounds more like science fiction, but many great ideas were born in science fiction (a submarine, space station, videophone, and so forth).

And still, this contradiction is not totally solved in some of the proposed solutions (Souchkov, 2004). For instance, traffic lights do not eliminate the contradiction in total: they still slow down the cars, and accidents still might happen (Souchkov, 2004). It has been hundred years since we have cars, but the contradiction is still there (Souchkov, 2004). Of course, we know 100%-reliable ways to solve this problem (e.g. putting crossing roads at different levels and connecting them as on highways), but we face another problem: how do we do it, say, in large, packed cities where it is simply impossible to redesign the existing road traffic infrastructure (Souchkov, 2004)? We must formulate new contradictions and solve them (Souchkov, 2004).

Compare with the complex approach which has attracted a lot of scientists’ and researches’ attention within the recent years (Khoshkish, 2003; Frei, 2011).

Complex means intertwined – from the Latin *com* (with) and *plectere* (intertwine) (Khoshkish, 2003; Frei, 2011). The premise of the complex approach is that the whole is different from the sum of its parts (Khoshkish, 2003). Complex is different from the sum

of *simples* and *systems* it contains and in its *flux* verges on *chaos* (Khoshkish, 2003). The aspiration of a researcher applying the complex approach would be to figure out the flux, *i.e.* , the dynamics and fermentations of the complex in motion (Khoshkish, 2003). But the observation of the flux is subject to Heisenberg’s uncertainty principle (Khoshkish, 2003). The complex approach, as distinct from systems approach, however, hinges on the consciousness of the flux (Khoshkish, 2003). Table 1 present the differences between the complex approach and the system approach based on the statements made by Khoshkish (Khoshkish, 2003).

Table 1: Differences between the complex and system approach (Khoshkish, 2003)

Complex approach	System approach
It means intertwined	It means to put together
Complexes can be understood but not formulated.	Systems can be formulated.
The understanding of the complex cannot be reduced to computational and digital analyses.	System characteristics can be computed and quantified.
The whole is different from the sum of its parts	
The dynamics and fermentations of the complex in motion	Lack of the characteristic dynamics of their intertwined relationship
Uncertainty principle	
A complex may contain a number of systems. Where the relationship of systems can be formulated we end up with another level of	

systematic observation	
Not a sequential continuum	

Regarding the different levels of complexity in education, three levels are differentiated (Frei, 2011):

- Micro-level / local level: Education is highly complex at the level of the individual student, his / her capabilities and interests. Many different interrelations are important, including those between student and teacher, student and parents / family / close social environment / other students, and parents and teacher. Actions to take effect at this level must be small-scale and individual. Higher level uniformity of the local tools and actions is not indicated; what works in one case may fail in another.
- Meso-level / intermediate level: The complexity at the level of groups of students with similar interests and capabilities is medium, and effective actions can be of medium scale, as they will address student associations, study groups, parents associations or teacher teams. A certain coordination at the meso-level makes sense, as is actions at this level concern groups of people.
- Macro-level / global level: Large scale uniform approach can be used at a higher level, including the definition of minimal educational standards for the society to function, teacher education which provides a set of skills for individual action, and teacher support, giving them tools and organisations as required to fulfill their tasks. A lack of coordination or uniformity at the macro-level puts a system in danger of becoming disorganised and confusing.

Taking these differences in scale and complexity into account assures an effective approach to the existing difficulties at each level, because the actions taken are suitable in scale, scope and complexity (Frei, 2011).

In turn, the System-Constructivist Theory implies the dialectical principle of the unity of opposites that contributes to the understanding of the relationship between external (social, social interaction, teaching, etc) and internal (individual, cognitive activity, learning, etc) perspectives as the synthesis of external and internal perspectives (Bassus & Zaščerinska, 2012). By perspective, a certain embodied fundamental assumptions (Barry, 2002, p. 3) are meant.

The components of external and internal perspectives are identified in Table 2 based on analysis of the external culture and the individual internal culture within Law of Development or interiorization (Vigotskis, 2002, p. 206-279).

Table 2: Components of external and internal perspectives

External Perspective	Development of the system of the external and internal perspectives	Internal Perspective
meaning	schemas	sense
denotation	chunks	personal meaning
scientific	gambits	spontaneous
whole	concept system	part
	grammar	connotation
	new type of function	

Moreover, the authors' position on the present research is based on the methodology of development of the system of external and internal perspectives (Ahrens & Zašcerinska, 2012) reflected in the principles of

- mutual sustainability and
- mutual complementarity.

Principle of mutual sustainability means to provide a complex of possibilities to learn for everyone (both teacher and teacher trainer in the present research) (Панов, 2007, p. 72).

The reflected principle of complementarity reveals that the opposite things (principles in the present research) supplement each other for finding the truth (Grabovska, 2006, p. 21-22). Thus, the present research is a social product (Ольшанский, 2000, p. 7) whereas dialogue is its prerequisite (Ольшанский, 2000, p. 6).

The methodology of the development of the system of external and internal perspectives within social systems proceeds as demonstrated in Figure 2 (Ahrens & Zašcerinska, 2012).

- from the external perspective
- through the phase of unity of external and internal perspectives (the system of interacting phenomena)
- to the internal perspective.

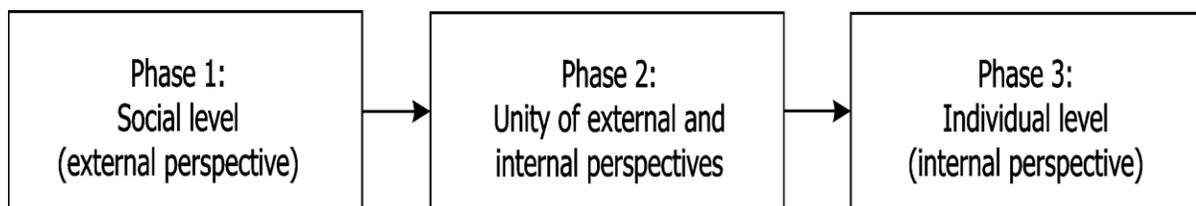


Figure 2: Phases of the methodology of the development of the system of external and internal perspectives

Application of the System-Constructivist Theory to learning introduced by Reich (Reich, 2005) emphasizes that human being's point of view depends on the subjective aspect (Maslo, 2007):

- everyone has his/her own system of external and internal perspectives (See Table 1) that is a complex open system (Rudzinska, 2008, p. 366) and
- experience plays the central role in the knowledge construction process (Maslo, 2007).

Therein, the subjective aspect of human being's point of view is applicable to the present research on the context analysis of non-formal adult education in Latvia.

Considering both the Complex Approach and the System-Constructivist Theory allows complementing the differences between the complex approach and the system approach elaborated by Khoshkish (Khoshkish, 2003) as indicated in Table 3.

Table 3: Complemented differences between the complex and system approach

Complex approach	System approach
It means intertwined	It means to put together
Complexes can be understood but not formulated.	Systems can be formulated.
The understanding of the complex cannot be reduced to computational and digital analyses.	System characteristics can be computed and quantified.
The whole is different from the sum of its parts	The synthesis of external and internal perspectives

The dynamics and fermentations of the complex in motion	Any activity is a system (Parsons, 1976)
Uncertainty principle	The dialectical principle of the unity of opposites.
A complex may contain a number of systems. Where the relationship of systems can be formulated we end up with another level of systematic observation	Three levels of a system: - the level of subsystem, - the level of super-system - the level of system:
Not a sequential continuum	Cyclic nature

Theoretical analysis as well as comparative analysis carried out by the authors of the present contribution allows drawing the conclusions that the complex approach requires further developments such as

- The complex approach is declared to be conscious of the flux (Khoshkish, 2003), however, the procedural aspect of the complex approach has not been worked out in comparison to the System-Constructivist Theory which is represented by three phases of the methodology of the development of the system of external and internal perspectives as demonstrated in Figure 2 (Ahrens & Zaščerinska, 2012).
- The statement “Complexes can be understood but not formulated” (Khoshkish, 2003) is contradictory as understanding and formulation are inter-connected. As cognitive psychology indicates that understanding means to explore, organize, connect, process and apply information and ideas (McTighe & Seif, 2011, p. 11), understanding includes formulation.

- The definitions of the premise of the complex approach that the whole is different from the sum of its parts (Khoshkish, 2003) and a system that is not viewed as isolated entities, but functions within an environment and is determined exclusively by the structure of the activity as a whole (Robbins, 2007, p. 53) are not contradictors. Opposite, both definitions have some similarities such as a whole.
- The levels of analysis of the complex approach such as micro-level / local level, meso-level / intermediate level, macro-level / global level ensure only one perspective view on an issue, while the System Constructivist approach allows for two-fold investigation of an issue, namely, external and internal, etc.

The System-Constructivist Theory promotes the use of the contextual approach to the research presented in the present contribution. The contextual approach is supported by a number of researchers as the contextual approach focuses on the meaning of content and surrounding world within individual's professional development (Surikova, 2007a, p. 253; Панов, 2007, p. 165).

The System-Constructivist Theory facilitates the implementation of the contextual approach via application of the interdisciplinary research within the present investigation as interdisciplinary research assists in synthesizing, connecting and blending ideas, data and information, methods, tools, concepts, and/or theories from two or more disciplines in order "to make whole" (Repko, 2012). The process of interdisciplinary research is organized as follows:

- In Phase 1 of the interdisciplinary research, an issue is separately explored by two or more scientific disciplines.

- In Phase 2, the same issue is examined by the synergetic point of view of these two or more scientific disciplines.
- In Phase 3, results of the analysis are interpreted.

Figure 3 adopted from Repko (Repko, 2012) presents how the process of interdisciplinary research is organized where

- 'A' means a scientific discipline, and
- 'B' – another scientific discipline.

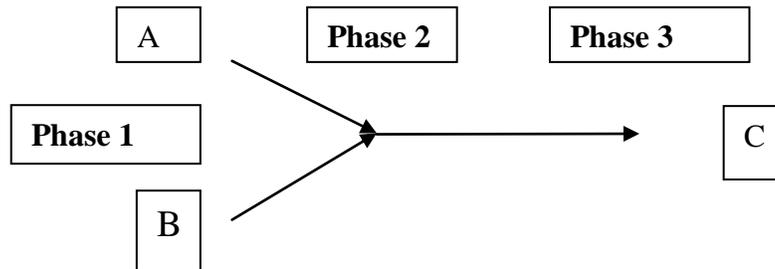


Figure 3: The process of interdisciplinary research by Repko
(adopted from Repko, 2012)

It should be noted that the present research is not limited to only two scientific disciplines but is based on a number of scientific disciplines such as education, teacher education, learning, blended learning, mobile learning, Information and Communication Technologies, entrepreneurship, pedagogy, psychology, sociology, etc.

4. THEORETICAL ANALYSIS

Education in general is identified by Beļickis, Blūma, Koķe, Markus, Skujiņa and Šalme (Beļickis, Blūma, Koķe, Markus, Skujiņa & Šalme, 2000) as

- purposefully organized
 - acquisition of society historical experiences,
 - inheritance of cultural values,
 - formation of systematic knowledge and skills, personality traits, beliefs, attitudes and values,
- the formation of appropriate practical set of actions and
- its results.

In the modern education, the paradigm has changed (Kincāns, 2015)

- from the humanistic mission of education
- to the level of training of specialists needed by society and production.

This paradigm shift has emphasised that

- Lifelong learning (defined by European Centre for the Development of Vocational Training (CEDEFOP), 2003) is a priority; Europeans must pursue continuous learning and up-skilling throughout their lives (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171-172). This is a key factor for employment and economic success and also for enabling people to participate fully in society (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171-172).
- education widely employs a competence based approach.

Competence is considered as knowledge, skills and attitudes (European Commission, 2004) as shown in Figure 4.

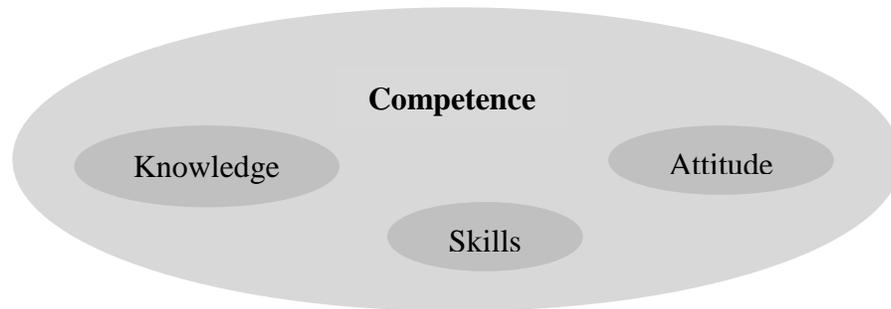


Figure 4: Elements of competence

Knowledge means the body of facts, principles, theories, practices (Commission of the European Communities, 2006, p. 16) and concepts (Zogla, 2001, p. 4). Skills are the ability to apply knowledge and use know-how to complete tasks and solve problems (Commission of the European Communities, 2006, p. 16). In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments) (Commission of the European Communities, 2006, p. 16) as illustrated in Figure 5.

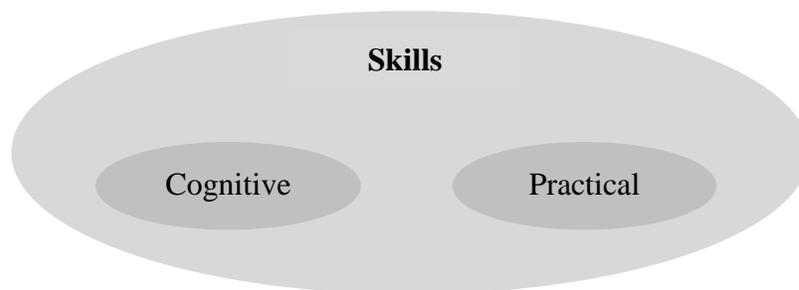


Figure 5: Differentiation of skills

Attitude is an individual combination of evaluative judgements about a phenomenon (Ahrens & Zaščerinska, 2015, p. 38).

In pedagogy, experience that is an education element (Beļickis, Blūma, Kože, Markus, Skujiņa & Šalme, 2000) includes knowledge, skills and attitude (Zaščerinska, 2013) as shown in Figure 6.

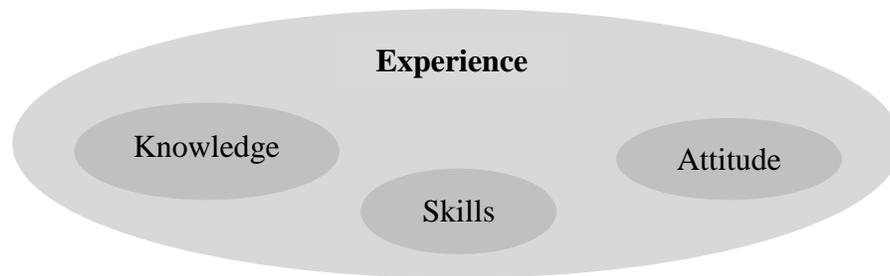


Figure 6: Elements of experience

Consequently, the terms *experience* and *competence* are used synonymously in pedagogy in general and in education in particular.

Further on, students' experience or, in other words, competence serves as an indicator of acquiring education. Human capital theory argues that the value of competences expires with time, and this is especially true in the changing world of the twenty-first century (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171-172).

Education includes adult education as demonstrated in Figure 7. Adult learning or, in other words, adult education is understood to cover all formal, non-formal and informal learning undertaken by adults after they have left their initial education and training, whether for professional reasons (such as re-skilling and up-skilling) or for private

purposes (e.g. social, cultural, artistic and societal learning) (European Commission, 2013a).

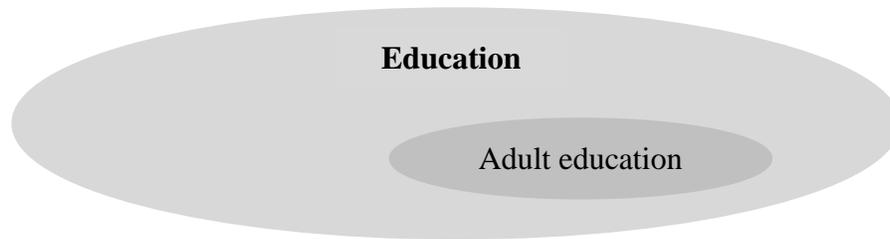


Figure 7: The relationship between education and adult education

Adult education comprises as shown in Figure 8

- formal adult education,
- non-formal adult education and
- informal adult education.

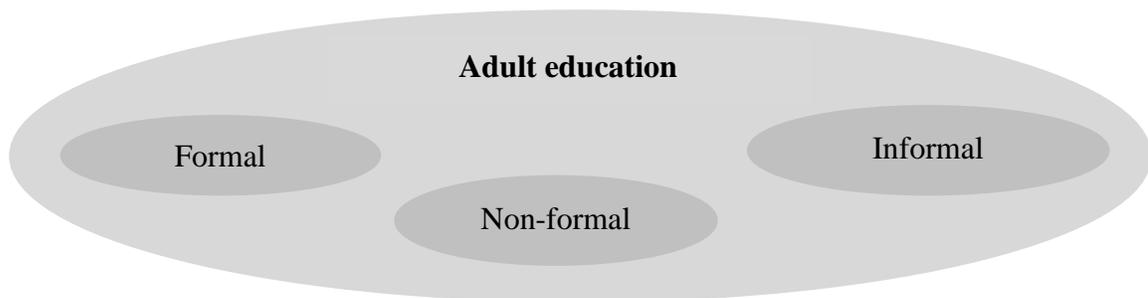


Figure 8: Types of adult education

By **formal education**, an institutionalised, consecutive and structures education system, that includes elementary education, secondary and higher education degrees, acquiring of programmes of which are certified by a state education document of education and/or

professional qualification is meant (Basic Guidelines of Lifelong Learning Policy for 2007–2013, 2009, p. 5).

Non-formal education is identified as any organised educational activity outside the established formal system - whether operating separately or as an important feature of some broader activity - that is intended to serve identifiable learning clienteles and learning objectives (Coombs, Prosser & Ahmed, 1973).

Informal education means besides formal education an organised educating activity that compliments formal education by ensuring the acquiring of the skills and abilities and development of evaluation system, that are necessary for a socially and economically active state citizen to be able to integrate in the society and the labour market. (Basic Guidelines of Lifelong Learning Policy for 2007–2013, 2009, p. 5).

It should be noted that each domain of formal/non-formal/informal learning or, in other words, education contains aspects of the other two domains, that most learning situations encompass attributes of (in-)formality and that there is no safe way to establish the differences between formal and informal learning as fundamentally different types of learning (Colley, Hodkinson & Malcolm, 2003, p. 31).

