LITHUANIAN UNIVERSITY OF EDUCATIONAL SCIENCES

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EXPRESSION AND DEVELOPMENT OF THE LEARNING TO LEARN COMPETENCE OF THE ADULTS PERFECTING THEIR QUALIFICATION

Summary of the Doctoral Dissertation

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Introduction

Relevance of the topic

The end of the 20th and the beginning of the 21st centuries exhibit dramatic changes in economy, technologies and social life. By highlighting these changes in all areas, the program documents of the EU and the Republic of Lithuania (Lisbon Strategy, 2000; Bologna Process, 1999; Copenhagen Process, 2002; The Long-Term Development Strategy for the Republic of Lithuania, 2002; Provisions for the National Education Strategy, 2003-2012, 2003) emphasize the importance of life - long learning for employment and industrial competitiveness, for enhancing intellectual potential of the community, active expression of public spirit, personal improvement and self-realization as well as minimization of social exclusion. The provisions state that successful transition to knowledge-based economy and society can only be ensured by life-long learning, the greater part of which is covered by adult learning (The Communique of the European Communities Commission, 2006). Life-long learning is becoming the main trend of the present and the future as well as the challenge for the adult segment of the population. Only by accepting this challenge the human can expect successful adaptation to the rapidly changing conditions of everyday life.

Taking into consideration the fact that adult learning in general life duration takes about 55-60 years with 40 years of learning while working, the main priority of adult learning is professional growth. This is proved by studies carried out in Lithuania (T.Tamošiūnas, 2005; M.Teresevičienė et al., 2006; UPC, 2010; Social Information and Training Agency, 2012). The research results show that the major part of adult learners relate learning with working activity, i.e. improvement of qualification and re-qualification. The qualification of workers is becoming an important criterion describing the supply of labor force as stated in the *Strategy for Ensuring Life-long Learning*, (2008). The innovation of production processes, productivity and production quality directly depend on the competences of workforce and their qualification. In order to perform well at work, employees have to seek to gain more than one competence and qualification, constantly update their knowledge, skills and abilities or to acquire new ones. Professional and personal growth, creativeness and motivation for work and study are ensured and encouraged by well developed key competences. The essential importance of key competences for a human living in the knowledge society is emphasized in the Recommendation 2006/962/EC of the European Parliament and of the

Council of 18 December 2006 on key competences for lifelong learning (2006) and Lithuanian Strategy for Lifelong Learning (2008).

The learning to learn (*futher- L2L*) competence is one of the major key competences. It is a key competence for developing other general and specific competences and has to be fostered throughout all conscious human life. This idea is stressed in all political documents regulating life-long learning (EPC Recommendation, 2006; Communication from the Commission - Adult learning: It is never too late to learn, 2006.)

The subject of L2L competence is analyzed in scientific works on education by foreign and Lithuanian researchers. B.Hoskins, U.Fredricksson (2006, 2008), J.Hautamäki et al. (2002) study the general aspects of learning abilities competences and problems of assessment. P.Hofman (2009), M.E. Taylor, P.Kloostermann (2010) analyze the importance of L2L competence for an adult and highlight the influence of affective factors on the adult learner's learning. B.Hoskins, D.R.Crick, 2008) analyze L2L competence as a basis of civil competence. K.Bakracevic, K. Vukman (2005) discuss adult learning abilities as the aspects of meta-competence, L.Chisholm et al. (2009) review L2L competence as an active learning method. H.Mandl, U.M. Krause (2001) reveal the importance of L2L competence for the learning society, D.S.Rychen (2003, 2004) write about L2L competence as a life-long competence.