Adult learners as the key players in adult education are characterized by different time constraints (e.g. due to job and family responsibilities) and their expectations and ambitions differ from those of traditional learners (Schuetze & Slowey, 2002). Additionally, adult learners' previous experiences can play a role when directing their learning for personal or career-oriented goals (Falconer, McGill, Littlejohn, & Boursinou, 2013). For adults without motivation more effective are direct training and communication with the members of the group (Muraškovska, 2012, p. 12). Information

and Communication Technology (ICT) tools are more appropriate for adults who have clearly defined what they want and are able to learn independently (Muraškovska, 2012, p. 12). Despite the fact that Information and Communication Technology (ICT) in education is still in the early stages and the future could be shaped in different ways, the introduction of Information and Communication Technology (ICT) in education has started to change the context for adult learning considerably (Falconer, McGill, Littlejohn, & Boursinou, 2013). Information and Communication Technology (ICT) is useful to foster learning in many ways (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171-172):

- removing the entry barriers to education;
- allowing access to knowledge anytime and anywhere;
- increasing the possibility of collaboration with others;
- enhancing the opportunities for personalisation (including different paces and pathways for learning); and
- facilitating the possibility of self-directed learning through access to open
 - o educational resources (OER; defined by UNESCO, 2012) and
 - o Massive Open Online Courses (MOOCs).

Open learning opportunities in this sense are especially relevant when considering adult learning (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171-172).

In order to open up adult learning, two main challenges must be overcome (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171):

- the extent to which learners need guidance and,

- depending on the learning goals, the extent to which learners need recognition and certification.

Taking as a starting point the definition of open learning by European Centre for the Development of Vocational Training, open learning gives to the learner a degree of flexibility in the choice of topics, place, pace and/or method (European Centre for the Development of Vocational Training (CEDEFOP), 2004). Open education is defined (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171) as the learning experience that gives the learner a degree of flexibility in the choice of

- what (topics),
- where (place),
- when (pace) and
- how (method) to learn/study.

In the light of ageing European population and workforce, the recent economic downturns and the labour market's increased flexibility, the participation of adult in lifelong learning paths or, in other words, adult education has firmly entered the political agenda of the European Union (Maniscalco, 2013). The new target of the European Union adult education policy has shifted from citizens to workers and the competence development model, borrowed from the corporate sector has been established as the reference for the new policy road maps (Maniscalco, 2013).

The increased attention to adult education revealed by the European Union has been affecting the research area of adult education and learning. A phenomenon that influences the research subject is defined as a factor. Factor means a reason of the research subject

change (Lasmanis, 1997). A number of factors shape adult education including non-formal adult education such as described below in detail.

In the light of ‘politization’ of research (Roger, 2002), rooted-in-the-policy definitions are to be used while investigating adult education and learning (Kuļšs, 2014b, p. 141).

A considerable shift of focus in terms of learning theory away from cognitive concepts to comprehensive ones (Babajeva, 2012, p. 450). An increasing amount of theorists and practitioners consider the complex nature of adult learning process whilst keeping in mind that this is not the final result and new data will further complement the understanding (Jarvis, 2010). The shift of learning theory focus from cognitive to holistic approach requires a development of a new concept within adult learning (Babajeva, 2012, p. 456). An adult must be seen as a whole who learns by transforming experience into bodily feeling, soul emotions and ideas of mind (Babajeva, 2012, p. 456). This transformation of common experiences provides a large understanding on how to help an adult to gain new competences and adjust oneself in this ever changing world (Babajeva, 2012, p. 456-457). A holistic approach to adult learning or, in other words, adult education is proposed by the European Agenda for Adult Learning (European Commission, 2011) with a particular focus on disadvantaged groups (low-skilled individuals or early school leavers):

- improving access for all individuals,
- investing in guidance and validation systems,
- sharing responsibilities while maintaining public commitment,
- investing in learning at work and investing in and understanding the benefits of learning at older ages and intergenerational learning (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171-172).

In parallel, expanding learning opportunities through the use of Information and Communication Technologies (ICT) has been highlighted as an opportunity to innovate and increase the quality of the educational systems (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171-172).

Another issue is formalization of adult education and learning (Handler, 2015). Formalization is literally understood as a progressive generalization and standardization of the learning process (Zürcher, 2015, p. 74). Discussing formalization as a complexity, complexity has been assumed to be a general interpretation of the formalization continuum: the higher the degree of formalization, the lower the complexity of the teaching-learning state (Zürcher, 2015, p. 74). Complexity is, however, a difficult measure, since there is a number of different approaches and meanings (Zürcher, 2015, p.74). Complexity is viewed as a relational measure: the higher the number of the relations of the given elements/actors, the higher the complexity of the system (Zürcher, 2015, p.74). In effect, informal teaching-learning process (TLP) entail a multitude of individual relations, whereas formal teaching-learning process (TLP) exhibit only a few general relations. The informal domain can be seen as a complex adaptive system with its self-organizing nature, whereas the formal domain resembles an ordered system where the agent behaviour is limited to the rules of the system (Zürcher, 2015, p. 74).

Discussions on the formalization of the learning process bring to the light another issue such as the institutionalized educational process in formal and non-formal adult education (Ahrens & Zaščerinska, 2015, p. 44). By formal and non-formal adult education, an organized adult education model (university, institution, college, academy, summer school, etc), systematic, structured and administered according to a given set of laws and norms is

meant (Ahrens & Zaščerinska, 2015, p. 44). Thereby, the institutionalized educational process has to be relevant to the university's (institution, college, academy, summer school, etc) requirements such as lecture or seminar framework. Thus, the institutionalized educational process is organized, systematized, structured and administered within formal and non-formal adult education according to a given set of laws and norms. The institutionalized educational process includes such a form as the institutionalized educational process as revealed in Figure 9.

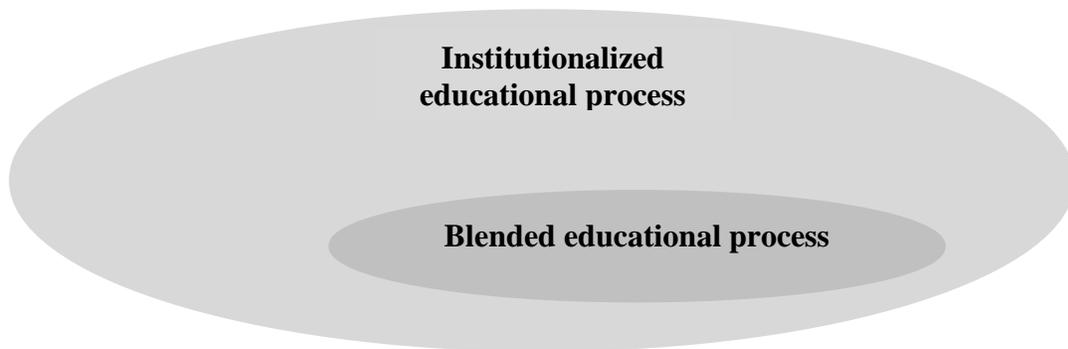


Figure 9: The relationship between the institutionalized educational process and the institutionalized blended educational process

The institutionalized blended educational process includes as depicted in Figure 10

(Ahrens & Zaščerinska, 2015, p. 45)

- blended teaching,
- blended peer-learning and
- blended learning.

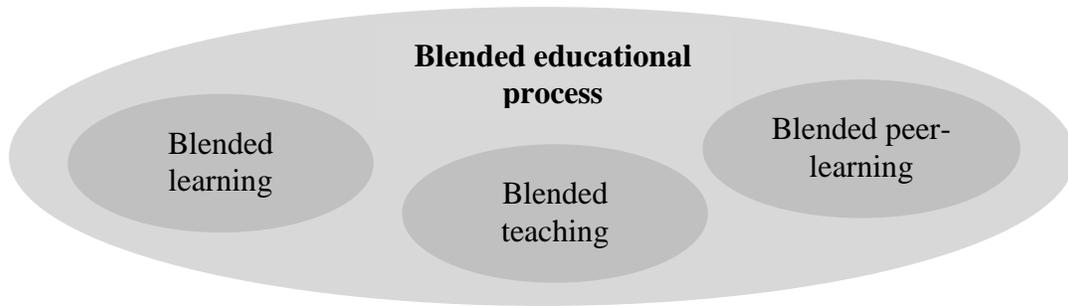


Figure 10: Elements of the institutionalized blended educational process

The institutionalized blended educational process proceeds as demonstrated in Figure 11 (Ahrens & Zaščerinska, 2015, p. 45)

- from blended teaching in Phase 1
- through blended peer-learning in Phase 2
- to blended learning in Phase 3.

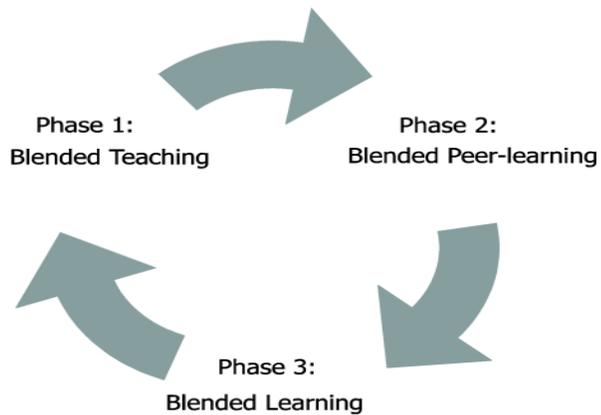


Figure 11: The phases of the institutionalized blended educational process

Blended teaching means a purposefully organized joint process of educator's sharing experience (knowledge, skills and attitudes) with students (Ahrens, Zaščerinska & Andreeva, 2013). Blended peer-learning is the sub-phase between blended teaching and blended learning in the institutionalized blended educational process. Blended peer-learning is aimed at students' interacting with each other to learn something new. Therein, the blended teaching phase of the implementation of the institutionalized blended educational process is aimed at promoting students' motivation and their readiness to implement joint process. The blended peer-learning and blended learning phases of the implementation of the institutionalized blended educational process increase the level of difficulty in contents, students' autonomy, type of the institutionalized blended educational process, etc.

The issue of the institutionalized blended educational process facilitates a discussion on enhancing the role of such institutions as cultural organisations, civil society, sporting organisations and other bodies as creative and innovative settings in adult learning (Muraškovska, 2012, p. 12) or, in other words, formal and non-formal adult education.

There are also various uncertainties for quality assurance in non-formal adult learning (Muraškovska, 2012, p. 11) or, in other words, non-formal adult education. In general terms, quality of adult education is understood as suitability of aims pursued by the teacher, suitability of material resources and conditions of the adult education and effectiveness of activities in order to reach defined strategic aims (Kriščiūnaitė & Strakšienė, 2015, p. 24).

The gamification of reality by the implementation of educational games and learning by using simulations, especially business simulations, is one of the possibilities to improve

adult's education process, to make it not only suitable to the needs of today's learner, to the variety of their learning styles, but also to reach higher effectiveness of learning itself (Melaikiene, 2015). The simulation - is a partial restoration of reality that distinguishes only the essential characteristics of the real-life and transit processes in a risk-free environment for the learners by providing access to education, skills and experience (Melaikiene, 2015). Such simulations not only help to systemize and transfer knowledge, develop abilities and skills, but to develop the appropriate models of behaviour in areas which according their character, changes and other features are close to the real areas, but the fails in which, on the contrary then in real, have no such fatal and devastating effects as in real areas and situations (Melaikiene, 2015). Simulations create better possibilities to learn faster, to remember more, and to save time, money and recourses, to make complicated solutions (Melaikiene, 2015). Their usage in educational process create great possibilities not only for the integrated development of different professional competencies, but too for development of general skills and competencies such as initiatively, entrepreneurship, learning to learn, communication and cooperation, working in groups and etc (Melaikiene, 2015). The complicity of educational games and simulations enables not only to integrate knowledge and skills of different subjects or, in other words, disciplines, but strengthens learning motivation, increase student involvement in education (learning) process, provides an opportunity to know yourself changing circumstances (Melaikiene, 2015). It should be noted that disciplines are distinguished from one another by several factors such as (Repko, 2012, p. 4)

- the questions disciplines ask about the world,
- their perspective or worldview,

- the set of assumptions they employ, and
- the methods they use to build up a body of knowledge (facts, concepts, theories) around a certain subject matter (Newell & Green, 1982, p. 25).

The learning outcomes approach in adult education encompasses a balanced construct of behaviourist and cognitivist theories that embrace a meaningful, learner-centred approach (Kuļšs, 2014a, p. 18). Learning outcomes are defined as the learner's *integrated* knowledge (what a learner knows), skills (what a learner can do), and competence (how the learner uses knowledge and skills) as a result of educational activity (Kuļšs, 2014a, p. 34-35).

Organisation for Economic Co-operation and Development (OECD) recommends its participants including Latvia to recognise non-formal and informal education (Organisation for Economic Co-operation and Development, 2010) as

- Non-formal and informal learning – learning that takes place outside formal education institutions – can be a rich source of human capital. Recognition of non-formal and informal learning makes this human capital more visible and more valuable to society at large.
- Recognition can allow people to complete formal education more quickly, efficiently and cheaply by not having to enrol in courses for which they have already mastered the content.
- Recognition of non-formal and informal learning can also help employers and workers to get a good job match and help displaced workers to inform future employers about their skills.

Recognition generates four different types of benefits (Organisation for Economic Co-operation and Development, 2010):

- economic benefits by reducing the direct and opportunity costs of formal learning and allowing human capital to be used more productively
- educational benefits that can underpin lifelong learning and career development
- social benefits by improving equity and strengthening access to both further education and the labour market, for disadvantaged groups, disaffected youth and older workers
- psychological benefits by making individuals aware of their capabilities and validating their worth

Recognition of non-formal and informal learning outcomes involves several steps

(Organisation for Economic Co-operation and Development, 2010):

- identifying and documenting what someone knows or can do
- validating that the person satisfies certain requirements or standards
- awarding a recognised certification or qualification

Recognition is only fully accomplished if the certification or qualification is accepted by society as valid and credible (Organisation for Economic Co-operation and Development, 2010). Ultimately, a recognition process could deliver fully equivalent qualifications to those obtained through formal learning (Organisation for Economic Co-operation and Development, 2010).

Recognition processes need to be strengthened (Organisation for Economic Co-operation and Development, 2010):

- Improve communication and information about recognition, including through career guidance and counselling services and other services working with job seekers and other target groups.

- Better integrate recognition processes with lifelong learning policies and encourage a learning outcomes attitude across all learning settings.
- Simplify and strengthen the procedures for recognition by:
 - providing a directory of qualifications that can be obtained through recognition processes
 - enlarging the range of competencies that can be assessed
 - integrating recognition processes within existing qualification standards and frameworks
- Ensure that the assessment process for recognition demonstrably delivers valid, transparent and consistent measures of skills and competences by:
 - putting in place rigorous quality assurance procedures
 - applying appropriate assessment techniques, including testing
 - using competent and well-trained evaluators.

The theoretical analysis presented in this contribution allows outlining such factors that affect non-formal adult education as

- ‘politization’ (Roger, 2002),
- the shift from cognitive to holistic approach to adult learning,
- constant modernization of Information and Communication Technologies (ICT),
- formalization of adult education and learning (Handler, 2015),
- institutionalization of the educational process in formal and non-formal adult education (Ahrens & Zaščerinska, 2015, p. 44),

- enhancement of the role of such institutions as cultural organisations, civil society, sporting organisations and other bodies as creative and innovative settings in adult learning (Muraškovska, 2012, p. 12) or, in other words, formal and non-formal adult education,
- uncertainties for quality assurance in non-formal adult learning (Muraškovska, 2012, p. 11) or, in other words, non-formal adult education
- the gamification of reality by the implementation of educational games and learning by using simulations, especially business simulations (Melaikiene, 2015),
- the learning outcomes approach in adult education,
- recognition of non-formal and informal adult education (Organisation for Economic Co-operation and Development, 2010).

5. EMPIRICAL STUDY

The present part of the contribution demonstrates

- the design of the empirical research,
- results of the empirical study and
- findings of the research.

5.1. Research Design

The design of the present empirical research comprises as illustrated in Figure 12

- the purpose and
- question,
- sample and
- methodology of the present empirical study.

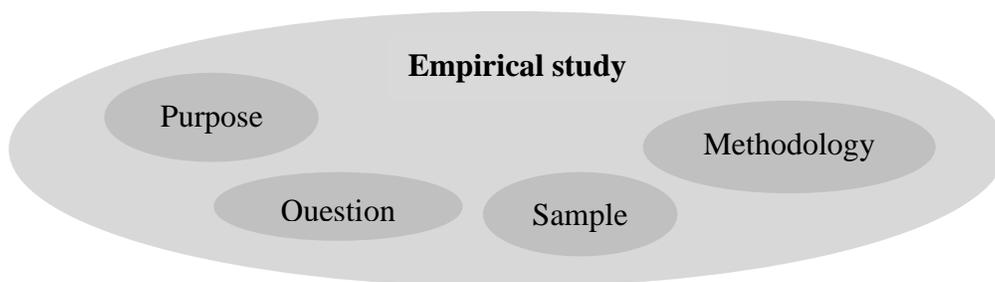


Figure 12: Elements of the design of the empirical study

The main goal of the empirical research is the diagnosis of needs and barriers in

- providing the e-learning that engages the participants,
- ensuring trainers with proper tools and competences
 - o to have the influence on process of education,
 - o to motivate students, and
 - o to give them the opportunities for reflection.

The research question is as follows: what are needs and barriers in

- providing the e-learning that engages the participants,
- ensuring trainers with proper tools and competences?

The aim of the empirical study is to identify needs and barriers in

- providing the e-learning that engages the participants,
- ensuring trainers with proper tools and competences.

The interpretive paradigm was used in the empirical study. The interpretive paradigm aims to understand other cultures, from the inside through the use of ethnographic methods such as informal interviewing and participant observation, etc (Taylor & Medina, 2013). Interpretative research paradigm corresponds to the nature of humanistic pedagogy (Luka, 2008). The interpretative paradigm allows creating an environment for the development of any individual and helps them to develop their potential (Luka, 2008). The core of this paradigm is human experience, people's mutual everyday interaction that tends to understand the subjectivity of human experience (Luka, 2008). The paradigm is aimed at understanding people's activity, how a certain activity is exposed in a certain environment, time, conditions, i.e., how it is exposed in a certain socio-cultural context (Luka, 2008). Thus, the interpretative paradigm is oriented towards one's conscious activity, and it is future-oriented (Luka, 2008). Interpretative paradigm is

characterized by the researchers' practical interest in the research question (Cohen, Manion & Morrision, 2003). The researcher is the interpreter.

The exploratory type of the comparative study (Phillips, 2006) was applied within the present empirical study. The exploratory type of the comparative study aims to generate new hypotheses and questions (Phillips, 2006). The exploratory methodology proceeds (Phillips, 2006) as shown in Figure 13:

- 'conceptualisation' in Phase 1,
- detailed description of educational phenomena in the countries to be investigated, with full attention paid to the local context in terms of its historical, geographical, cultural, political, religious, and linguistic (etc.) features in Phase 2,
- the data collection in Phase 3,
- explanation through the development of hypotheses in Phase 4,
- re-consideration of the initial questions and application of the findings to other situations in Phase 5.

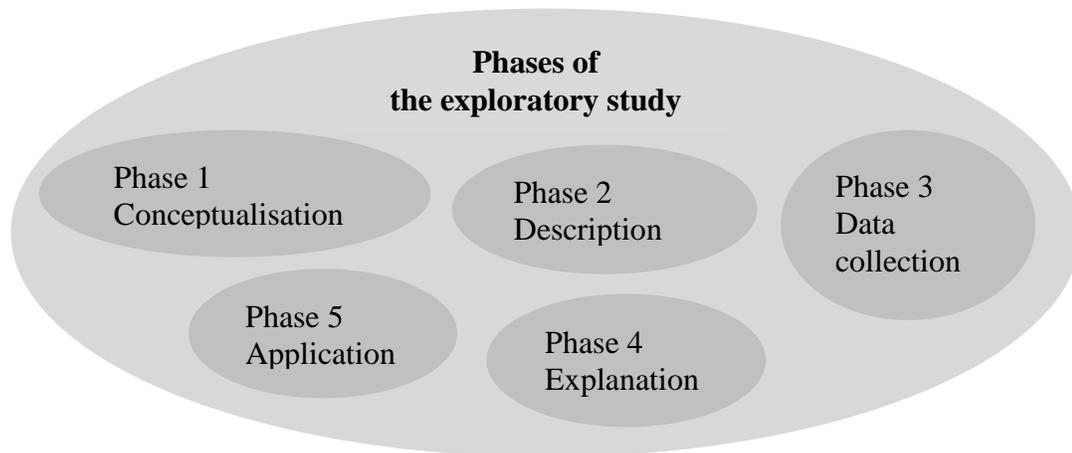


Figure 13: Phases of the exploratory study

The qualitatively oriented empirical study allows the construction of only few cases (Mayring, 2004). Moreover, the cases themselves are not of interest, only the conclusions and transfers we can draw from these respondents (Mayring, 2007). Selecting the cases for the case study comprises use of information-oriented sampling, as opposed to random sampling (Mayring, 2007). This is because an average case is often not the richest in information. In addition, it is often more important to clarify the deeper causes behind a given problem and its consequences than to describe the symptoms of the problem and how frequently they occur (Flyvbjerg, 2006). Random samples emphasizing representativeness will seldom be able to produce this kind of insight; it is more appropriate to select some few cases chosen for their validity.

The research targeted three groups of e-learning participants in the project's partner countries:

- E-learners or users,
- E-learning providers or teachers, and
- E-learning trainers or coaches.

The respondents were identified utilizing a three-dimensional respondent selection matrix developed to ensure proper balance according to the project's partner country, organization and educational group (e-learner, teacher or coach).

First, **desk research** was implemented in February 2015. Desk research is a type of market research that involves collecting and examining information that already exists and is easy to get, such as company records, published government reports, and information in newspapers, magazines, and on the internet (Cambridge Dictionaries Online). The desk research focused on

- analyzing of
 - the contents of e-learning access in Latvia,
 - the way of implementation of that e-learning,
 - what tools is used,
 - what is the role of the trainers,
 - how much the students are involved,
 - what are their tasks to do,
- analyzing the forums, chats etc of the e-learning implement by different institution,
- analyzing the materials on the website (blogs, discussions, opinions joint with the point,
- analyzing the accessible materials for trainers about e-learning.

Next, **focus group interviews (called Focus Group Interview - FGI)** were carried out. It covered moderated group discussion around the topic of the research and the role of trainer in e-learning process. The key persons (profile will be determined in the next step) were invited to take part in focus from different society joint with non-formal adult education. The focus group interviews were conducted in Latvia. The focus interview was based on the following questions:

- Whether and how are e-learning forms based on the methodology of teaching adult learners (for example Malcolm Knowles theory (Knowles, 1972) or Kolb's experiential learning style theory (Kolb, 1984))?
- How are the trainers prepared?
- How is the quality provided
- Whether do the e-learning forms propose the group work for the learners?

- What part of e-learning affects the participants' involvement?
- When are the blended learning form used, what results it gives?
- How are the needs of learners examined before the teaching?
- Whether and how are the needs of disability people taken after consideration?

Focus groups interviews examine how knowledge, and more importantly, ideas, develop and operate within a given cultural context as well as explore exactly how the opinions are constructed (Kitzinger, 1995). Circle seating is usually used for a focus group interview (Krueger, 2002). A focus group usually includes from five to 10 participants (Krueger, 2002). The choice of participants for a focus group interview was based on three criteria as depicted in Figure 14:

- participant's knowledge on a given topic,
- participant's cultural difference and education's diversity (occupation, training, etc) and
- participant's hierarchy in the group.

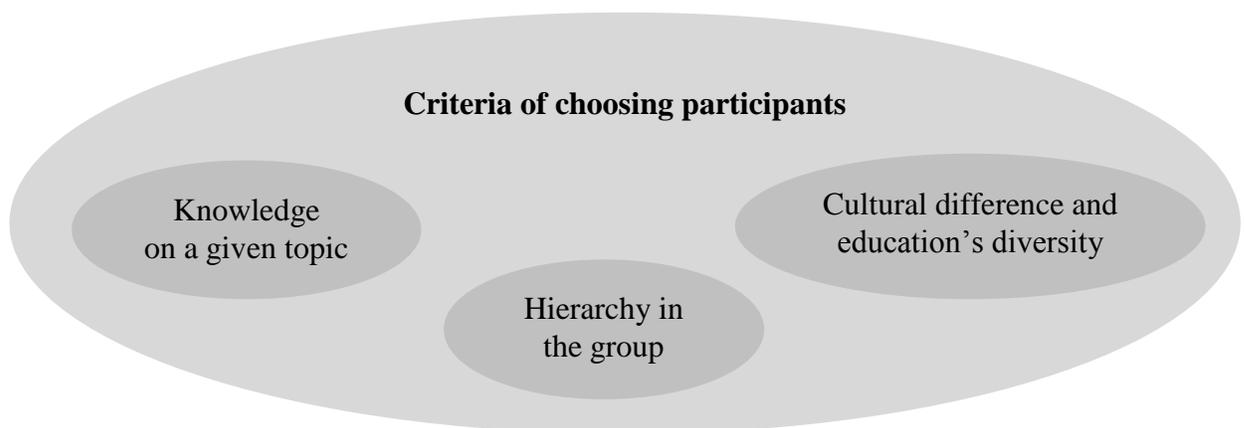


Figure 14: Criteria of choosing participants for a focus group interview

The number of participants depends on the heterogeneity of the focus group: the greater the heterogeneity of the group, the fewer the number of participants (Okoli & Pawlovski, 2004). Further on, smaller groups show greater potential (Krueger & Casey, 2000). Thus, three is a good number of participants for the study (Lopez & Salmeron, 2011).

Later, **individual in-depth interviews (called In-Depth Interview - IDI) were used.** The profile of key respondents will be described (but among them providers of e-learning, trainers/coaches using e-learning/b-learning, users of e-learning/b-learning. The interviews had a specific scenario (adopted from GHK Consulting, 2014, p. 6-7):

- The respondents were contacted in Latvia. Contact was initially made through an e-mail briefly describing the background for and content of the interview. The respondent was free to pick a suitable date and time for the interview. In case of no response, two rounds of follow-up e-mails were sent, and in some high-priority cases, a phone-call was also placed to ensure that the person had received the request for an interview.
- On the one hand, individual in-depth interview's guide ensured that the same themes and questions were covered in all interviews, while, on the other hand, leaving room for an exploratory investigation of topics arising during the interview. The interviews were scheduled to last around 20 minutes, but a majority of them ended up lasting 30-35 minutes. During each interview, notes were taken by the interviewer and entered directly into a template in a database system shared across the researchers. This allowed for standardisation of the interviewing procedure and on-going knowledge sharing among the researchers involved in this empirical study.

- Following the completion of the interviews, database queries were used to generate survey response reports on the following topics:
 - Whether and how are e-learning forms based on the methodology of teaching adult learners (for example, Malcolm Knowles theory (Knowles, 1972) or Kolb's experiential learning style theory (Kolb, 1984))?
 - How are the trainers prepared?
 - How is the quality provided?
 - Do e-learning forms include group work for the learners?
 - What part of e-learning affects participants' involvement?
 - When are blended learning forms used, what results does it give?
 - How are the needs of learners examined before teaching?
 - Whether and how are the needs of disabled people taken into consideration?

Each meeting and interview were documented (notes or recordings) and archived. The reports were then used by the research team to conduct in-depth cross-cutting analyses, the findings of which are presented in this report. The interviews were carried out in February 2015.

Finally, participate-observation was ensured in each country. The researchers observed minimum one stationary educational event, part of b-learning course. Observation was done according to scenario prepared.

5.2. Research Results

The present part of the contribution comprises research results such

- desk research,
- focus group interview,
- individual in-depth interviews, and
- observation.

5.2.1. Desk research

The desk research is aimed at analyzing

- the context of the research on e-process in e-learning in Latvia,
- the contents of e-learning access in Latvia,
- the way of implementation of that e-learning,
- what tools is used,
- what is the role of the trainers,
- how much the students are involved, what are their tasks to do,
- the forums, chats etc of the e-learning implementation by different institutions
- the materials on the website (blogs, discussions, opinions joint with the point),
- the accessible materials for trainers about e-learning.

For the success of e-learning in non-formal adult education, context analysis has to be carried out. It should be noted that the terms *context* and *situation* are often defined and used synonymously, so it is in the present research. Situation and, consequently, context is defined (Beļickis, Blūma, Koķe, Markus, Skujiņa & Šalme, 2000) as

- certain relationships that exist simultaneously and are important for an individual or a group as well as
- a significant set of circumstances of a process, or processes operating at the moment.

Situation is not static, and is permanently in dynamic. Situation development is based on solving contradiction (Čehlova, 2002). Thereby, analysis of context outlines contradictions of the situation. In pedagogy and, consequently, non-formal adult education, context analysis is done to develop a strategy on the integration of e-learning into non-formal adult education (Aļeksejeva, Zaščerinskis, Zaščerinska & Andreeva, 2013, p. 9). Context analysis is traditionally differentiated into as indicated in Figure 15

- the analysis of the macro-level context, namely, the level of the European Union in the present research,
- the analysis of the mezzo-level context, namely, the level of Latvia as the level of the European Union member country in the present research,
- the analysis of the micro-level context, namely, the level of an education institution in the present research.

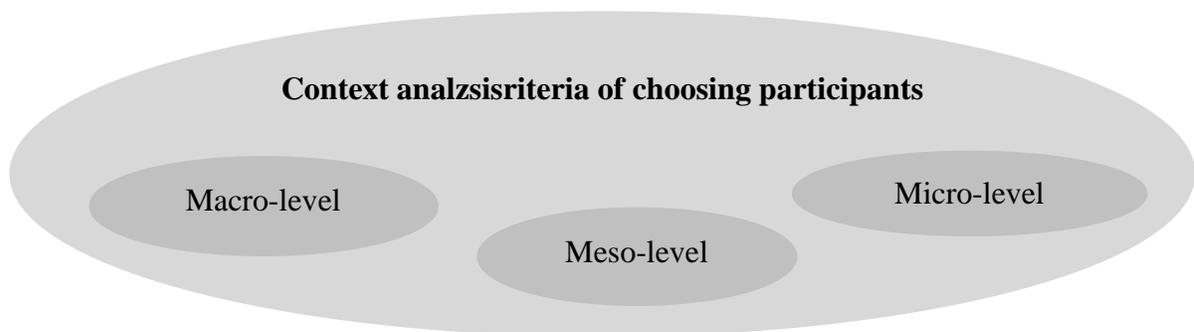


Figure 15: Levels of context analysis

The objective of the context analysis is – in general – to outline

- a ‘friendly approach’ to e-learning / distance learning / usage of open education resources,
- the ways of the improvement of the quality of it and
- the preparation of trainers to conduct the training using Information and Communication Technology (ICT).

Combination of basic rules of adult education including elements of andragogy, action learning, active methods and distance learning plays a significant role in this ‘friendly approach’.

Increasing popularity, accessibility and quality of the Internet educational tools and its influence on the development of different forms of e-education is being observed. People can take part in e-learning courses, participate in blended-learning activities, use open educational resources. Education became easy to grab and easy to disseminate.

Unfortunately, this is not a whole true. There are, of course, well-prepared courses that are tailored to needs of participants and use of Information and Communication Technology (ICT) or other ‘technology solutions’ in proper way. There are, of course, e-learning courses based on the methodology of adult learning. But such an approach is in minority...

The majority of the group of participants is motivated to studying by deadlines only (which are not prepared for blind or visually impaired people).

Few problems that occur in that area have been highlighted such as

1. Courses as learning programmes:

- a) There is a lot of very simple e-learning courses built on PDF or PowerPoint documents only which are e-learning courses only by name and this kind of courses have big negative influence on social perception of e-learning.
 - b) Those courses are not prepared to the needs of blind or visually impaired people.
 - c) Trainers (specialized in training in social skills area) underestimate the role of ICT/distance learning in their field believing that everything important has to take part 'in the classroom'.
 - d) There are trainers who are ready to use a technology but do not have enough competence to do it properly, do not know about specifics of some tools and methods.
 - e) E-learning courses are focused on transfer theoretical knowledge and avoiding usage of 'tools that are engaging' learners.
 - f) Open educational resources are used rarely because trainers are not familiar with them or they use materials illegally (they do not know intellectual/copyright law).
2. Courses as a process of learning:
- a) Information and Communication Technology (ICT)/e-learning courses are not based on basic rules of adult education, andragogy, etc. – this is rather 'information transmission' than real 'learning'.
 - b) E-learning programmes are often not providing any active methods – nor simple tools, which are engaging learners, neither whole e-learning system is

designed in the frame of a Kolb's learning cycle or action learning (Kolb, 1984).

- c) They are often not adjust to the needs of blind or visually impaired people.
- d) There is very poor blended e-learning offer which could join advantages of e-learning and stationery learning perfectly.
- e) Participants of those courses are usually not perceived as active elements of learning process, instead they are only 'receivers' with no possibility to share experiences, to share or create knowledge, to solve problems.

The present situation in the European Union reveals that the general idea of the research is to improve quality and effectiveness of adult learning and make it more accessible by using Information and Communication Technology (ICT). On the other hand – there is no 'good education' without taking care of needs of people – not only 'pure educational' understood as a lack of knowledge or competencies but educational in the meaning of sharing experiences, common working, thinking of implementation as well. So it is the second aim of the reserach.

Each single aim is not very innovative – there are projects concentrated on implementing of e-learning or Information and Communication Technology (ICT) tools in learning process. And there are projects which lead to increase an effectiveness of stationery learning as well. So what is the point? The innovation of that research is to combine these two approaches:

- To use Information and Communication Technology (ICT) and
- To engage all participants in learning process to make education more fruitful.

The product of this project and 'symbol' of it, it is a training which is effective, accessible, engaging, easy-to-use and practical for its user / participants – and not excluding the visually impaired people. And that result is impossible to reach without combining fundamental rules of adult education, supplemented by active methods, action learning, attention for group dynamics, etc. and new technology which makes education more attractive, more available, less expensive, better fitted to individual's needs.

Researchers are involved in educational issues in different ways – there are experts in Information and Communication Technology (ICT) and e-learning, there are experts in adult education, action learning, group and individual dynamics. The common work could result in some innovative products – quite new educational approach including both usage of Information and Communication Technology (ICT) for better trainings and usage of active learning for better e-training. This 'mixture' is innovative in the scale of every country.

This 'mixture' is possible to gain because of researchers who are experts in different field of education. Taking some inputs regarding different tools, methods, experience, attitudes and working on it together, in the way of 'social generation of knowledge' will give outputs which can change a method of education in Latvia (or even wider). That explains as well why this research could be seen as complimentary to other projects carried out – every researcher does some research, none of them is expert in every field touching in that project. One could step in the area of Information and Communication Technology (ICT) and e-learning with better background, another could improve their activities in the field of action learning and general active working with adults. For all researchers, it is a main

field of activity, every researcher has some deficits which could be delimited by that research project.

The methodology will be elaborated for trainers who are willing to be critical about one's own thinking, identifying and challenging assumptions that underpin perceived realities. They will not be satisfied with the offered solution but will think in contrary directions and deliberately rejecting conventional, inherited methods.

In Latvian adult education system, the adult is defined as a person who has reached the age of 15 years, "that after a break continues general or professional education (formal, informal)" (Basic Guidelines of Lifelong Learning Policy for 2007–2013, 2007).

The Law of Education defines **adult education** (*pieaugušo izglītība*) as a multi-dimensional educational process of persons, which, ensures the development of the individual and his or her ability to compete in the employment market, during the course of a lifetime of a person (Education Law, 1998 – 2011). Adult education includes all types of formal, non-formal and informal education including further and interest education, professional upgrading and in-service training. It is provided to satisfy needs in lifelong education process to support personal development and competitiveness in the labour market regardless of person's age and previous education. It should be noted that the present research focuses on adult non-formal education. **Non-formal education** (*neformālā izglītība*) – besides formal education an organised educating activity that compliments formal education by ensuring the acquiring of the skills and abilities and development of evaluation system necessary for a socially and economically active state citizen to be able to integrate in the society and the labour market) (Basic Guidelines of Lifelong Learning Policy for 2007–2013, 2007, p. 5).

Adult learning in Latvia has long and stable traditions. However, it attained a nationwide momentum in the mid-1990s when different separate educational societies, groups and undertakings across the country were consolidated in an attempt to create a monitoring system in the Latvian Adult Education Association – LAEA (1993 –*Latvijas Pieaugušo izglītības apvienība*) enabling to concentrate both the intellectual, human and financial resources available for adult education. Later Latvian Adult Education Association (LAEA) separated from Ministry of Education and Science and existed as non-governmental organisation with legal and physical persons. Serious obstacle for the development of Latvian adult education is the lack of the law on adult education. The Law of Education delegates the responsibility for the adult education to local authorities. The concept of Lifelong Education was formulated in 2000, giving a strong impetus to adult learning and education (ALE) however, this term has not been introduced in the Law of Education yet. The concept of adult learning and education (ALE) was included in the general concept of education, as one of the stages of a lifelong process. Thus, adult learning is part of an all-age-groups-inclusive approach that covers all the stages in human life from early childhood to late years of adulthood.

The shift in approach was fundamental and affected all the levels of educational system in Latvia adding to them a new, life-long perspective. The adult education development policy has been designed according to the education development guidelines set by the European and Latvian policy planning documents such as

- the Lisbon Strategy (European Council, 2000),
- Bologna Process (European Ministers of Education, 1999),

- European Commission Memorandum on Lifelong Learning (Commission of the European Communities, 2000),
 - UNESCO programme “Education for All” (UNESCO, 2014),
 - European Commission work programme “Education and Training 2010” (European Commission, 2009),
 - European initiative “i2010 – European Information Society for Growth and Employment” (European Commission, 2005),
 - EU Basic Strategy regarding gender equality (European Commission, 2010b),
 - long-term conceptual document “The Growth Model of Latvia: People First” (Latvian National Development plan for 2007-2013, 2006),
 - “Long-term Economic Development Strategy” (Latvian National Development plan for 2007-2013, 2006),
 - “Joint Economic Strategy” (Latvian National Development plan for 2007-2013, 2006),
 - “Development Guidelines of Sustainable Development of Latvia, Guidelines for Policy Planning” (Saeima of the Republic of Latvia, 2010),
 - “Latvian National Action Plan for Employment” (Ministry of Economics, 2004a),
 - “Guidelines of Sport Policy for Years 2004–2009” (Ministry of Economics, 2004b)
- and
- “Regional Development Guidelines” (Adams, Harris, 2005).