The works by the Lithuanian researchers analyze the L2L competence aspects of secondary and higher school educators (G.Gedvilienė, V. Zuzevičiūtė, 2007; G.M. Linkaitytė et al., B.Bitinas, 2012; N.Bankauskienė et al., 2008; P.Jucevičienė, 2003; M.Barkauskaitė, 2007; I.Zaleskienė, 2007). Some authors analyze individual constituent parts of L2L competence, e.g., M.Teresevičienė (2007) discusses the factors affecting adult learning. J.Laurinavičiūtė (2002) studies the genesis of adult learning motivation. G.M.Linkaitytė, D.Lukšytė (2003, 2005) analyze self-directed elements of learning. On a practical level, L2L competence of adults is developed by implementing the Education Development Centre project "Development of Adult Education System by Granting Key Competences for the Learners'.

Attention, however, should be focussed on the fact that the works by Lithuanian and foreign authors fail to offer empirical data on the expression of adult L2L competence and its measuring tools. In 2008-2009, at the start of writing the thesis, two models designed to study LLC of schoolchildren and students were found (J.Hautamäki et al., 2006; B.Hoskins et al.; 2008). In later

years international learning to learn projects (e.g. SKILLS[1], Learning to Learn[2], C-KIT[3]) appeared. SKILLS project designed the instrument for self-assessment of adult LLC, however, the data of the application results were not found. Other projects were restricted only to the study of theoretical aspects of learning to learn or practical activity, i.e. training to develop learning abilities.

In Lithuania the greatest attention is centered on the LLC expression of secondary school and university students and its development (V.Stanišauskienė, 2006, 2008; V.Pukevičiūtė, 2007, 2009; 2010, 2012; N.Mačianskienė et al., 2004; N.Burkšaitienė, 2006; B.Bitinas, 2012; UPC, 2012; The project 'Implementation of self-governed learning organization model in the North and West regions of Lithuania' is pursued by Šiauliai University).

After a thorough analysis of literature sources it can be maintained that the problem of adult L2L competence expression and its development in Lithuania has been analyzed in a fragmental manner. A systemic approach to the ability of an adult to learn, theoretical and empirical works revealing the implied attitudes of adults to learning are missing: understanding the importance of L2L, the knowledge and usage of personal abilities for learning, skills of learning in reflecting , communication and assistance of other persons in learning, self-assessment of the ability to learn elements as subjective factors of learning, the importance of cognitive and affective dimensions of learning for an adult in learning to learn. Individual attempts to investigate constituent parts of LL competences of small groups of adults give but a limited picture of expression of this ability among adults. L2L competence assessment is not included into the studies of adult learning, so, the expression of this competence among adults is not found. It means that the self-assessment instrument for expression of L2L competence of adults, specifically, in seeking to create conditions for development of learning abilities, is necessary. Such instrument in Lithuania is non-existent. Fragmental and excursive development of adult L2L competence fails to cover adult L2L competence assessment; therefore, it does not provide data on the influence of the effect being developed.

In conclusion, the situation of the analysis of theoretical study and empirical research of adult L2L competence in Lithuania provides the possibility to define the problem of the research: how the

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[1] Several Keys in Learning to Learn Skills (SKILLS). (2007). Projekto medžiaga (projekto numeris 134012-2007-ES-GRUNDTVIG-GMP). Interaktyvus, prieiga per internetą www.faea.es/G1_SKILLS , [žiūrėta 2010 01 18].
[2] Learning2Learn (L2L). (2012). Projekto medžiaga. Interaktyvus, prieiga per internetą http://learning2learn.eu [žiūrėta 2012 07 31].
[3] Socialiai pažeidžiamų grupių bendrųjų kompetencijų plėtra ir pripažinimas (projekto numeris 2010-1-IT2-GRU06-13864 4) Interaktyvus, prieiga per internetą www.lssa.smm.lt/projektai/2012 metai [žiūrėta 2010 01 18].

adults understand and assess their L2L competence and what are the possibilities for the development of the competence.

The object of the research: expression and development of adults' L2L competence.

The aim of the research: to reveal the expression of adults' L2L competence and its development possibilities.