Priority goals for adult learning and education (ALE):

- (1) availability;
- (2) quality;

(3) cooperation and shared responsibility.

Each of these goals contributes to better access to education for all, irrespective of previous educational level, economical, geographical, social, ethnic, age, gender or other factors.

According to the established educational system in Latvia, the supervising authority for adult learning and education (ALE) is the Ministry of Education and Science (MES). The system of adult learning and education (ALE), nonetheless extends over to other sectors, as envisaged by the Education Law (Article 17), stating that “regional local governments shall organise adult education”. In fact ALE functions at a much broader scale; it covers vocational, in-service training for the business or sector needs. Large state owned companies have Learning centres (e.g., The National Bank, Latvian Mobile Telephone, Lattelecom, the Latvian Railway, the Latvian Postal service, big market centres, etc.). The specific needs and requirements of individuals are taken care of by a network of private and non-governmental educational institutions and undertakings that are run on private funding, and some of them are profit oriented (Šiliņa, 2008).

According to the Education Law (1998), adult education may be funded from the state and local government budget, employers’ resources, students’ resources, donations and other sources. Some local governments allocate a fixed percentage from the budget to adult education. Important source of funding is EU, Swiss and Norwegian financial assistance instruments, including structural funds and the EU Lifelong Learning Programme 2007-2013, which through various projects opened more learning opportunities for adults (Latvia. VET in Europe – Country Report, 2011).

The system of the recognition of informal/non-formal learning was established in the beginning of 2011. The latest amendments (Cabinet of Ministers, July 2010) in the

Vocational Education Law (Saiema of the Republic of Latvia, 1999) included a paragraph stating that validation of professional competence acquired outside the formal education system is carried out according to relevant occupational standards; validation may be assigned to accredited education establishment or examination centre; procedure how the validation is conducted is determined by the Cabinet of Ministers. In February 2011 the CoM Regulations “Procedure how professional competence obtained outside formal education system is assessed” (*Kārtība, kādā novērtē ārpus formālās izglītības sistēmas apgūto profesionālo kompetenci*) (Cabinet of Ministers, 2011) was approved stipulating the procedure how professional competence (except regulated professions) that corresponds to the Latvian professional qualification Level 1 – 3, i.e. the EQF Level 3 – 4, obtained outside formal education is assessed (Latvia. VET in Europe – Country Report, 2011).

The concept of E-learning defines various forms of learning through ICT by different terms, such as ‘distance education’, ‘web-based learning’, ‘computer-assisted instruction’, ‘computer-mediated communication’, ‘virtual classrooms’, ‘digital collaboration’, ‘online instruction’, ‘electronic communication’, ‘computer-driven interactive communication’ etc. There are also several different definitions of e-learning. Some identify e-learning in a very narrow way as “the learning process created by interaction with digitally delivered content, services and support”, other definitions cover very wide areas of application, for example, “the process of formal and informal learning and training activities, processes, communities and events via the use of all electronic media like Internet, intranet, extranet, CD-ROM, video tape, TV, cell phones, personal organizers et cetera” (Guide to E-learning Solutions, 2011). Some include Knowledge Management as a form of e-learning. It took a while for the right term to come about, circa 1995 it was all called ‘Internet-based

Training’, then ‘Web based Training’ (to clarify that delivery could be on the Inter- or Intra-net), then ‘Online Learning’ and finally e-learning, adopting the vague use of “e-” during the dot com boom. The “e-” breakthrough enabled the industry to raise hundreds of millions from venture capitalists who would invest in any industry that started with this magic letter.

European Commission (Communication from the Commission, 2000) defines “e-learning as the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services” (European Commission 2008, p. 6) as well as remote exchanges and collaboration. It means that e-learning is NOT a database where the student will find all information. Learning is always a process together with other students, using printed and interactive material and with a tutor available (Birzina, 2012). The concept of e-Learning in Latvia is used as a general term referring to all forms of teaching and learning, where information and communication technology is involved (Birzina, 2012). Such terms are used in Latvia as demonstrated in Figure 16

- Distance education,
- Blended learning (combination of distance and face to face learning),
- Online learning,
- Virtual learning,
- Web-based learning
- Open education.

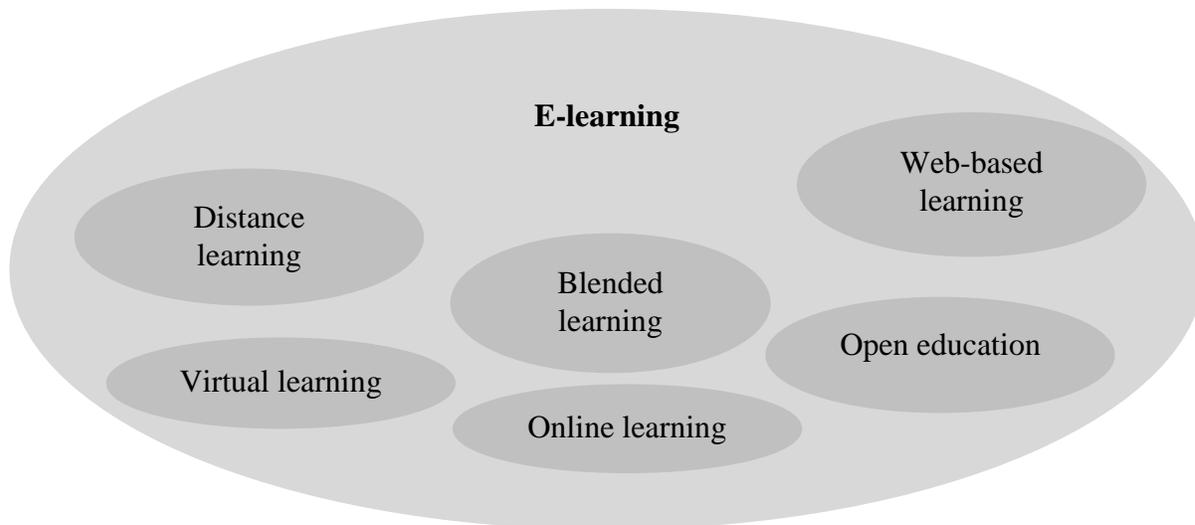


Figure 16: Types of e-learning

Distance learning or e-learning became topical in Latvia in the 90ties of the 20th century. In accordance with the Law of Education in the Republic of Latvia, distance learning is defined as type of the extramural education “*distance education – an extramural method for acquiring education, which is characterised by specially structured educational materials, individual speed of learning, specially organised evaluation of educational achievement, as well as utilisation of various technical and electronic means of communication*” (Education Law, 1999 – 2011).

The document “Basic Guidelines of Lifelong Learning Policy for 2007–2013” (2007, p. 5) defines distance learning as a specially planned, organised independent learning supported by advisers and consultants. It is a form of education in which specific learning materials and methodology are used. Every person can learn at convenience for his/her time, place and tempo. Distance learning basically is planned for adults that are motivated and able to organise themselves for active learning. There is no uniform state system to monitor and

coordinate e-learning in Latvia. However, the distance learning has declared itself as innovative adult education form. This is novelty for the education system in Latvia in general and especially in adult education because it allows combining studies with work. By setting the aim to improve the competences of adults, the providers of distance learning can raise their competitiveness among the other suppliers of adult education (Kristovska, 2005). As it is specified in the Latvian National Development Plan for (NDP) 2007 – 2013 (Latvian National Development plan for 2007-2013, 2006), the aim of Latvia is to build a knowledge-based economy and improve the quality of life, where everyone has the ability to use information and communication technologies (ICT) and opportunities of the content to achieve this aim. Implementing an information society, it is necessary to create equal opportunities to use ICT and e-services for everyone, reduce the digital gap (the difference) and improve opportunities and quality of life for those citizens who do not use modern technologies. To introduce and develop the information society, it is necessary to achieve several objectives (Birzina, 2012):

- every Latvian citizen has the opportunities and skills to use ICT and available e-services;
- citizens and business have access to rich variety of services and content that will make life easier and will allow to develop fully;
- active use of ICT for innovations in business, creating value added growth.

The main emphasis is given to the development of such skills as information literacy (*informācijpratība*) and computer literacy (*datorpratība*) in combination with (European Computer Driving Licence) ECDL. ICT has got a special role in the accessibility, processing, transmission and use of information. The skills to use modern ICT allow

getting access to their resources and empower to be more efficient in one's profession. Although ICT tools get simpler and more user-friendly, considerable skills are necessary for completing even the most ordinary functions. A set of such skills is called computer literacy where the most important thing is to know how to work on the computer and use the resources of the computer and ICT tools in the professional field. At the same time computer literacy does not mean general programming skills. ECDL as the document of EU computer literacy that confirms the universal computer literacy level to perform in any profession is getting significant in the open EU labour market (Programmas projekts 'Par Informācijas un komunikācijas tehnoloģiju izglītības kvalitātei (IKTIK) programmu 2007.– 2013. gadam' (Programmas projekts 'Par Informācijas un komunikācijas tehnoloģiju izglītības kvalitātei (IKTIK) programmu 2007.– 2013. gadam' (IUMEPL), 2006).

In the document "Basic Guidelines of Lifelong Learning Policy for 2007–2013" (2007, p. 4) e-education is defined as a specially organised study course in which the following information and communication technologies are used in a methodically grounded way – telecommunication and computer networks, multimedia CD-ROM, as well as radio and TV broadcasting, audio/video records, interactive TV and other technologies.

The chapter "Change of Paradigm in Education (2010)" of the document "Sustainable Development Strategy of Latvia until 2030" published by the Saeima of the Republic of Latvia mentions such terms as 'e-schools' and 'e-lessons': (163) E-lessons. In addition to the traditional study process, educational institutions should create distance learning programmes, using e-technologies.

As it is stated by the Latvian National Development Plan (Latvian National Development plan for 2007-2013, 2006, p. 3), “since the renewal of its independence in 1991, Latvia has been able to capitalize on the main driving force for the growth of the country – its people, along with their knowledge, wisdom and skills, and their wish to use their intellectual assets productively”. Information Society is characterized by educated and creative people. The skills of citizens to use the new technology are essential to use opportunities offered by the information society and to promote a knowledge-based economic development. Such technological excellence requires not only a high innovative level of products, but also a high level of innovative thinking by individuals or, in other words, an innovative culture. This, in turn, imposes new and higher demands on the whole system of education, particularly with regard to life-long learning.

The strategic goal and priorities of the National Development Plan as shown in Figure 17 are education and knowledge for the growth of the national economy and technological excellence.

It can be achieved by developing (National Development Plan (NDP), 2006, p. 13)

- An educated and creative individual.
- Technological excellence and flexibility of companies.
- Development of science and research.

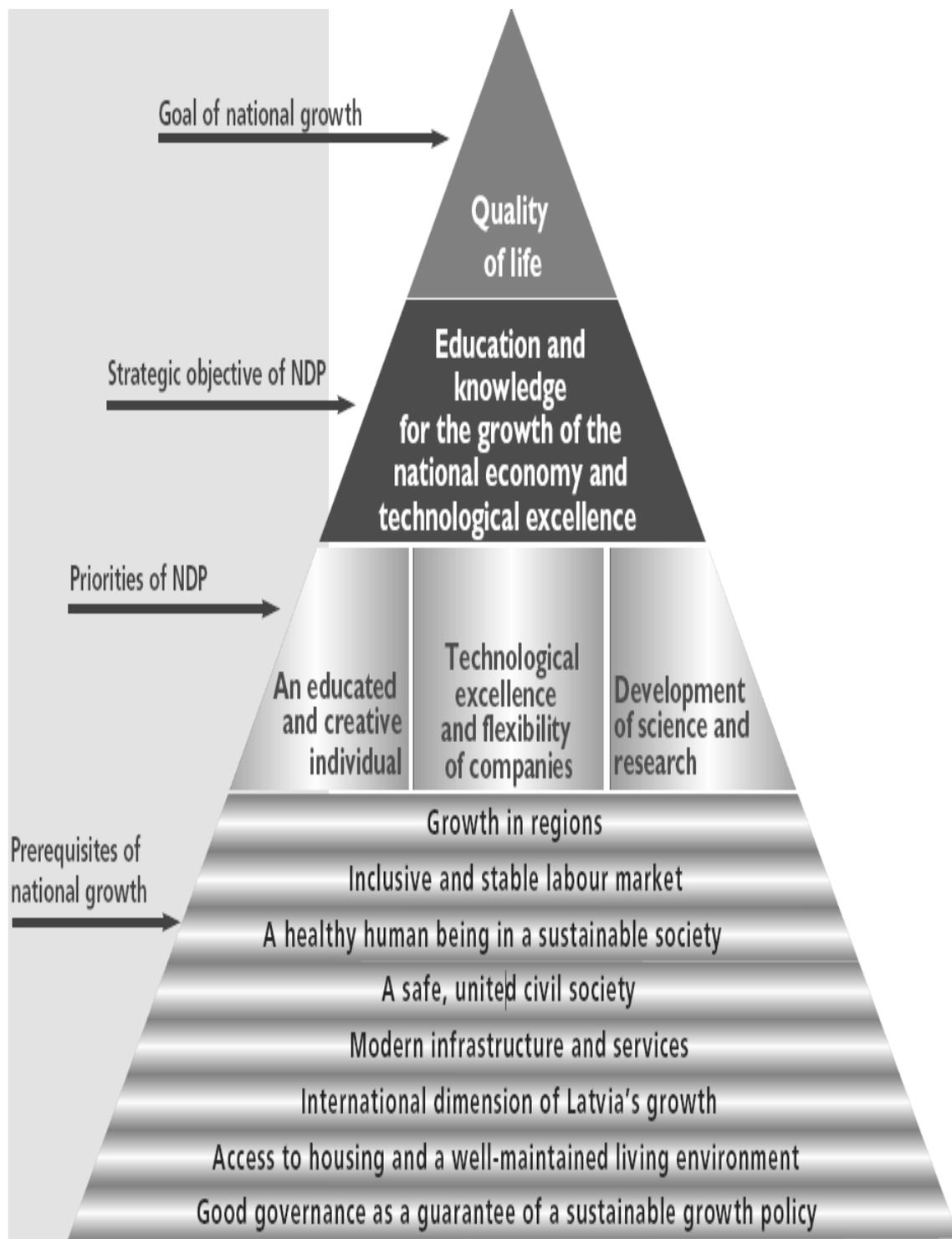


Figure 17: The strategic goal and priorities of the National Development Plan

(National Development Plan (NDP), 2006)

To coordinate all the issues regarding the development of the information society an Information Society National Council exists (it was actually created in 2000), chaired by the Prime Minister. The current distribution of its responsibilities is as follows:

- Ministry of Economy – responsible for innovation and e-commerce.
- Ministry of Education and Science – responsible for e-learning, education and R&D in the ICT sector.
- Ministry for Electronic Government Affairs – responsible for e-governance, e-documents, e-inclusion and coordination of public services. Since 2009 the Secretariat as a separate institution was eliminated, exposing it to minister of the Regional Development and Local Government – responsible for spreading information society-related issues in regions. At the moment, this institution belongs to the Ministry of Environmental Protection and Regional Development.

The development of information society in Latvia is determined by the following policy planning documents (Birzina, 2012):

- **Latvia's E-Government Concept** approved by the Cabinet of Ministers on May 7, 2002 (Ministru kabinets, 2002), in which development strategy of e-government, as well as initial action plan and necessary means for its implementation were defined;
- **Information Society Development Guidelines for 2006-2013** (Ministru kabinets, 2006) approved by the Cabinet of Ministers on July 19, 2006, in which short-term and longterm policy goals, as well as future direction and necessary financing were defined;

- **Concept of a Principle of a Single Contact Point in Accordance with the Provisions of the Services Directive (2006/123/EC)** approved by the Cabinet of Ministers on May 28, 2009 (Ministru kabinets, 2009), in which aims, tasks, and development directions for the introduction of a principle of single contact point in the management of administrative institutions are defined;
- **The Concept on Electronic Identification Cards** approved by the Cabinet of Ministers on January 12, 2010 (Ministru kabinets, 2010a) that foresees to introduce the electronic identification card;
- **Electronic Government Development Plan for 2010-2013** (reviewed on April 29, 2010 in the meeting of the State Secretaries) is a short-term development planning document for the next three years drawn for the implementation of the Information Society Development Guidelines for 2006-2013 (Ministru kabinets, 2010b) in order to continue the action plan in the area of e-government development and to provide succession of Electronic Government Development Programme for 2005-2009 (Report on Latvian Economic Development, 2010).

In the implementation of lifelong learning for the Information Society it is important to note **the Informatics programme**.

In order to improve the possibilities to acquire and apply the information in Latvian society, the Cabinet of Ministers of the Republic of Latvia approved and invested in the State Unified Library Information System project in 2001. The main goal of the State Unified Library Information System project was to establish a coherent national and public library information system to ensure the possibility for libraries not only to collect, preserve, systematize national cultural and scientific values and provide the access to

them, but also use modern information technologies for universal information services – information search, delivery of the required books, publications, reference materials and documents from Latvian and international information sources. Due to the gradually implemented project, the libraries in Latvia have become reliable e-Learning for Lifelong Learning in Latvia universal information service locations. Libraries are equipped with computers, Internet connection and appropriate library information system, thus allowing to reorganize library work and provide not only traditional services, but also IT application: electronic catalogue, delivery of multimedia resources, search for information in Latvian and international sources of information, transnational co-operation in creating data bases and integration of interdisciplinary data. Significant attention in the implementation of the project was paid to the development of library-based training and personnel training to work in the new system. It was one of the most important prerequisites for success in ensuring the training of information users. There have been established regional training centres to carry out life-long learning programs for the needs of regional population.

Other examples of Latvian information society projects:

- Integrated Information System of the State Significance (Mega system) and participation in the Baltic Government Data Communication Network;
- Common System of Electronic Documentation in the Public Administration;
- Integrated Information System in the Transport Sector (EDITRANS);
- Informatisation of the State Social Security System;
- Public Internet Access Points (PIAP), supported by the Soros Foundation;
- European Computer Driving License (ECDL);

- Regional initiatives, like those in the Vidzeme region, Saldus, Ventspils and Riga.

There are also several laws and government provisions (Nissinen, 2002) such as

- Law on Electronic Documents and Digital Signatures (Valsts ieņēmumu dienests, 2006);
- Law on State Information System (Saiema of the Republic of Latvia, 2002);
- Law on Copyrights (including a provision on the legal protection of data bases) (Saiema of the Republic of Latvia, 2002);
- Law on Telecommunications (The Highest Council, 2001);
- Concept on Electronic Commerce (Ministru presidents, 2001);
- Concept on ID Cards (Ministru kabinets, 2010a);
- Concept on Electronic Purchase of State and Local Governments (Ministru kabinets, 2000).

E-learning in Non-formal and Informal Education: According to the data of State Employment Agency (Nodarbinātības valsts aģentūra – NVA) as demonstrated in Figure 18 average unemployment rate is 11.5% in November 2011.

The registered unemployment rate in Latvia in November 2011 - 11,5%

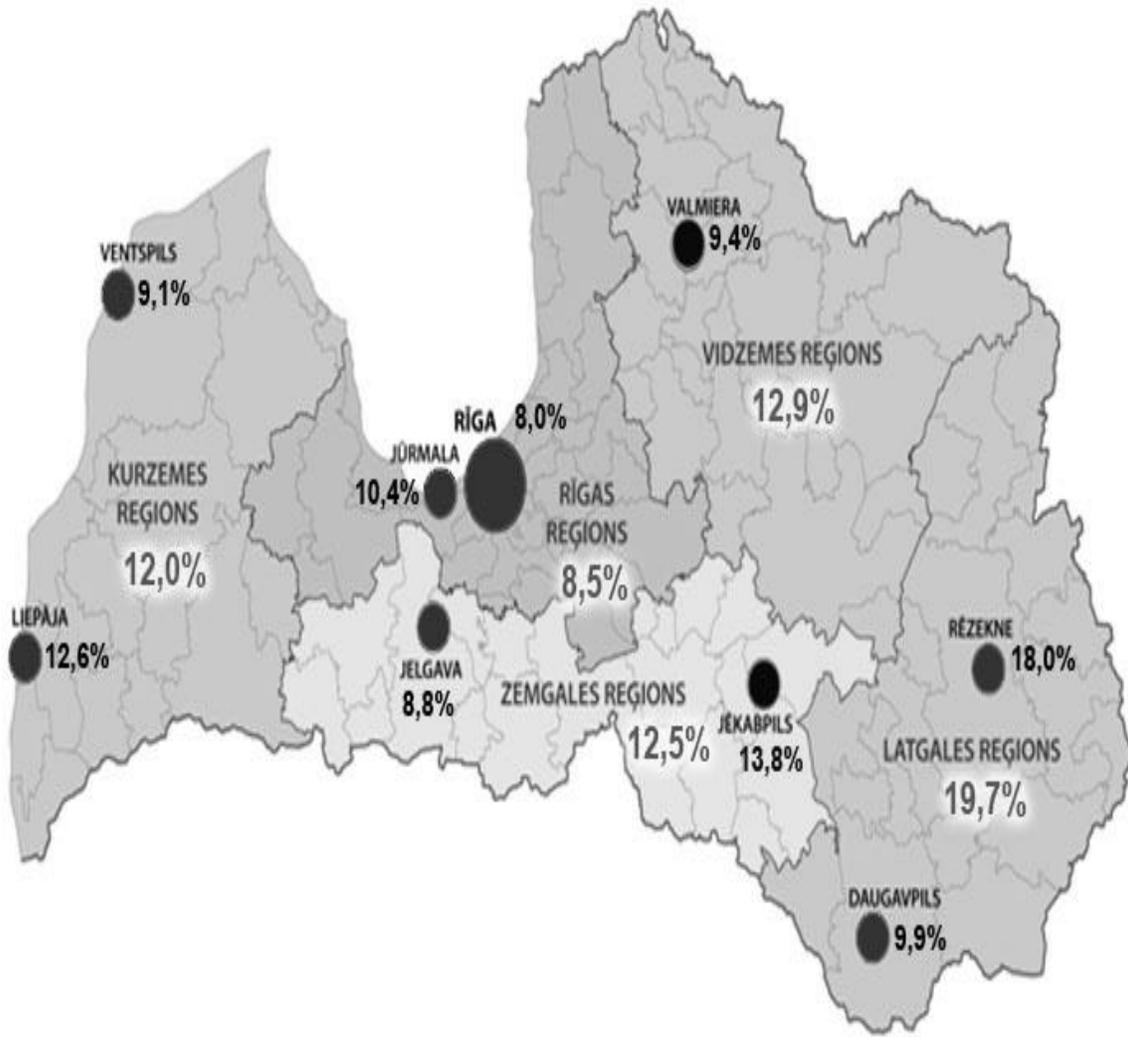


Figure 18: The registered unemployment rate

Comparatively the lowest level of the unemployment is in Riga region (8.5%), while the highest in Latgale region (19.7%). According to the CSB data (November, 2011), there are most people involved in LLL (in non-formal education) in the Riga region (34.6%), but least – in Zemgale region (9.6%) as illustrated in Table 4.

Table 1: Participation in Adult Education by Regions (per cent). Source: CSB

Regions	Non-formal education
Riga region	34.6
Pieriga region	19.9
Vidzeme region	10.0
Kurzeme region	15.2
Zemgale region	9.6
Latgale region	10.7
LATVIA	100.0

Of the offered courses, the course *Computer use* as a form of informal education is chosen by 8.6% and a job-related education activity – 7%. There has been organized training of unemployed “Training of Unemployed People and Job Seekers” of European Social Fund Operational Programme “Human Resources and Employment”. In 2009 in terms of non-formal education programs, 3669 unemployed people have completed computer science (without previous knowledge) course and 1370 – computer science (with previous knowledge, a specific program of training) course; in the first half of 2011, respectively – 2242 and 842 unemployed people (Informatīvais ziņojums ‘Par pamatnostādņu “Informācijas sabiedrības attīstības pamatnostādnes 2006.–2013.gadam” īstenošanas gaitu”, 2011).

Common Access to Electronic Content and Services: there were created 446 Public Internet Access Points in the Latvia. In 2007 – 2013, it was planned to promote access to

internet for all, promote access to public services and information for promoting life quality for all. Till year 2011, a state agency Cultural Information Systems (v/a “*Kultūras informācijas sistēmas*”) has improved the technical infrastructure including free wireless (Wi-Fi) internet access of Latvian local municipality libraries. More than 870 Latvian public libraries and their external service points have been included in an integrated data network that provides access to library users not only to protected online content, but also access to various government data bases and the copyright materials, that are free of charge to library users. Millions of pages of books and periodicals will be digitized, as well as technical infrastructure of digital library and sets of information systems have been developed. In cooperation with the U.S. Library of Congress and UNESCO World Digital Library project, Latvian memory institutions of the UNESCO Memory of the World Programme of international and national registry objects will be digitized and made public (Informatīvais ziņojums ‘Par pamatnostādņu “Informācijas sabiedrības attīstības pamatnostādnes 2006.–2013.gadam” īstenošanas gaitu”, 2011).

E-accessibility for People with Disabilities: It is difficult to get information on assistive technology products and possible technological solutions for people with disabilities. Because of the lack of information and high cost of the products, one segment of the disabled population cannot fully benefit from the use of computer or is excluded from the Information Society. Due to architectural barriers (stairs, no ramps or/and lifts) Internet access points in libraries and PIAPs in general are inaccessible for wheelchair users. To facilitate access to information for social risk groups, the websites of the Ministry of Welfare and its subordinated institutions are tailored to people with disabilities (the possibility to change the text size to a larger, more compact option to view web content

(the description of easier to read topics for people with special needs)) (Informatīvais ziņojums ‘Par pamatnostādņu “Informācijas sabiedrības attīstības pamatnostādnes 2006.–2013.gadam” īstenošanas gaitu”, 2011).

Free Sites for Specific Target Groups: Designers themselves engage in passing their own experience to others – they develop materials and place them on the website. These materials can be used by registered users.

Portal “*Skolotājs*” (Teachers’ virtual society) is delivered in Figure 19. The portal was established on October 4, 2004 by Digital centre of Ventspils & Microsoft Latvia. The aim of the site skolotajs.lv is to promote the cooperation and interaction of the education staff – teachers, school directors, heads of educational authorities, as well as to raise the awareness about information and communication technologies to improve and develop the learning process. Skolotajs.lv helps teachers to acquire and use ICT skills, thereby raising their level of qualification, promoting experience exchanges and active implementation of the acquired information. Portal users are mainly teachers, but school administrators and other education professionals do it as well. The portal has given teachers the opportunity to (Trapenciere, Kārklīņa, Koroļeva, Rungule & Sņikere, 2005)

- (a) enter and download educational materials they have produced;
- (b) publish suggested guidelines for simplifying the study process and organization of work outside the classroom;
- (c) participate in the portal’s on line bulletin board, respond to questionnaires;
- (d) learn about innovations in educational and extracurricular opportunities;
- (e) evaluate and improve their computer skills.



Pierakstīties

Reģistrēšanās

ESI SVEICINĀTS PORTĀLĀ SKOLOTĀJS.LV!

Mums ir liels prieks sveikt Jūs jaunajā skolotajs.lv vietnē! Esam iedvesuši otro elpu šajā projektā, kas tik ļoti nozīmīgs ir bijis katram Latvijas skolotājam.

lasīt vairāk...

KĀ IEKĻŪT PORTĀLĀ SKOLOTĀJS.LV

Līdz ar jaunās versijas palaišanu Skolotajs.lv lietotājiem ir nomainīti autentifikācijas dati. Turpmāk, lai iekļūtu jaunajā portālā, vairs nebūs derīgs Jūsu iepriekšējais lietotāja vārds un parole.

lasīt vairāk...

SKOLOTĀJS.LV LIETOŠANAS NOTEIKUMI!

Interneta portāls skolotajs.lv ir "Elektronisko mācību līdzekļu asociācijas" īpašums. Tas satur oriģinālmateriālus, kā arī atvasinātus materiālus no citiem resursiem.

lasīt vairāk...

JAUNUMI IZGLĪTĪBĀ

Izglītības un zinātnes ministra Roberta Kīļa videoblogs par aizvadītās nedēļas aktualitātēm izglītībā



Informēs par Eiropas Brīvprātīgā darba gada pienesumu brīvprātīgā darba attīstībai Latvijā

Informēs par Eiropas Brīvprātīgā darba gada pienesumu brīvprātīgā darba attīstībai Latvijā

Noslēdzot Eiropas Brīvprātīgā darba gadu, lai izvērtētu tā devumu brīvprātīgā dar

Vai Jūs atbalstāt Izglītības un Zinātnes ministra Roberta Kīļa priekšlikumu pagarināt mācību gadu skolās?

Sabiedrībā daudz tiek apspriests ministra R. Kīļa priekšlikums- pagarināt mācību gadu skolās. Vecāki šo ideju atbalsta, jo bieži ir problēmas nodrošināt bērniem aktivitātes vai saskaņot atvaļinājuma grafiku vasaras periodā.

SEKOJIET MUMS TWITTER



Portāls skolotajs.lv
SKOLOTAJS_LV

SKOLOTAJS_LV RT @Rubins: Latvija var! Publicēts @TEDxVienna video ar Fiona stāstu par LV radīto sociālo modes zīmolu @MAMMU_; <http://t.co/GUUoPlqF>
yesterday · reply · retweet · favorite

SKOLOTAJS_LV @ITClusterLatvia
Next time you should try to use Lync 2010 for advanced communication. More info: <http://t.co/iM0wPgVv>
yesterday · reply · retweet · favorite

SKOLOTAJS_LV Es lasu #krizdabzl blogu, iesaku to darīt arī Tev un tādējādi piedalos Nokia N9 izspēlē. Konkurss šeit: <http://t.co/P8gK0bCp>
2 days ago · reply · retweet · favorite

SKOLOTAJS_LV RT Svarīgi stiprināt labu pārvalības kapacitāti skolās. M.Golubevas raksts IR: <http://t.co/umUAMz32> Tādēj IM&Swedbank rīkos Direktoru klubu.
2 days ago · reply · retweet · favorite



Join the conversation

Figure 19: The Homepage of portal “Teacher” (www.skolotajs.lv)

The Thinking Approach (TA) as demonstrated in Figure 20 to language teaching aims at an integrated development of both language and thinking skills of learners. The TA project is concerned with the development of educational technologies necessary for this kind of teaching and mechanisms of implementing these technologies with various groups of learners.

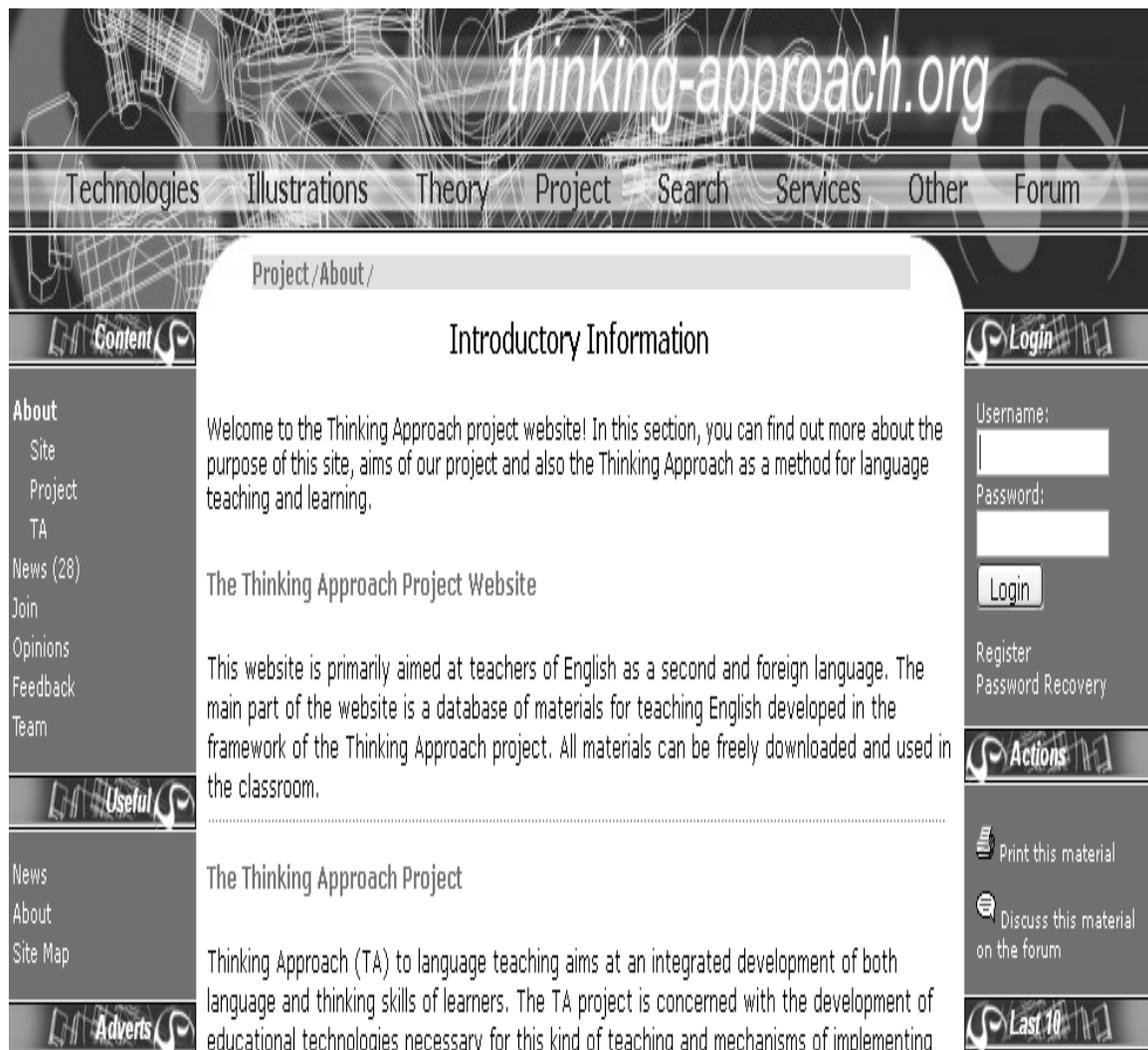


Figure 20: The Homepage of Thinking Approach (www.thinking-approach.org)

TETRIS as shown in Figure 21 is available in English, Italian, German, Latvian, France. This is the portal of an international project Teaching TRIZ at Schools (and Industries) supported by the European Commission in the framework of the Lifelong Learning Programme. The site includes various materials for reading on TRIZ, as well as animated presentations of the key ideas. TETRIS is a new way of teaching TRIZ.

tETRIS *"Radošums nav dabas dota dāvana. Ikviens inženieris var mācīties, lai kļūtu par izgudrotāju."* Henrihs Altšullers

PAR PROJEKTU PARTNERI KĀ TRIZ VAR JUMS PALĪDZĒT?

Home meklēt...

Hot Spot

- Home
- Mūžizglītības programma
- Web Links
- News
- Privacy statement
- Downloads
- TRIZ animations
- Conference 10th November 2009

Login Form

Lietotāja vārds

Parole

Atcerēties mani

Pieslēgties

- Aizmirsāt paroli?
- Aizmirsāt savu lietotāja vārdu?
- Reģistrēties

Apmeklējumi:

0215000

Šodien 103
Pavisam 215000

TETRIS handbook now available in Spanish!

Thanks to the work of Christopher Nikulin, Andres Fuentes and Raúl Stegmaier from the Department of Industry of Technical University Federico Santa María TETRIS handbook in **Spanish** are freely available in the download section for all registered users.
Register now for free to download all materials!

LAIPNI LŪDZAM:

teaching triz at school

Programma di apprendimento permanente

TETRIS - TEaching TRIZ at School - projekts, kas tiek realizēts ar Mūžizglītības programmas Leonardo da Vinči 2007 – 2013 finansiālo atbalstu.

IEIET

Tagad TRIZ stāsti – piecas aizraujošas animācijas – pieejamas sešās valodās (angļu, franču, itāliešu, vācu, latviešu un rumāņu) TETRIS mājas lapā.

Pateicoties Lia Coser ("A.Maicu" Universitāte Aradā, Rumānijā) TRIZ stāsti tulkoti arī rumāņu valodā! **Reģistrējies un noskaties tos visus bez maksas!**

Lasīt tālāk... >>

Figure 21: The Homepage of TETRIS (www.tetris-project.org/)

The Time of ICT published by Jelgava Regional Adult Education Center is demonstrated in Figure 22. The site is aimed to help teachers to find the information, e-resources and teaching materials of teachers, which they can use for improving the quality of teaching and learning process.

IKT_Laiks

Lietotājs :

Parole :

- CD katalogs
- Mācību materiāli
- Interneta resursi
- Skolotāju izstrādes
- Diskusijas

Priekšmets :

Valoda :

Klašu grupa :

Sakārtot pēc :

Ir laiks. Šis ir laiks, kad paveras jaunas iespējas, jauni izaicinājumi, kad Latvijā veidojas zināšanu sabiedrība. Labāk īstenot šī laika priekšrocības palīdz IKT – informācijas un komunikācijas tehnoloģijas.

Jelgavā IKT laiks ienāk ar vairākiem projektiem. Šī mājas lapa ir izveidota projekta „Informācijas un komunikācijas tehnoloģijas mācību procesā” ietvaros. To īsteno Jelgavas reģionālais Pieaugušo izglītības centrs un finansiāli atbalsta ESF (līgums Nr. 2006/0123/VPD1/ESF/PIAA/05/APK/3.2.5.2./0168/0207). Ar šo projektu iesākas jauns laikposms Jelgavas skolās – kad IKT tiek izmantotas ne vien informātikas stundās, bet kļūst par neatņemamu sastāvdaļu visā mācību procesā.

Skolotāj, šis ir Tavs IKT laiks! Un šī ir Tava virtuālā mācību klase - radošā darbnīca, kurā apgūt un izmēģināt prasmes IKT pielietošanā. Ienāc un sameklē elektronisko resursu krātuvē to, kas tieši Tev būs visnoderīgākais un vilinās izmēģināt jaunas pieejas. Lai veicas!