Objectives of the research:

- To justify the concept of learning to learn competence in scientific literature.
- To work out the hypothetical model of the adult learning to learn competence.
- To determine the expression of adult learning to learn competence.
- To reveal the development possibilities for learning to learn competence of the adults.

Theoretical importance of the work is characterized by the results obtained:

The concept of learning to learn competence in scientific literature is revealed.

The hypothetical model of adult learning to learn competence is worked out.

The development possibilities for adult learning to learn competence are highlighted.

Practical importance of the work

The worked-out and empirically substantiated model of assessment instrument for adult L2L competence form preconditions for systemic assessment of adult L2L competence.

The assessed expression of adult L2L competence opens the possibilities to purposefully improve the adult teaching and learning programs by incorporating or strengthening the development of learning ability and self-development.

The educational program worked out on the basis of the analysis of scientific literature and empirical data and empirically tested and assessed by the expression of L2L competence and designed to develop the adult L2L competence can be applied for the improvement of learning ability of different adult groups.

The systematized theoretical material, research instrument and results, practical recommendations are of use for adults willing to assess the L2L competence level, deepen knowledge in L2L and practically improve the ability to learn; it is also helpful to adults educators working with different adult groups, to training organizers.

The novelty of the work consists in theoretical and practical substantiation of place and importance of L2L competence in the learning process of the adult. The analysis of scientific literature

substantiates theoretical preconditions for the development of the adult's learning to learn competence. The hypothetical model of the adults' L2L competence was worked out.

The results of the empirical research show the existing expression of the adults' learning ability: how the adults understand the essence of learning to learn, how they assess the effect of learning ability for general progress of learning and perfection of the personality, how they assess the abilities comprising learning to learn competence, how learning ability is manifested by adult groups of different age, sex and education.

The original program for development of the ability to learn is worked out. The implementation of the program resulted in a positive influence on the expression of the adult L2L competence, also, it revealed that the adult L2L competence can be improved irrespective of age, sex and education.

The statements to be defended

- The adult L2L competence is a holistic competence, consisting of six basic sub-competences manifesting themselves in personal, procedural and reflective areas: understanding the idea of learning to learn, awareness of the factors of learning motivation, reflection of former experience, time management, organization of information and abilities for group work.

- The competence of adults' learning to learn can be (self) developed. Successful development is determined by purposefully planned and organized educational activity of optimal duration, involving the learner's experience, based on appropriate learning strategies, positive emotions and cooperation.

- The development possibilities of L2L competence are linked to the learning strategies. The adult L2L competence is developed by applying the strategies of reflection and application of experience in new situations, learning planning, monitoring, assessment and correction (metacognitive strategies), the search for ways of self-motivation, information, management of time and efforts as well as cooperation (strategies of the management of resources).

Methodological provisions of the work

The following theories have been chosen as the provisions of the work:

Theory of Humanistic Education (A. Maslow, 2006; C.R.Roger, 1961, *here from 2005*) based on humanistic provisions of pedagogics and psychology focusing on the importance of a human personality and revealing the potential of an adult in a learning situation.

Theory of Constructivism (P. Sahlberg, 2005; H.Siebert, 2007) which suggests that learning is the process of creating meanings by applying different experience. According to this theory, a human studying on an individual basis is a constructor of experience - based knowledge, and a teacher is only assistant in the learning situation; social environment and cooperation make a significant influence on the development of the person's cognitive potential.The constructivist theory of learning is closely related to the adult learning, since in both cases it is the human experience that is evaluated which is both a resource of learning and a stimulus for learning (S.B. Merriam, R.S. Caffarella, 1999; S.Imel, 2000).

Andragogic theory of teaching and learning (M.Knowles, 1970, 1975; 1980, 1984; M.Knowles et al., 2005, 2007; D.Kolb, 1983; P.Jarvis, 2001) which emphasizes the attitude to the adult learner as to the independent personality, motivated, able to reflect and seeking to make use of the accumulated personal experience, responsible for learning and its results, with a strong need of self-management and who exhibits his/her own individual differences.