CD katalogs

<p>☆☆☆☆ Māja un interjers 1. daļa Mājturība 4-6, 7-9</p> <p><input type="button" value="Vairāk >>"/></p>	<p>komentāri (1)</p>	<p>☆☆☆☆ Māja un interjers 3. daļa Mājturība 4-6, 7-9</p> <p><input type="button" value="Vairāk >>"/></p>	<p>komentāri (1)</p>
--	----------------------	--	----------------------

Figure 22: The homepage of the Time of IKT (ikt.jrpic.lv)

Internet Library Atlants.lv published by SIA “CDI” is disclosed in Figure 23. Data base of reports. Some you can get free, but almost all are for some price. There is the respect of copyright works.

The screenshot shows the homepage of Atlants.lv, an internet library. At the top, there is a navigation bar with links for 'E-pasts + parole', '.pase', 'Login', and 'Google'. Below this, the website logo 'Atlants.lv' is displayed with the tagline 'interneta bibliotēka'. There are also language options for 'Latviski', 'По-русски', and 'English', and a '+1' button.

A search bar is prominently featured in the center, with a 'Meklēt' button. Below the search bar, there are several category listings, each with an icon and a list of sub-categories:

- Eksaktās un dabaszinātnes (31802)**:
 - Statistika (1310)
 - Fizika (3607)
 - Anatomija, veselība, medicīna, higiēna (8902)
 - Kīmija (4298)
 - Matemātika (2008)
 - [Pārējās kategorijas...](#)
- Uzņēmējdarbība un tiesības (60940)**:
 - CV (520)
 - Apdrošināšana (533)
 - Mārketing, reklāma (6607)
 - Tūrisms, viesmīlība (4137)
 - Ekonomika (17474)
 - [Pārējās kategorijas...](#)
- Humanitārās zinātnes (42106)**:
 - Politika (8648)
 - Psiholoģija (11966)
 - Tulkošana, valodniecība (2366)
 - Latviešu valoda (2032)
 - Sabiedriskās attiecības (2246)
 - [Pārējās kategorijas...](#)
- Māksla, kultūra un vēsture (78926)**:
 - Arhitektūra, dizains (1596)
 - Mūzika (2785)
 - Literatūra (30241)
 - Filosofija (6093)
 - Ētika (2059)
 - [Pārējās kategorijas...](#)
- Tehnoloģijas (24832)**:
 - Auto, moto u.c. tehnika (1057)
 - Datori, elektronika, programmēšana (7078)
 - Transports, sakari (1707)
 - Celtniecība (1674)
 - Lauksaimniecība, mežsaimniecība (1387)
 - [Pārējās kategorijas...](#)
- Darbu veidi (208433)**:
 - Referāts (58809)
 - Konspекts (41305)
 - Diplomdarbs (2787)
 - Paraugs (4521)
 - Biznesa plāns (1787)
 - [Pārējie darbu veidi...](#)

Figure 23: The homepage of Internet Library (www.atlants.lv)

Virtual Learning:

Museums such as the Natural History Museum of Latvia offer materials and virtual tours of varied exhibitions as depicted in Figure 24. Virtual learning can also be associated with participation in learning. The representatives of different age and interests may engage in natural research.



Figure 24: The Homepage of the Natural History Museum (virtual tour)

www.dabasmuzejs.gov.lv/

Dabas dati (Data of nature) published by Latvian Fund for Nature, Latvian Ornithological Society in the homepage “*Dabasdati.lv*” as pointed in Figure 25 volunteers can freely share their observations on nature, insert photos taken by them in nature, consult, comment and get information about the species they are interested in. All the information is connected with the coordinate system in the map of Latvia. This can be used in scientific researches, as by adding the description of phenomenon observed, all the precise data are manifested. This home page is supported by Latvia, Iceland, Liechtenstein and Norway.

The screenshot shows the homepage of **Dabasdati.lv**. At the top, there is a header with the site logo and navigation options like "Atcerēties mani" and "Autorizēties". Below the header, there are statistics: "Šobrīd aktīvie lietotāji: 59", "Šodien ievadītie novērojumi: 6", and "Kopējais novērojumu skaits: 42843".

The main content area is titled "Dabas ziņas" (Nature News) and features an article "Putnu vērošanas izaicinājums 2011. gada tsāķājā dienā" (Bird watching invitation for the start of the year). The article text reads: "Turpinot aizsāktu Ziemas saulgrēju tradīciju, aicinām izbaudīt dabas ritma spēku un vērot putnus gada tsāķājās dienās. Svētku brīvdienas tomēr atvēlamas ģimeniskai svinēšanai, taču ja vien ir brīvāka kāda no trim pirmssvētku dienām, ir vērts iesaistīties arī putnu vērošanā." It also provides sunrise and sunset times for December 21st and 22nd.

On the left, there is a sidebar titled "Interesantākie novērojumi" (Most interesting observations) listing several bird sightings with dates and species names like *Vanellus vanellus*, *Erythacus rubecula*, and *Cygnus cygnus*.

On the right, there is a "ZIŅO NOVĒROJUMU" (Report Observations) section with a call to action: "Dabasdati.lv ziņojiet visdažādāko savājas sugu novērojumus Latvijā. Ja šaubieties par redzēto, taču jums ir fotogrāfija - lūdzam ievietojiet to sadaļā *Nezināms*". Below it, there is an "Eagles" section with the text: "Kas notiek ērgļu ligzdās rudenī? Atšķirībā no Āfrikā ziemojošajiem zivjērgļiem, kas savās ligzdās atgriezies tikai.. Zivjērgļa izpēte un aizsardzība 2011. gadā. 2011. gadā projekta teritorijā tika pārbaudītas 122 zivjērgļa ligzdošanas vietas (91.."

At the bottom of the main content area, there is a photograph of a small bird perched on a rock.

Figure 25: The homepage of portal Data of Nature (www.dabasdati.lv)

Informal Learning Resources: World Wide Web provides informal learning in all its diversity. The socialization direction of informal learning is provided by social networks (e.g. Accountants Club – with professional orientation; Cālis.lv – with household orientation, etc.).

Cālis.lv is indicated in Figure 26 – the first Latvian Family Portal. Informal learning about family issues. Interest groups, forums on various topics, games.



Figure 26: The Homepage of Calis.lv (www.calis.lv)

Grāmatvežu klubs (Accountants' Club) as shown in Figure 27 offers databases, Club Life, Address Book, links directory. There is an opportunity to hear the opinion of specialist, as well as access and download forms, and get support information on how to operate (Handbook).

Svētdiena, 18. decembris

30 readers
BY FEEDBURNER +1 0

Galvenā
 Datu bāzes
 Kluba dzīve
 Adrešu grāmata
 Saišu katalogs
 Speciālista viedoklis
 Atlaides
 Grāmatvedības programmas
 Veidlapas
 Veidlapas +
 Uzziņas
 Normatīvie akti
 Valūtu kursi
 Mājaslapu reitings
 Forums
 Elektroniskais veikals
 Sludinājumu dēlis
 Lietotāja rokasgrāmata
 Lietotāju faili
 «VGK plus» abonements
 Meklēšana
 Lapas karte
 Rīki

Virtuālais Grāmatvežu Klubs

35 106
reģistrēti lietotāji

Galvenā

Speciālistu atbildes / 25.09.2011 14:51:22
 Šajā «Speciālista viedoklis» tika izvietotas speciālistu atbildes iepakojuma jautājumos saistībā ar dabas resursu nodokli (jautājumi 152.-161.).

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Mūsu kluba jaunumi Arhivs

Figure 27: The Homepage of Virtual Page Grāmatvežu klubs (www.vgk.lv/lv)

Social Networks: There are widely available social networks in Latvia. Latvian-made portal draugiem.lv. is widely used by society, as well as networks Twitter, Facebook, YouTube, LinkedIn, etc.

5.2.2. Focus group interview

The present focus group was composed of eight adult education's stakeholders in February 2015. All the respondents have been awarded a higher education degree in different sciences. Four respondents were bestowed doctoral degrees in pedagogy. Their doctoral studies were focused on adult pedagogy. As the respondents with different cultural backgrounds and diverse educational approaches were chosen, the sample was multicultural. Thus, the group (age, field of study and work, mother tongue, etc.) is heterogeneous. The sample of eight respondents involved

- a manager within the project *European Programme Implementation in the Area of Adult Education*,
- three independent experts,
- a leading researcher of Baltic Studies Centre,
- a representative of Employers' Confederation of Latvia (LDDK),
- a representative of Education Department in the field of teacher and adult education of Latvia's Education and Science Ministry
- a consultant of Association of Mechanical Engineering and Metalworking Industries of Latvia.

In order to save the information of the present research confidential, the respondents' names and surnames were coded as follows:

- a manager was given the code FG R1 (Focus Group Respondent 1),

- three independent experts were pointed as FG R2 (Focus Group Respondent 2), FG R3 (Focus Group Respondent 3) and FG R4 (Focus Group Respondent 4),
- a leading researcher – FG R5 (Focus Group Respondent 5),
- a representative of Employers' Confederation of Latvia (LDDK) – FG R6 (Focus Group Respondent 6),
- a representative of Latvia's Education and Science Ministry – FG R7 (Focus Group Respondent 7),
- a consultant – FG R8 (Focus Group Respondent 8).

FG Respondent 1 pointed that lifelong learning and adult education should be separated in Latvia as adult education is an element of lifelong learning. Adult education differs with adult learners age, teaching methods, target groups, high level of flexibility in order to satisfy changing requirements of labour market as well as changing needs of individuals. This means to adjust activities between formal, non-formal and informal education. As adult education is result-oriented, a lot of efforts would be devoted to educational contents in order to ensure the transition to education supply based on learning results. There is also a need for shaping the policy in adult education of Latvia instead of coordination of activities of individual contributors to adult education. Respondent 1 emphasized that a data base about education service in adult education is a primary task in forming the system of adult education in Latvia.

FG Respondent 2 analysed problems in adult education. The problem of adult learners accessibility is one of the problems. Another problem is that information in existing databases is too complicated. It should be grouped as for professional and everyday use.

There is a need in a database about people who participated in adult education courses, etc. One of the practical problems is introduction of modular system into adult education. Another problem is education quality. Due to the decrease of people who are able to work, adult education should be delivered to such groups as disabled people, prisoners, emigrants, seniors, etc. as potential working force. Respondent 2 points that aims of lifelong learning do not include modern technologies and support networks. In adult education an attention to science should be paid as well.

FG Respondent 3 highlighted the purpose of adult education in Latvia to involve 15% of the population into adult education. Respondent 3 emphasized that a big challenge in adult education in future years would be strengthening then capacity of adult education in professional education by working out new education and profession standards as well as determining basic requirements of professional qualification. Respondent 3 considers that monitoring of quality of adult education should be unified. The respondent stressed the importance in emergence of Adult Education Law. Respondent 3 also pointed that both the priority of economics and individual's needs should be considered in adult education.

FG Respondent 4 outlined the principles and mechanisms of financing of adult education. The respondent underlined that private finance in adult education in Latvia is very low. Two different kinds of programmes such as professional and intellectual capacity improvement are financed. Respondent 4 suggested self-regulating system of financing in 2014-2020: local government summarizes the data and evaluates the market needs before submitting to the national authority. The respondent expressed such the principle of the adult education database as given money bring new data. The statistical problem is that the statistics is oriented to qualitative indicators which are not always

precise. The respondent pointed that cooperation between local authorities should be increased.

FG Respondent 5 focused on cooperation between science and society as well as business. Respondent 5 considers that cooperation is a touch of sensitive balance between science offer and society demand.

FG Respondent 6 put the focus on the education quality as the effectiveness of use of adult education finance.

FG Respondent 7 revealed that the priority in 2014-2020 would be put on employed adults between 25 and 54. This would be need to re-shape the whole system of adult education in Latvia that demand joint understanding between the stakeholders.

FG Respondent 8 noted that accreditation and certification of adult education should be arranged.

5.2.3. Individual in-depth interviews (called In-Depth Interview - IDI)

The present individual in-depth interviews were carried out in February 2015. The interviews were based on the following topics:

- Whether and how are e-learning forms based on the methodology of teaching adult learners (for example, Malcolm Knowles theory or Kolb's experiential learning style theory (Kolb, 1984))?
- How are the trainers prepared?
- How is the quality provided?

- Do e-learning forms include group work for the learners?
- What part of e-learning affects participants' involvement?
- When are blended learning forms used, what results does it give?
- How are the needs of learners examined before teaching?
- Whether and how are the needs of disabled people taken into consideration?

All the respondents have been awarded a higher education degree in different sciences. Four respondents were bestowed doctoral degrees in pedagogy. Their doctoral studies were focused on adult pedagogy. As the respondents with different cultural backgrounds and diverse educational approaches were chosen, the sample was multicultural. Thus, the group (age, field of study and work, mother tongue, etc.) is heterogeneous. The sample of four even respondents involved

- a learner from Calis.lv
- a teacher of Calis.lv,
- a trainer of Saliedet.lv,
- an independent expert.

In order to save the information of the present research confidential, the respondents' names and surnames were coded as follows:

- a learner from Calis.lv received the code of IDI R1 (In-depth Interview Respondent 1),
- a teacher of Calis.lv was given the code of IDI R2 (In-depth Interview Respondent 2),
- a trainer of Saliedet.lv was pointed as IDI R3 (In-depth Interview Respondent 3),

- an independent expert was identified as IDI R4 (In-depth Interview Respondent 4).

IDI Respondent 1 started his own business some years ago. In comparison to an employed one, a business owner should implement a wide range of activities such as personnel manager, marketing specialist, interpreter and selling manager, etc. Obtaining education demanded on self-discipline as well as precise time organization. During seminars Respondent 1 shared his/her practical experience from a variety of business situations.

IDI Respondent 2 underlined that adults are much more conscientious learners due to different reasons. Mostly adult learners focus on the increase of professional competitiveness. On the one hand, adult learners cope with objective circumstances such as work and family balance, time and financial balance, etc. On the other hand, adult learners try to fight with worries about studies, studies' difficulties, teacher and other learners' attitude, etc. Adult learners are more successful in comparison to the school graduates as

- adult learners choose a programme to study of their own interest,
- adult learners are oriented to an excellent result via working hard,
- adult learners have life experience that helps them to understand the inter-connections between theory and practice,
- adult learners pay for their studies on their own that is a stimulating factor to concentrate on studies.

Modern digital world offers also opportunities to study from home. Adult education can be obtained via e-learning that includes a number of video lectures.

Adult learners should follow some recommendations such as

- successful time planning,
- strict discipline,
- be active,
- set realistic purposes,
- consider a subject as a whole,
- help others and get assisted,
- award yourself for achievements.

IDI Respondent 3 discussed that the foremost of Knowles' discoveries was that *andragogy* (adult learning) is different from *pedagogy* (children's learning) (Pfeiffer, & Ballew, 1988). In particular, adults are aware of their abilities and their experiences and they *require* more involvement in the learning process. Other characteristics of andragogy include the following (Goad, 1982; Hanson, 1981):

1. Learning is a process—as opposed to a series of finite, unrelated steps — that lasts throughout the entire life span of most people.
2. For optimum transfer of learning, the learner must be actively involved in the learning experience, not a passive recipient of information.
3. Each learner must be responsible for his or her own learning.
4. The learning process has an affective (emotional) as well as an intellectual component.
5. Adults learn by doing; they want to be *involved*. Regardless of the benefits of coaching, one should never merely demonstrate how to do something if an adult learner actually can perform the task, even if it takes longer that way.
6. Problems and examples must be realistic and *relevant to the learners*.

7. Adults relate their learning to what they already know. It is wise to learn something about the backgrounds of the learners and to provide examples that they can understand in their own frames of reference.
8. An informal environment works best. Trying to intimidate adults causes resentment and tension, and these inhibit learning.
9. Variety stimulates. It is a good idea to try to appeal to all five of the learners' senses, particularly to those aspects identified by neurolinguistic programming: the visual, the kinesthetic, and the auditory. A change of pace and a variety of learning techniques help to mitigate boredom and fatigue.
10. Learning flourishes in a win-win, nonjudgmental environment. The norms of the training setting are violated by tests and grading procedures. Checking learning objectives is far more effective.
11. The training facilitator is a change agent. The trainer's role is to present information or skills or to create an environment in which exploration can take place. The participants' role is to take what is offered and apply it in a way that is relevant and best for them. The trainer's responsibility is to facilitate. The participants' responsibility is to learn.

IDI Respondent 3 emphasized that at the beginning e-learning had had an individual nature that was against of human nature as humans are social beings. Later it was improved with the emergence of social media, forums, etc. IDI Respondent 3 considered that teachers in adult education using e e-learning tools

- make the process more interesting,
- promote autonomous learning,

- ensure the quality of contents,
- support contacts with and between learners,
- integrate new scientific discoveries into adult education, etc.

IDI Respondent 3 revealed four scenarios which complement traditional educational process such as

- one direction communication that includes three phases:
 - Phase 1: materials introduction into e-environment,
 - Phase 2: adult learner investigates the materials,
 - Phase 3: adult learner complete tasks.

Advantages of this approach are as follows:

- all the materials are located in one e-environment,
- learner can study the materials any time suitable for a particular learner,
- teachers can easily administrate every learners' contribution.

-engagement that consists of two stages such as

- teacher introduces an activity,
- learner has enough time to think over the task and express their opinion.

Advantages of this approach are as follows:

- enough time is given to students to formulate and reveal their attitude to a task,
- shy learners participate in discussions, experience sharing and idea generation.

-project that is organized in the following phases:

Phase 1: learners work on the task together and individually,

Phase 2: learners organize their working, teacher is a consultant.

Advantages of this approach are as follows:

- tools available in the e-environment help to organize work,
- teacher can follow every learners' as well as the whole group's contribution,
- e-environmet can be used for the result presentation.

-reflection consists of the following phases:

Phase 1: learners receive a task that demands on their reflection,

Phase 2: learners share their experience in the e-environment,

Phase 3: learners communicate with each other discussing their thoughts.

Advantages of this approach are as follows:

- an opportunity to communicate with each other and share experience,
- reflection promotion and its use.

Use of e-learning implies

- accessibility:
 - o use of common paltforms such as *iOS* and *Android*,
 - o dominance of international languages in e-environment decreases a number of available tools.
- programme sustainability as in some years some applications get older or completely disappear.

IDI Respondent 3 expressed the opinion that teachers have to learn in order to use a tool qualitatively. The main barrier in use of technologies is brought by teachers as they do not wish to change teaching style or do not know how to use a new technology. Educational institutions should support their teachers with training how to integrate new technologies into e-process. Information and tools in e-environment constantly change

and transform that makes teachers' use of new technologies more complicated. Choosing a tool for e-learning teachers should pay more attention to the contents than to the form.

IDI Respondent 3 outlined communication tools in adult education such as

- *Skype* and [Google Hangouts](#) that ensure voice, text and video interaction, desktop showing to the conversation partner, file exchange, conference calls,
- Screen sharing such as [Teamviewer](#),
- Chatting such as *Facebook* or *Google Hangouts*,
- Non-synchronous forums such as *Google Groups*,
- Sms such as *WhatsApp* un *Twitter*,
- Social media such as [Facebook](#), [Pinterest](#) or [Springpad](#),
- *Open Education Resources* (OER) where [OER Commons](#) are a starting point,
- *Creative Commons* that show how to use materials in compliance with copyright law,
- *Podcasts* that are audio records that can be downloaded into a computer or mobile telephone,
- *Youtube* that offers video instruction to many question.