Theory of Transformative Learning (R.J. Mezirow, 1991; P.Cranton, 1996; E.W.Taylor, 1998; Ch. Zeuner, 2007; I.Schuessler, 2008; L.Illeris, 2010; H.Siebert, 2010) defines adult learning as a reflexive process, where a human changes problematic ways of thinking and perception of meaning, assumptions and expectations, so that they become more open, involving, reflective and possible to be changed emotionally. Transformative learning is learning in action comprising all three learning areas: cognitive, affective and social.

Approval of the dissertation:

Publication of the research results:

1. Lukošūnienė V., Barkauskaitė M. (2011). Expression of learning to learn competence of adult educators// Andragogika, 2011/2, 99-p. 111.

2. Lukošūnienė V. (2011). Reflexion as an integral part of learning to learn competence// Pedagogika, No. 101, p.43-49.

3. Lukošūnienė V., Barkauskaitė M. (2013). Learning to learn competence: adults' attitude// Pedagogika, No.110, p.41-48.

Papers presented at the conferences:

1. Lukošūnienė V. Adults' attitude to learning to learn. Paper read at the scientific conference "Updating andragogy studies in the context of personalization", The Institute of Continuous Studies, Klaipeda University, 11.10.2013.

2. Lukošūnienė V. Learning to learn as a precondition for improving educational competences. Paper read at the national conference of young scientists "Improving educational competences in the educational process", Lithuanian University of Education, 19. 10. 2012.

3. Lukošūnienė V. Learning to learn: innovation or novelty long forgotten? Paper read at the international conference "Innovative methods for enabling adults: perspectives of education and social work" at M.Romer University, Vilnius, 10.05.2012.

4. Lukošūnienė V., Barkauskaitė M. Expression of learning to learn competence of adult educators. Paper read at the scientific conference "Andragogy topicality: professionalization of adult education agents". The Institute of continuous studies, Klaipeda University, 19.05.2011.

5. Lukošūnienė V. Reflexion as an integral part of learning to learn competence. Paper read at the scientific conference" Challenge of time for Lithuanian education "in commemoration of Dr. Meilė Lukšienė, Vilnius University of Education, 18.11.2010.

6. Lukošūnienė V. Reflexion as an instrument for adult learning. Paper read at the scientific-practical conference "Adult education: creativeness and innovations" M.Romer University, Vilnius, 2009.11.26.

Structure of the dissertation

The work consists of the introduction, four parts, conclusions, recommendations, references and appendixes. The work presents 83 illustrations: 33 tables and 50 pictures. 587 sources were used for research.

Review of the content of the dissertation

The introduction discusses relevance of the problem analyzed, presents the aim, the objectives and the defended propositions of the research. Also, it emphasizes scientific novelty, theoretical and practical importance and methodological provisions of the research.

The first part analyzes the conception of learning to learn competence (L2L competence) in scientific literature and the importance of specific features of adult learning for improving L2L

competence. The factors influencing L2L competence and theoretical aspects of learning strategies are reviewed and the hypothetical model of L2L competence for adult is presented.

In clarifying the main point of L2L competence, its connections with the general conception of competence are determined and the place of L2L competence in the competence classification is reviewed. The relation of competence conception to L2L competence is revealed based on the comparison between competence and learning competence by H. Mandl, U. M. Krause (2001, p.8): if competence is the ability to act, learning competence is the ability to learn efficiently (i.e. to act while learning) and to achieve the result. It can be stated that LL competence is the ability to act by learning the effective learning forms and the ability to achieve high level of learning to learn. In reference to scientists (R. F. Dearden, 1976, B.Hoskins, U. Fredriksson, 2008), it should be stated that L2L competence is one of the main key competences based on the strategies how to better acquire and apply the content of the subjects. The acquired L2L competence helps the human to cognize himself better, to plan education goals and ways, to better cooperate with other participants of the learning process and create preconditions for becoming active citizens ready for life-long learning.

In analyzing the sources of scientific literature it was found that both L2L competences and usage of learning to learning concepts and their definition in modern literature on education are varied (A. Karsten, 2010; M. E. Taylor, P. Kloostermann, 2010; C. Stringher, 2006, 2010). This shows the complexity and multi-dimensional character of the phenomenon. According to the scientists, the conception of learning ability is understood in a narrow (meta-cognition) (R. Mielke, 2001; 2004; K. Bakracevic, 2006) and extended (meta-learning) sense (R.F. Dearden, 1976; P.Adey, 2006; D.R. Crick, 2006; A.Moreno, 2006; R.Zürcher, 2007; G.Gedvilienė, V. Zuzevičiūtė, 2007; M.E. Taylor, P.Kloostermann, 2010). In adult learning the L2L is to be encouraged as a meta-learning encompassing the adults' need and ability of reflection. It should be noted that in a broader sense L2L is a separate learning conception (C. Stringher, 2010) and is designed not for one specific subject, but is, rather, a basis of all subjects. On the other hand, L2L is related to other similar learning conceptions: general learning, learning strategies and self-directed learning.

The analysis of scientific works revealed that learning ability is significant both globally and personally. From the global point of view, L2L is a precondition for more advanced, more educated society with high educational culture and a driving force for management and application of modern

technologies and economic advance. Personally learning ability provides the possibility for every human to be more liberated in life and career and make more effective decisions.

The influence of adult learning specific features on self-developing L2L competence is reviewed with regard to the problem of the research in such aspects: adult age classification, the nature of life tasks, factors of cognitive development, experience and the importance of maturity to understand the point of learning. The peculiarities of adult learning are directly associated with the aspects of fostering L2L competence. According to scientists (D.J. Levinson, 1986; B.H. Lemme, 2003; M.Knowles et al., 2005, 2007; H.Siebert, 2007; Černius, 2006), transition periods to a new unknown stage of life create a learning situation for a human. The degree of maturity makes an influence on the attitude to learning, learning motivation and on taking responsibility for personal perfection. Individual features in the cognition category determine the capability of accumulating and processing information, discovery of acceptable learning methods (D.H.Jonassen, B.L.Grabowski, 1993; B.Baltes, 1987; K.W. Schaie, S.L.Willis, 2005; R.Laužackas et al., 2005; V.Černius, 2006; G.Petty, 2008). According to R.J.Mezirow (1991), P.Jarvis (2007), M.Knowles et al., (2005, 2007), H.Siebert (2007), D.Kolb (1984), human experience is a valuable learning resource and stimulus. The conclusion is that regard to the individual age span, complexity of developmental tasks, maturity of thinking, cognitive capacities, former knowledge and experience as well as other individual features can help the human as well as the adult learning organizers to plan the learning process, to manage time, to resolve problems, to acquire, process and reproduce new knowledge and apply knowledge and skills in new situations.

This part of work analyzes the influence of internal and external factors. The works by R.Brocket, R.Hiemstra, 1991; M.Knowles et al., 2005, 2007; R.Zürcher, 2007, V.Zuzevičiūtė, M.Teresevičienė, 2008, P.Bortini, 2009, point that internal (moral values, experience, motivation, self-estimation, emotions, etc.) and external factors (learning accessibility, environment, material and time resources, communication with colleagues, etc.) make an influence on the adult learner's learning to learn. Note that L2L sub-competences are acquired by enhancing factors positively affecting the learning process or suppressing the negative ones.

In analyzing the theoretical aspects of developing adult L2L competence strategies it was found that learning strategies and L2L are directly interconnected: in L2L, learning strategies are acquired, and its success is ensured by choosing and applying the most suitable learning strategies (V.Stanišauskienė, 2005; C.Stringer, 2006; B.Hoskins, U.Fredriksson, 2008; V.Pukevičiūtė, 2009).