IDI Respondent 3 suggested looking for the contents of adult education using

- Thought map application such as [Freemind](#) and [Simplemind](#),
- *Prezi* as an alternative to PowerPoint Presentation,
- *Websites* such as Wikipedia, etc.,
- E-books,
- Project paltforms such as [Ning](#) (fee), [Clinked](#) (fee) and [OpenAtrium](#) (open access).

IDI Respondent 3 emphasized activities to be used in adult education such as

- games such as [Bunchball](#) and Serious Game Network as well as tests such as [Hot Potatoes](#),
- Simulations such as
- Simulations such as [OpenSimulator](#) and [Second Life](#),
- E-learning platforms such as Moodle.

IDI Respondent 4 considers that all sustained, systematic, and structured educational activities, whether offered formally or non-formally, which are undertaken by all of those defined as adults in their society for the purposes of personal, social, or workplace knowledge, skills, attitude, and values acquisition (Powley, Kennedy & Childs, 2005).

IDI Respondent 4 carried out a research on main forms of adult education. The research included 76 institutions, 179 adult education participants as well as 383 young people. The investigation revealed that traditional form of learning prevails as demonstrated in Table 5.

Table 5: Forms of learning in adult education

Form	Organisation feedback	Participant feedback
Remoted learning, materials are sent by post	14%	7%
E-learning in the e- environment	19%	15%
Traditional learning	46%	60%

IDI Respondent 4 provided the list of the most popular courses in adult education in Latvia:

- Foreign languages (38%),
- Sport activities (35%),
- Psychology (32%),
- Culture (28%), and
- Computer (27%).

IDI Respondent 4 identified that E-learning barriers are related to students' well-being in a new learning situation which is influenced by following factors:

- motivation as an individual's receptiveness to particular concepts as well as the desire to foster deeper network connections;
- emotions as the influencing factors that enact other nodes and apply weighting scales to the network elements. Emotions and person's feelings play an important role in how the person values nodes and permits the presence of contradictory perspective;
- experience as a catalyst for both acquiring new nodes and forming connections between existing nodes. Experience is also a significant aspect of network creation. A great deal of people's learning comes through experience by informal means - workplace, participation in the projects, communication in forums, skype, chats etc.

According to IDI Respondent 4, in e-learning the main focus is paid to help the students participating in the course to understand and assimilate content of the course modules, to orient them to complete assignments suggested during the course, to clarify doubts or

misunderstandings, to help them in any academic problem and to motivate them to successfully finish the course. Therefore, the consultations are not organized as lectures, but as inter-communicative activities in which students can have direct or online contact with teachers and receive concrete answers to the raised questions. During the inter-communicative activities, discussions on issues concerning the content of the specific modules are organized with the participation of Latvian teachers, teachers from other educational institutions, and foreign visiting teachers. In some cases, the acquisition process of the module's topical issues is offered in mini-lectures with online translation delivered both by Latvian teachers and foreign visiting teachers.

IDI Respondent 4 was interested in the development of the strategy of adult education.

The respondent pointed the importance of

- balance between course demand and supply,
- cooperation with employers,
- bridge programmes which allow learners not to study similar subjects to previously learnt.

IDI Respondent 4 recommended

- to create a unified database of adult education (projects, course description, demand and supply, etc),
- to develop non-formal education supply to satisfy different target groups' needs by applying modular principle to learner-centred learning,
- to use a variety of methods in adult education,
- to provide teachers in adult education with both teaching and enterprise experience,

- to enhance *Open Education Resources* and *Massive Open Online Courses*,
- to adapt individual needs in learning (when, where, how, etc),
- to engage both groups of learners, namely employed and unemployed,
- to attract the age group of learners who are between 50 and 74.

5.2.4. Observation

The present part is aimed at the description of English studies for academic purposes with use of e-learning implemented to develop the learners' communicative competence. The study shows a potential model for development indicating how the steps of the process are related following a logical chain: *the preparatory phase of implementation of English studies for academic purposes* → *Phase 1 of implementation of English studies for academic purposes* → *Phase 2 of implementation of English studies for academic purposes* → *Phase 3 of implementation of English studies for academic purposes*.

Each phase of English studies for academic purposes is to be described.

First, the preparatory phase of English studies for academic purposes comprised designing the *English for Academic Purposes* course worked out by Surikova (Surikova, 2007b, p. 118) to implement English studies for academic purposes aimed at the development of the learners' communicative competence. The *English for Academic Purposes* course is viewed as a dynamic relationship among educators, students, knowledge and contexts (Portelli & Vilbert, 2002, p. 36). The *English for Academic Purposes* course centres on the possibilities for the co-construction and co-production of

knowledge, rather than on knowledge as simply educator transmitted or simply student created (Portelli & Vilbert, 2002, p. 39).

The aim of the *English for Academic Purposes* course is considered within the goal of studies to prepare the learners for use of English for Academic Purposes in real-life situations. Moreover, a graduate has the opportunity to continue his/her academic development in the study of the chosen field or other related fields in formal adult education. The *English for Academic Purposes* course

- facilitates learners' research success,
- supports preparation for international programmes in the European Union,
- promotes further specialization in the chosen field and learning in a simulated environment.

Hence, the aim of the *English for Academic Purposes* course is to improve learners' communicative competence in English for the active participation in international research activities. The objective of the *English for Academic Purposes* course is to widen learners' social experience in General English, Academic Native Language, English for Academic Purposes and Mother Tongue, namely, experience in social interaction in General English, Academic Native Language, English for Academic Purposes and Mother Tongue and cognitive activity in General English, Academic Native Language, English for Academic Purposes and Mother Tongue. Table 6 demonstrates the concept of the *Experience of Social Interaction and Cognitive Activity* curriculum worked out by Surikova (Surikova, 2007b, p. 118) and complemented with understanding of development of the system of external and internal perspectives, quasi-concept and

General English, Academic Native Language, English for Academic Purposes and Mother Tongue in order to design the *English for Academic Purposes* course.

Table 6: Concept of the *Experience of Social Interaction and Cognitive Activity* curriculum adapted from Surikova (Surikova, 2007b, p. 118)

Teaching phase		Peer-learning phase	Learning phase
Basic conditions	Efficient academic environment, system and systematic peer interaction, development of the system of internal and external perspectives, opportunities for improvement of each student's social experience in General English, Academic Native Language, English for Academic Purposes and Mother Tongue	Peer interaction, academic development, diverse open academic problem situations, each student's social experience in General English, Academic Native Language, English for Academic Purposes and Mother Tongue, opportunities to construct, to evaluate and to self-evaluate	
	Scientific and academic concept	Quasi-concept	Spontaneous concept

Frontal activity		Peers' activity	Individual action
Interpersonal dialogue		Study cultural dialogue	Individual internal dialogue
Formulating a hypothesis		Examining the hypothesis	Assessing the results
General English and Academic Native Language		English for Academic Purposes	Mother tongue
Reflexive functions	Establishing social purposes, social interaction planning and organizing	Establishing joint purposes, collaboration planning and organizing	Establishing personal purposes, individual planning and organizing
	Social decision making	Joint decision making	Individual decision making
	External evaluation	Mutual evaluation and self-evaluation	self-evaluation

Moreover, the *English for Academic Purposes* course as part of the *Experience of Social Interaction and Cognitive Activity* curriculum is implemented in three phases based on the unity of conditions as demonstrated in Table 6. The certain sequence of teacher's and peers' activity and each learner's action to be implemented in each phase of the *English for Academic Purposes* course as part of the *Experience of Social Interaction and Cognitive Activity* curriculum is determined in Table 6.

Phase 1 of implementation of English studies for academic purposes was aimed at safe environment for all the learners. In order to provide safe environment, the essence of constructive social interaction and its organizational regulations were considered by both the teacher and the learners. Moreover, the teacher learned the students' names (McCarthy, 2004, p. 38). The present phase of English studies for academic purposes was

organized in a frontal way involving the learners to participate in English studies for academic purposes. The frontal method comprised the introduction of e-platform in the NiceNet environment (www.nicenet.org) to support the learners to become familiar with the e-platform with the teacher's assistance in the first phase of English studies for academic purposes. Further on, the learners used their knowledge and skills in working with the e-platform in the NiceNet environment (www.nicenet.org) for dealing with the course materials. Furthermore, use of methods such as communication games and information-gap activities emphasized the rational of the learner's previous experience and provided the learners with opportunities to search for a variety of information source and to obtain techniques of information compiling. In order to provide safe environment for each learner in Phase 1 of implementation of English studies for academic purposes, the teacher took into consideration her well-being (Holmes, 2005), appearance and body language (Kincāns, 2002).

The *Preparing a Good Introduction to a Presentation* information-gap activity by Buckmaster (Buckmaster, 2004, p. 1) was analyzed in details. The learners' ability to make presentations for academic purposes in English is one of the expected results. The *Preparing a Good Introduction to a Presentation* information-gap activity is aimed at specialized training in fluent and accurate starting the learners' presentations for academic purposes in English with the focus on reading, writing, listening and speaking, asking and answering questions, searching for the information with use of Web 3.0 if necessary. The preparatory phase of English studies for academic purposes includes e-mailing the learners the task. The *Preparing a Good Introduction to a Presentation* information-gap activity comprised the following procedure:

Stage 1 was aimed at asking the learners to read out the task and at discussing the task in the whole group. There were no difficulties to understand the task because the learners did similar exercises while being pupils at secondary school.

Stage 2 assumed the learners to implement the task individually and/or in peers. If necessary, they searched for the translation of unknown words with use of Web 3.0 in order to complete the given sentences: the English for Academic Purposes classes were held in a computer classroom with the Internet connection available. The learners shared the resources available on Web 3.0 with pleasure.

Stage 3 dealt with sharing the learners' experience in reordering and completing the sentences with the group's participants. The learners managed to complete the sentences without any difficulty. However, the sentence order was given by the learners in a variety of combinations.

Stage 4 was designed to compare the learner discoveries with the findings of other learners. All the learners were helpful and friendly during the present stage of the studies: if there was a difficulty to find an idea on reordering the sentences, expression or word, the learners could get the necessary assistance from the groupmates and the teacher. The observation revealed that word order, auxiliary verbs contained some difficulties for the particular learners. The teacher used the following ways of correcting errors and mistakes:

- hinting,
- reformulating and
- repeating.

Stage 5 was devoted to re-completing the task by each learner in the classroom. It was carried out by the learners with an interest: the learners re-asked some questions. For example, they were interested in whether the sentence *On behalf of the Senate of the University of Tartu may I welcome you to the General Annual Meeting* is really the second among the six sentences or the sentence *This morning I would like to outline our strategy for getting more partners in the European Union* is definitely the fifth one.

Phase 2 of implementation of English studies for academic purposes was designed for the learners' analysis of an open academic problem situation and their search for a solution. The present phase of English studies for academic purposes was oriented to the learners' acts in peers. The methods, namely, role plays, simulations, dialogues, prepared talks and discussions, provided the exchange of forms and methods of the learners' activity (Laiveniece, 2000, p. 121). The same materials were prepared for all of the group learners but the materials were different whereas learning styles and opportunities were different (Maslo, 2006, p. 30).

While the learners' preparing role plays, simulations and dialogues, the teacher left the classroom for a few minutes in order to allow the learners to start the task independently.

The prepared talk on the topic of the learners' interests was analyzed in details because the learners' ability to make presentations for academic purposes in English was one of the expected results. The prepared talk on the topic of the learners' interests is aimed at specialized training in fluent and accurate learner making presentations for academic purposes in English with the focus on reading, writing, listening and speaking, asking and answering questions, searching for information with use of Web 3.0 if necessary. The preparatory stage included

- e-mailing the learners the task to prepare a presentation in English on the topic of the learners' interests at the beginning of the *English for Academic Purposes* course,
- clarifying whether the learners are able to work with the PowerPoint programme while the placement test takes place at the beginning of the *English for Academic Purposes* course,
- an English for Academic Purposes class with the emphasis on making a successful presentation for academic purposes in English that involves discussion on the presentation aims, its structure, materials, its procedure, use of the PowerPoint programme,
- making the learners' presentations on *Successful School Manager* with use of Web 3.0 and the PowerPoint programme.

The prepared talk on the topic of the learners' interests comprised the following procedure:

Stage 1 was aimed at a learner's presentation to his/her groupmates about his/her interest with use of Web 3.0 and the PowerPoint programme. The learners assisted each other in the technical area of presenting with use of the PowerPoint programme if there were some problems with the technical equipment, namely,

- new version of the PowerPoint programme of the learner's presentation was not suitable to the PowerPoint programme available in the computer classroom,
- transferring the presentation from the learners' flash to the desktop of the computer, etc,
- opening the presentation files saved in the programmes different from the programmes available in the classroom, and

- re-connecting the projector from the classroom computer to the private computer, etc.

Stage 2 assumed the learners to switch the roles of speakers and listeners and to repeat the activity.

Stage 3 was devoted to the discussion on the learners' presentations. The discussion revealed that the learners while further practising a presentation would take into consideration

- pronunciation of academic terminology: the learners know how to spell the term, however, they do not pay a lot of attention to its pronunciation,
- time limit for academic presentation, namely, 10 minutes in the *English for Academic Purposes* course, whereas the learners' presentations took 15-20 minutes,
- slide limit for academic presentation: there were 10 slides set as a requirement in the *English for Academic Purposes* course whereas the learners prepared 12-25 slides to emphasize the significance of the content of their contributions,
- to put only key words or phrases on a slide, not the whole sentence or text,
- non-verbal aspects of communication:
 - o the learners' location and distance within the public zone while making a presentation whereas some of the presenting learners were standing at a classroom's wall,
 - o to vary the pace and pitch of his/her voice,
 - o irritating nervous habits such as running his/her fingers through his/her hair or clicking the fingers or a pen, etc,

- not to turn his/her back on the audience in order to read the text of the presentation from the screen on the wall,
- not to cross his/her arms and
- to look into each other's eyes,
- to bring an answer to a question subsequently if there is no possibility to reply immediately: for example, the presentation took a longer time than it was suggested.

Phase 3 of implementation of English studies for academic purposes emphasized the learners' self-regulation with use of assessment of the process and self-evaluation of the results. Nevertheless, the lecture did not coincide with English studies for academic purposes, the learners presented their self-evaluation by the end of each class. Self-evaluation comprised three questions as following:

1. What is your attitude to English studies for academic purposes today?
2. What have you learned in English studies for academic purposes?
3. How can you apply this knowledge in your academic field?

The present phase of English studies for academic purposes was organized in an individual way.

However, the learners revealed their willingness to share their experience obtained in the classroom by the end of each lecture. Moreover, the students emphasized the importance of the possibility (Ilyinska, 2004, p. 92-93, 95)

- to see things from different perspectives,
- to produce a new organisation of familiar components and
- to consider new ideas by making connections among the olds.

Phase 3 of implementation of English studies for academic purposes identified the most successful teaching and learning methods as demonstrated Table 7 in order to improve the students' communicative competence.

Table 7: Phases of English studies for academic purposes and their most successful teaching and learning methods

Phase	Activity's zone	The most successful teaching and learning methods
Phase 1 Teaching Phase	Scientific and academic concept and Frontal activity	communication games, information-gap activities
Phase 2 Peer-learning Phase	Quasi-concept and Peers' activity	Dialogue, role play, discussion, simulation: conference and video-conference, debate, seminar and project; prepared talk
Phase 3 Learning Phase	Spontaneous concept and Individual action	self-evaluation

The present part has described the teacher's contribution to the development of the learners' communicative competence in implementation of English studies for academic purposes with use of e-learning.

5.3. Research Findings

Our empirical results show that the context of non-formal adult education in Latvia is described by enormous socio-economic and unprecedented demographic challenges, including regional disparities, aging populations, high rates of low-skilled adults and of youth unemployment, low birth rates, changing family structures and migration (Lifelong Learning, 2008, p. 2) in the context of volatility, uncertainty, complexity and ambiguity.

The findings of the empirical study allow concluding that the mezzo-level context of non-formal adult education in Latvia is heterogeneous.

Summarizing content analysis (Mayring, 2004) of the data allows outlining findings on

- outcomes of the research, and
- description of good practices (courses that engaged participants, tools for trainers that prepare them to use distance learning and open source.

Within the present contribution such research findings have been emphasised as

- Due to ageing European population and workforce, the recent economic downturns and the labour market's increased flexibility, the participation of adult

in lifelong learning paths has firmly entered the political agenda of the European Union (Maniscalco, 2013) including Latvia.

- In the modern education, the paradigm has changed (Kincāns, 2015)
 - o from the humanistic mission of education
 - o to the level of training of specialists needed by society and production.
- This paradigm shift has emphasised that education widely employes a competence based approach.
- Each domain of formal/non-formal/informal learning or, in other words, education contains aspects of the other two domains, that most learning situations encompass attributes of (in-)formality and that there is no safe way to establish the differences between formal and informal learning as fundamentally different types of learning (Colley, Hodkinson & Malcolm, 2003, p. 31).
- Adult learners as the key players in adult education are characterized by different time constraints (e.g. due to job and family responsibilities) and their expectations and ambitions differ from those of traditional learners (Schuetze & Slowey, 2002).
- Information and Communication Technology (ICT) is useful to foster learning in many ways (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171-172):
 - o removing the entry barriers to education;
 - o allowing access to knowledge anytime and anywhere;
 - o increasing the possibility of collaboration with others;

- enhancing the opportunities for personalisation (including different paces and pathways for learning); and
- facilitating the possibility of self-directed learning through access to open
 - educational resources (OER; defined by UNESCO, 2012) and
 - Massive Open Online Courses (MOOCs).
- A considerable shift of focus in terms of learning theory away from cognitive concepts to comprehensive ones (Babajeva, 2012, p. 450).
- The shift of learning theory focus from cognitive to holistic approach requires a development of a new concept within adult learning (Babajeva, 2012, p. 456).
- A new concept within adult learning including e-learning which considers an adult as a whole who learns by transforming experience into bodily feeling, soul emotions and ideas of mind (Babajeva, 2012, p. 456) is required as the focus of learning theory has shifted from cognitive to holistic approach (Babajeva, 2012, p. 456).
- E-learning in non-formal adult education in Latvia is placed into the concept of Latvian lifelong learning that combines the humanistic and economic approach – the development of the personality in connection with raising qualification and requalification combining it with formal, non-formal and informal learning in the integrated perspective of innovations and entrepreneurship (Birzina, 2012).
- The gamification of reality by the implementation of educational games and learning by using simulations, especially business simulations, is one of the possibilities to improve adult's education process, to make it not only suitable to

the needs of today's learner, to the variety of their learning styles, but also to reach higher effectiveness of learning itself (Melaikiene, 2015).