According to J.Lompsher (1994, 1996), E.Nuisl et al. (2002), G.Kamper (2005) purposefully applied learning strategies reduce the adult's dependence on external learning factors, ensure effective learning, help to achieve good results, strengthen his/her confidence and learning motivation. Any age is suitable for developing learning strategies. The scientists stress that it is meta-cognitive strategies that are most important for adult's learning to learn (K.P. Wild, U. Schiefele, 1994; H.F. Friedrich, 1995; J.Lompscher, 1996; C.Artelt, 2000; H.Mandl, U.M. Krause, 2006; V.Zuzevičiūtė, 2006; E.Wild, K.P. Wild, 2009).

In summarizing the models of L2L competence (hypothetical development model according to V.Pukeviciute, Finland L2L competence conception, European L2L competence test model, L2L competence model of SKILLS project), it can be stated that the models are used to provide the instrument for evaluating and self-evaluating L2L competence. Even though the conceptions of L2L competence in the models slightly differ, the main characteristics of competence tend to coincide: learning goals, information management, cooperation and team work, learning strategies, learning motivation, attitude to failure, fear of error and analysis of difficulties, the learner's self-cognition, learning environment, reflection and meta-cognitive analysis. These characteristics are incorporated into all or nearly all models, so, it should be expected that they significantly reveal the core of the L2L competence.

With reference to the diversity of conceptions of L2L competence, specific features of adult learning, characteristics of L2L competence models and theoretical assumptions of adult L2L competence functioning, a hypothetical model of adults' L2L competence was worked out (Fig.1).
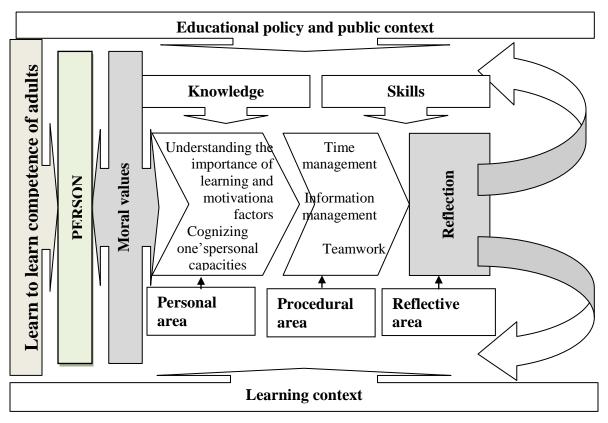
Fig. 1. *Hypothetical model of adults' learn to learn competence*

The definition of L2L competence was chosen as the basis for theoretical model. This definition describes L2L competence as a proved ability, with reference to the corpus of knowledge, skills and moral values, to reflect his/her motivation for learning and understanding the importance of learning, to plan and manage his/her learning by applying efficient instruments of information and time management, by working on an individual basis and in collaboration with other learners, by cognizing one's personal capacities and by trusting them as well as by taking responsibility for his/her learning. The adult's moral values determining his/her point of view to L2L and a permanent reflection of the process, the knowledge and skills were chosen to be the starting point in the model. The model consists of three parts: personal, procedural and reflective which encompass affective, cognitive and meta-cognitive aspects of L2L competence and its constituent sub-competences.

The second part of the dissertation substantiates the methodology of the study of adult L2L competence.

The first stage of study (2008-2010) analyses theoretical scientific literature and political documents of education. The models for L2L competence assessment and self-assessment are analyzed and the hypothetical model of adult L2L competences is worked out.

In the second stage of study (2010-2011), the L2L competence study instrument, empirical research methodology and the survey questionnaire were developed, a diagnostic research was carried out and summarized. The survey was organized in 2010-2011 in the in - service training sessions throughout Lithuania. The aim of the survey was to find how L2Lcompetence of the adults improving their qualification and its constituent parts were manifested. The survey was anonymous and the participants were informed that the data was going to be used solely for scientific purposes. The procedure involved 544 participants.

In the third stage (2011-2012) the L2L competence (self)development strategy was defined and implemented: the educational project was realized, two diagnostic sections (before the developmental effect and after) were made aiming to determine the expression of L2L competence, and the L2L competence expression change on the basis of the obtained results was determined. The aim of the educational project was to determine the impact of educational influence for the L2L competence of adults and to reveal its development possibilities.

The content of the educational project program was formed with regard to the adults' learning needs, the diagnostic research results, analysis of literature sources as well as to personal experience of the researcher engaged in working with adults. The duration of the learning program was 80 academic hours (40 academic hrs of classroom work/contact hrs and 40 academic hours of individual work. The project was implemented in September - October, 2011 in the in - service trainings to develop L2L competence in the project of the Educational Development Centre *Qualification improvement of educators and development of re-qualification system (*VP1-2.2 – MES-02-V-01-006). 49 persons took part in the project.

The fourth stage of research (2012-2013) was devoted to the preparation of the text of the dissertation; the conclusions according to the research results were formulated, and the proposals and recommendations were prepared.

Research methods:

Theoretical: descriptive, analytical, study of literature (on education, psychology, sociology) related to the subject matter of the dissertation, analysis, comparison and summarizing.

Empirical: surveys designed to determine the expression of learning to learn competence of adults improving their qualification and the scope of educational effect on the ability to learn.

Educational project is performed to implement the program of learning ability seeking to prove the effect of learning on higher level competence.

The observation method was used to reveal the application of learning ability in real situations.

Mathematical statistical methods were used to analyze the data of the survey and to present its results. The data are processed by a computerized SPSS (Statistical Package for Social Sciences 17.0 for Windows) program and Microsoft Office 2007, Excel for Windows program.

The third part of the dissertation presents research results of the expression of adults' L2L competence. The aim of the research is to find out the expression of abilities that constitute adults' learning to learn competence.

Expression of adults' personal powers.

Comprehension of L2L sense. The analysis of the research results revealed that adults who improve their qualification understand the L2L sense; 35,9 % state that L2L is *very important*, 58,6 % state it is *important*; positively evaluate the influence of L2L on learning progress (state 98 % of respondents); see personal benefits of L2L (51,4 % of respondents think that L2L provides the understanding about effective learning strategies, 43,1 % - how to motivate himself / herself to learn, 34,7 % - how to acquire self-confidence and success).

Respondents describe L2L (Fig.2) as an ability to collect, process, save, reproduce and use information efficiently (60,7 %), as an ability to acquire and memorize new knowledge and skills (48,5 %), as an ability to plan learning activity (42 %).
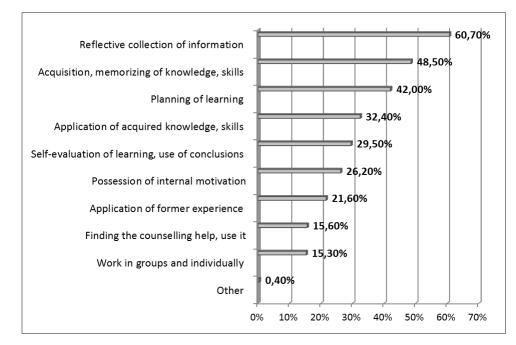
Fig.2. *Comprehension of learning to learn sense (%), n = 544*

Ability to learn is rarely understood as meta-learning: only 26,2 % of respondents think that ability to learn is an internal motivation to learn and self-confidence. 21 % of respondents state that ability to learn is based on former experience; 5,6 % of respondents think it is an ability to find counselling help and use it. A similar understanding of L2L is common for adults who live in different areas, are of different age, sex and education. The presented evaluations reflect the perception tendency that L2L is a cognitive process. It is assumed that meta-learning and the emphasis of affective dimension in adults' L2L is an important aim of the educational activity.