- The policy in adult education of Latvia is being shaped instead of coordination of activities of individual contributors to adult education.
- The new target of the European Union adult education policy including Latvia has shifted from citizens to workers and the competence development model, borrowed from the corporate sector has been established as the reference for the new policy road maps (Maniscalco, 2013).
- In the light of 'politization' of research (Roger, 2002) including the area of adult education in Latvia rooted-in-the-policy definitions (Kuļšs, 2014b, 141) are used.
- Formalization of adult education and learning (Handler, 2015) literally understood as a progressive generalization and standardization of the learning process (Zürcher, 2015, p.74) is carried out.
- Enhancing the role of cultural organisations, civil society, sporting organisations and other bodies as creative and innovative settings in adult learning (Muraškovska, 2012, p. 12) or, in other words, adult education is discussed.
- Quality assurance in non-formal adult learning has to be ensured.
- The learning outcomes approach in adult education encompasses a balanced construct of behaviourist and cognitivist theories that embrace a meaningful, learner-centred approach (Kuļšs, 2014a, p. 18).
- Recognition of non-formal and informal education (Organisation for Economic Co-operation and Development, 2010) has started in adult education in Latvia.

- There is a problem with teaching materials in the national language in non-formal adult education in Latvia. The newest teaching materials are available in foreign international languages to be used in non-formal adult education. Teaching materials in the national language have to be updated after some time as these teaching materials get old-fashioned and, therefore, not usable in non-formal adult education including e-learning. But due to a number of problems such as timing, financial, etc teaching materials in the national language are not enriched.
- There is no information as well as research on teacher training for teachers who are involved in non-formal adult education in Latvia in general and in e-learning in non-formal adult education in Latvia in particular. It means that teachers enhance their teaching qualification acting in compliance with their own responsibility against their participation in non-formal adult education in Latvia. Assumingly, teacher
 - o obtain their knowledge and qualification in formal higher education in Latvia, and
 - o participate in local and international training courses, seminars, etc supported by local or international authorities.

Description of good practices includes

- courses that engaged participants,
- tools for trainers that prepare them to use distance learning and
- open source.

As the more content-specific the course, the more learners will find it useful and be motivated (Jordan, 1997, p. 252), such courses engaged participants as

- Teaching Theory of Inventive Problem Solving (TRIZ) at schools and industries supported by the European Commission in the framework of the Lifelong Learning Programme.
- Virtual tours of varied exhibitions as offered by Museums such as the Natural History Museum of Latvia. Virtual learning is associated with participation in learning. The representatives of different age and interests may engage in natural research.

Tools for trainers that prepare teachers to use distance learning:

- During training course, E-learning platforms such as Moodle are well-accepted among training course participants.
- for communication purposes in non-formal adult education such tools are employed as
 - *Skype* and [Google Hangouts](#) that ensure voice, text and video interaction, desktop showing to the conversation partner, file exchange, conference calls,
 - Screen sharing such as [Teamviewer](#),
 - Chatting such as *Facebook* or *Google Hangouts*,
 - Non-synchronous forums such as *Google Groups*,
 - Sms such as *WhatsApp* un *Twitter*,
 - Social media such as [Facebook](#), [Pinterest](#) or [Springpad](#),
 - *Open Education Resources* (OER) where [OER Commons](#) are a starting point,

- *Creative Commons* that show how to use materials in compliance with copyright law,
- *Podcasts* that are audio records that can be downloaded into a computer or mobile telephone,
- *Youtube* that offers video instruction to many question, etc.

Open source used in Latvia comprises

- **the website Time of ICT (ikt.jrpic.lv)** published by Jelgava Regional Adult Education Center aimed to help teachers to find the information, e-resources and teaching materials of teachers, which they can use for improving the quality of teaching and learning process.
- Data base of reports **on the Internet Library Atlants.lv** published by SIA “CDI”.
- ***Dabas dati (Data of nature)*** published by Latvian Fund for Nature, Latvian Ornithological Society in the homepage “*Dabasdati.lv*” as pointed in Figure 13 volunteers can freely share their observations on nature, insert photos taken by them in nature, consult, comment and get information about the species they are interested in. All the information is connected with the coordinate system in the map of Latvia. This can be used in scientific researches, as by adding the description of phenomenon observed, all the precise data are manifested. This home page is supported by Latvia, Iceland, Liechtenstein and Norway.
- Socialization is provided by social networks such as

- Accountants Club – with professional orientation; it offers databases, Club Life, Address Book, links directory. There is an opportunity to receive the opinion of specialist, as well as access and download forms, and get support information on how to operate (Handbook).
- Cālis.lv – with household orientation, etc.

Examinations in e-learning within non-formal adult education can be carried out via such tests as [Hot Potatoes](#).

For entertainment in e-learning within non-formal adult education, such open resources are widely used in Latvia as

- games such as [Bunchball](#) and Serious Game Network as well as
- Simulations such as
 - [OpenSimulator](#) and
 - [Second Life](#).

6. CONCLUSIONS

The theoretical analysis presented in this contribution allows outlining such factors that affect non-formal adult education as

- 'politization' (Roger, 2002),
- the shift from cognitive to holistic approach to adult learning,
- constant modernization of Information and Communication Technologies (ICT),
- formalization of adult education and learning (Handler, 2015),
- institutionalization of the educational process in formal and non-formal adult education (Ahrens & Zaščerinska, 2015, p. 44),
- enhancement of the role of such institutions as cultural organisations, civil society, sporting organisations and other bodies as creative and innovative settings in adult learning (Muraškovska, 2012, p. 12) or, in other words, formal and non-formal adult education,
- uncertainties for quality assurance in non-formal adult learning (Muraškovska, 2012, p. 11) or, in other words, non-formal adult education
- the gamification of reality by the implementation of educational games and learning by using simulations, especially business simulations (Melaikiene, 2015),
- the learning outcomes approach in adult education,
- recognition of non-formal and informal adult education (Organisation for Economic Co-operation and Development, 2010).

The findings of the present empirical study allow drawing conclusions that the overall situation with the spread of non-formal adult education in Latvia is heterogeneous. Thereby, well qualified staff, namely teachers / trainers / coaches / etc is needed to support adults in their learning including e-learning.

The heterogeneous context of non-formal adult education in Latvia is considered as a favourable opportunity as the education organisations that deliver non-formal adult education in Latvia may mutually complement each other within non-formal adult education in Latvia.

Information and Communication Technology (ICT) tools are more appropriate for adults who have clearly defined what they want and are able to learn independently (Muraškovska, 2012, p. 12).

This paradigm shift from the humanistic mission of education to the level of training of specialists needed by society and production has emphasised use of competence based approach in non-formal adult education.

Interconnections between each domain of formal/non-formal/informal learning or, in other words, education facilitate e-process in e-learning in non-formal adult education to include different types of learning such as

- formal,
- non-formal and
- informal.

On the one hand, formalization of adult education and learning (Handler, 2015) literally understood as a progressive generalization and standardization of the learning process (Zürcher, 2015, p. 74) is carried out.

On the other hand, gamification of non-formal adult education by the implementation of educational games and learning by using simulations, especially business simulations, is one of the possibilities to improve adult's education process, to make it not only suitable to the needs of today's learner, to the variety of their learning styles, but also to reach higher effectiveness of learning itself (Melaikiene, 2015).

Participation of cultural organisations, civil society, sporting organisations and other bodies as creative and innovative settings in adult learning (Muraškovska, 2012, p. 12) or, in other words, adult education is to increased.

Quality assurance in non-formal adult learning has to be ensured.

The learning outcomes approach in adult education to encompass a balanced construct of behaviourist and cognitivist theories that embrace a meaningful, learner-centred approach (Kuļšs, 2014a, p. 18) is to be used in non-formal adult education.

E-learning in non-formal adult education in Latvia focuses on the development of learning to learn competence (Birzina, 2012).

Diversification of types of e-resources in Latvian as well as teaching learners how to apply them in non-formal adult education in Latvia should be increased despite the fact that nowadays many projects in Latvia are focused on e-resources supply.

Another conclusion refers to

- the new target of the European Union adult education policy that has shifted from citizens to workers and the competence development model, borrowed from the corporate sector has been established as the reference for the new policy road maps (Maniscalco, 2013) as well as

- the development of the personality in connection with raising qualification and requalification combining it with formal, non-formal and informal learning in the integrated perspective of innovations and entrepreneurship (Birzina, 2012).

Both targets, namely of the European Union adult education policy as well as the development of the personality in Latvia support European Union's education and training for entrepreneurship. Entrepreneurship facilitates the prosperity of the modern society in general and the sustainability of contemporary economics in particular as entrepreneurship has been adopting a two-fold role (Ahrens & Zaščerinska, 2014) such as

- from the social perspective, entrepreneurship promotes the innovative and competitive development of society, and
- from the individual perspective, entrepreneurship contributes to the individual's employability and career option.

For e-learning in non-formal adult education, it means to focus e-learning on application of e-Business, e-Commerce, etc.

Production of teaching materials in national languages should be increased.

A conclusion is that there are few education / training systems for adult education professionals across Latvia, and even fewer those that can reshape their offers so that it would fit the new needs. Often, trainers overtake this responsibility and manage their own professional development which is objectified in non-formal and informal learning settings. The need to make these competences visible and to recognised them is a real one, and it is addressed through the implementation of national validation systems and development of assessment instruments.

Therefore, documentation and evaluation of both trainers' as well as adult learners' competences acquired in formal, non-formal or informal learning contexts have to be promoted.

The present research has *limitations*. The inter-connections between *adult, adult education, non-formal adult education, e-learning, e-process, context analysis and teacher training* have been set. Another limitation is the empirical study conducted by involving the learners, teachers and experts in education and training from Latvia only. Therein, the results of the study cannot be representative for the whole area. Nevertheless, the results of the research – the factors that influence non-formal adult education - may be used as a basis of analysis of management education in other institutions.

Further research tends to implement empirical studies with participation of other groups of respondents such as parents, education policy representatives, etc. The search for relevant methods for evaluation of non-formal adult education is proposed. Application of the triangulation method to evaluation of learners' and teachers' needs in non-formal adult education is determined as a further research direction.

Further research tends to focus on empirical studies to be carried out in other European countries. And a comparative research of different countries could be carried out, too.

7. RECOMMENDATIONS

Within the present research recommendations for training teachers who provide e-learning in non-formal adult education have been elaborated. The recommendations refer to such domains of training teachers who provide e-learning in non-formal adult education shown in Figure 28 as

- Training preparation,
- Training content,
- Training methodology,
- Training methods,
- Training tools.

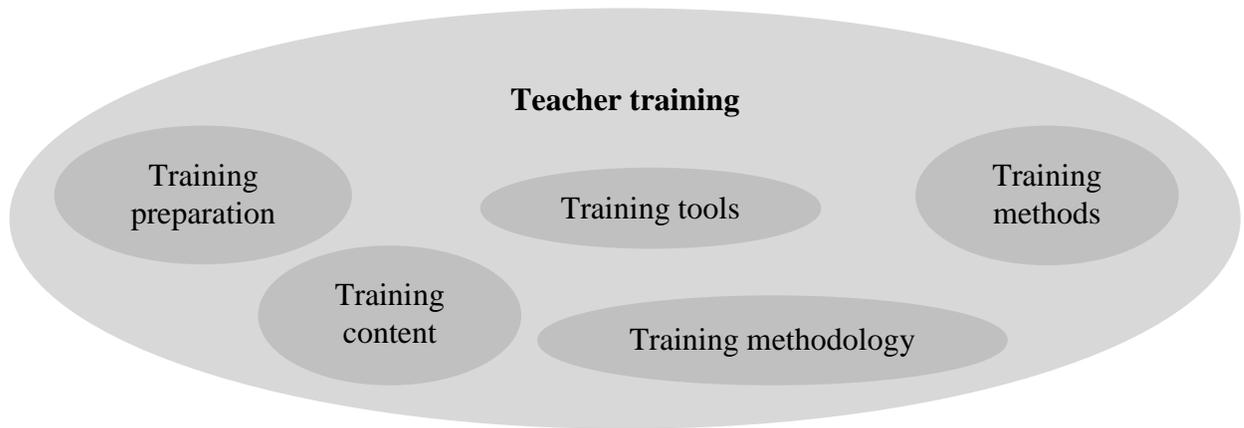


Figure 28: Domains of teacher training in non-formal adult education

Training preparation should include

- provision of training for teachers acting in non-formal adult education with
 - the unity of methods, tools and techniques of formal, non-formal and informal adult education as advocated by the European Union,
 - methods, tools and techniques that define adult learners' aims and purposes and, thereby, increase adult learners' motivation to use Information and Communication Technology (ICT),
 - competence based approach,
 - learning outcome based approach,
 - formalization of adult education and learning,
 - gamification of non-formal adult education by the implementation of educational games and learning by using simulations,
 - quality assurance in non-formal adult learning,
 - skills to integrate cultural organisations, civil society, sporting organisations and other bodies as creative and innovative settings into the e-process of e-learning within non-formal adult education.
- rooted-in-the-policy definitions (Kuļšs, 2014b, 141) in the light of 'politization' of research (Roger, 2002),
- certification and qualification of training for teachers acting in non-formal adult education in compliance with the requirements of the European Union.

Teaching materials in national languages for training teachers who provide e-learning in non-formal adult education have to be ensured.

For the purposes of widening production of teaching materials in national languages, training content should include use of

- online dictionaries,
- online translators,
- online media, and
- other related tools.

The main focus of training content should be put on application of

- e-Business,
- e-Commerce,
- Enterprise 2.0 or even 3.0,
- e-Government for citizens, etc.

Examinations in e-learning within non-formal adult education can be carried out via such tests as [Hot Potatoes](#) or similar.

For educational purposes, such games could be included in teacher training course as

- [Bunchball](#) and Serious Game Network as well as
- Simulations such as
 - o [OpenSimulator](#) and
 - o [Second Life](#).

Training methodology should be based on a new concept which considers an adult as a whole who learns by transforming experience into bodily feeling, soul emotions and ideas of mind (Babajeva, 2012, p. 456) as the focus of learning theory has shifted from cognitive to holistic approach (Babajeva, 2012, p. 456).

Training methods should provide a variety of methods applicable to the competence development model in e-learning such as used by employees in a particular field. It should be noted that method is defined as a way of teaching and learning (Karapetjana, 2008, p. 26). Consequently, methods in training courses for teachers acting in non-formal adult education focus on use of Information and Communication Technologies, web technologies, etc.

Training tools have to be in compliance with subject-specific of e-learning that means the e-tools needed for a particular subject, e.g.

- e-Business,
- e-Commerce,
- Enterprise 2.0 or even 3.0,
- e-Government for citizens, etc.

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10. Glossary (in the alphabetical order)

Adult: a person who has reached the age of 15 years, “that after a break continues general or professional education (formal, informal)” (Basic Guidelines of Lifelong Learning Policy for 2007–2013, 2007).

Blended learning: the combination of learning and e-learning (Zaščerinska & Ahrens, 2013, p. 293).

Blended educational process: the unity of blended teaching, blended peer-learning and blended learning (Zaščerinska & Ahrens, 2013, p. 294).

Coach: someone whose job is to teach people to improve at a sport, skill, or school subject (Cambridge Dictionaries Online, 2015a).

Content: the body of facts, principles, theories, practices (Commission of the European Communities, 2006, p. 16) and concepts (Žogla, 2001, p. 4).

Desk research: a type of market research that involves collecting and examining information that already exists and is easy to get, such as company records, published government reports, and information in newspapers, magazines, and on the internet (Cambridge Dictionaries Online, 2015b).

Distance education: an extramural method for acquiring education, which is characterised by specially structured educational materials, individual speed of learning, specially organised evaluation of educational achievement, as well as utilisation of various technical and electronic means of communication (Education Law, 1999 – 2011).

Distance learning: a specially planned, organised independent learning supported by advisers and consultants (Lifelong Learning Policy for 2007–2013, 2007, p. 5).

e-Education: defined as a specially organised study course in which the following information and communication technologies are used in a methodically grounded way – telecommunication and computer networks, multimedia CD-ROM, as well as radio and TV broadcasting, audio/video records, interactive TV and other technologies (Basic Guidelines of Lifelong Learning Policy for 2007–2013, 2007, p. 4).

e- Learning: (short for electronic learning) an umbrella term that refers to all types of training, education and instruction that occurs on a digital medium, like a computer or mobile phone.

e-Learning: NOT a database where the student will find all information. Learning is always a process together with other students, using printed and interactive material and with a tutor available (Birzina, 2012).

e-Learner: a person who enriches his/her experience via computer-assisted learning.

e-Tool: computer or web based application intended to make a task easier (Wictionary, 2015).

Formal education: the hierarchically structured, chronologically graded 'education system', running from primary school through the university and including, in addition to general academic studies, a variety of specialised programmes and institutions for full-time technical and professional training (Coombs, Prosser, Ahmed, 1973).

Formal education: an institutionalised, consecutive and structures education system, that includes elementary education, secondary and higher education degrees, acquiring of programmes of which are certified by a state education document of education and/or professional qualification (Basic Guidelines of Lifelong Learning Policy for 2007–2013, 2007, p. 5).

Formalization: literally understood as a progressive generalization and standardization of the learning process (Zürcher, 2015, p.74).

Informal education: the truly lifelong process whereby every individual acquires attitudes, values, skills and knowledge from daily experience and the educative influences and resources in his or her environment - from family and neighbours, from work and play, from the market place, the library and the mass media (Coombs, Prosser, Ahmed, 1973).

Informal education (*neformālā izglītība*): besides formal education an organised educating activity that compliments formal education by ensuring the acquiring of the skills and abilities and development of evaluation system necessary for a socially and economically active state citizen to be able to integrate in the society and the labour market) (Basic Guidelines of Lifelong Learning Policy for 2007–2013, 2007, p. 5).

Learning: a purposefully organized or spontaneous individual process of students' improvement of his/her individual experience (knowledge, skills and attitudes) based on cognition (Ahrens, Zaščerinska & Andreeva, 2013, p. 35).

Method: a way of teaching and learning (Karapetjana, 2008, p. 26).

Methodology: a system of principles, practices, and procedures applied to any specific branch of knowledge (Karapetjana, 2008).

Non-formal education: any organised educational activity outside the established formal system - whether operating separately or as an important feature of some broader activity - that is intended to serve identifiable learning clienteles and learning objectives (Coombs, Prosser, Ahmed, 1973).

Open learning: gives to the learner a degree of flexibility in the choice of topics, place, pace and/or method (European Centre for the Development of Vocational Training (CEDEFOP), 2004).

Open education: the learning experience that gives the learner a degree of flexibility in the choice of (Muñoz, Redecker, Vuorikari & Punie, 2013, p. 171)

- what (topics),
- where (place),
- when (pace) and
- how (method) to learn/study.

‘Politization’ of research (Roger, 2002): to use rooted-in-the-policy definitions (Kuļšs, 2014b, 141).

e-Resource: any information source in an electronic format available online, including bibliographic databases, electronic reference books, search engines for full text collections, digital collections of data and data sets, individual non-reference e-books and individual e-journals, etc.

Teacher: a person who shares his/her experience with others.

Teaching: a purposefully organized joint process of educator’s sharing experience (knowledge, skills and attitudes) with students (Ahrens, Zaščerinska & Andreeva, 2013, p. 35).

Trainer: a person who teaches skills to people or animals and prepares them for a job, activity, or sport (Cambridge Dictionaries Online, 2015c).

Training: the process of learning the skills you need to do a particular job or activity
(Cambridge Dictionaries Online, 2015d).

Web technologies: advanced Internet technologies and applications.