Comprehension of motivation factors (Fig. 3). The analysis of motivation factors' comprehension sub-competence self-evaluation results reveal that the target group's motivation to learn is quite high. The respondents indicated that aims, plans and dreams are the strongest motive to learn (motive cluster self-evaluation average is 4,21). Respondents state that they feel the need for learning when they set the aims themselves, think about the future, believe in projects and dreams, and know what they perform the tasks for. The weakest motive to learn is learning as an ability to know and evaluate themselves, to increase self-confidence, to learn new things every day, to stimulate the progress of other people (cluster self-assessment average is 4,00).
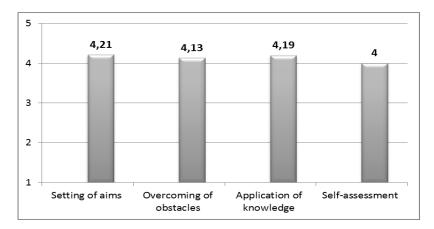
Fig.3. Evaluation of motivation factors

Cognition of intelligence powers. The analysis of the research results revealed the tendency that adults use the advantages of the dominating type of intelligence (according to H. Gardner) insufficiently: 45 % of respondents indicated that they know the most expressed type of personal intelligence, 55 % of respondents did not answer the question. The result leads to the presumption that large part of adults does not know the advantages of their intelligence powers; therefore they do not use them efficiently. Only 38,9 % of respondents who answered positively were able to describe how, specifically, they use the advantages of expressed intelligence powers. The conclusion may be drawn that adults do not exploit their intelligence potential while learning.

Expression of procedural area sub-competences.

The analysis of the research results shows (Fig. 4) that group work sub-competence is the most developed in the procedural sub-competence group (self-evaluation average is 4,00). Ability to plan time is a sub-competence that should be improved the most (self-evaluation average is 3,59). It is assumed that adults who participated in the qualification improvement events can cooperate, but they have problems with time planning. It may be assumed that poor ability to plan time affects the ability to reflect former experience.
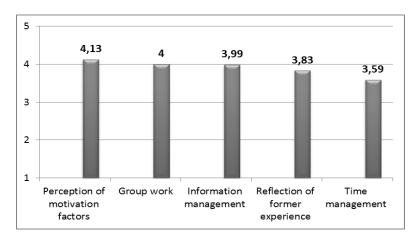
Fig. 4. *Evaluation of learning to learn sub-competences*

Time management sub-competence. Respondents are able to set and comply with activity terms well (cluster self-evaluation average is 3,72). The abilities to use time of learning meaningfully are identified as the weakest: set the limits for different stages of activity, stop the activity and reschedule it if the aim is not achieved, identify time wasting performing unpleasant tasks. It should be noted that abilities to plan time properly are essential for learning motivation, which is usually associated with works performed or not performed in time.

Information management sub-competence. Respondents have good information management abilities that are related with the adults' learning experience in traditional education system, using traditional learning methods to search, memorize and repeat information. But the research revealed that traditional strategies of information memorizing are insufficient, e.g. to memorize the everyday data. The weakest group with information management skills - information application in practical situations – is related to poor application of transformative learning for adult education.

Group work sub-competence. Adults know what group work is and have abilities to develop it. It is likely that while learning adults experience group work as work organization form, therefore they have developed many necessary skills and formed attitudes. Abilities that respondents lack of are related to the expression of personal opinion and this could be assigned to the traditional education results (*Do I think right?*) and insufficient self-evaluation (*Is my opinion interesting to anyone*?).

Reflective area. *Former experience reflection sub-competence.* The analysis of the research results shows that evaluation of former experience (self-evaluation average is 3,83) is lower than the comprehension of motivation factors, but it is higher than time management sub-competence (Fig.4). People who live in rural areas (*H = 9,803, p = 0,020*) and people with secondary and

vocational education (*H = 13,679, p = 0,00130*) evaluate the reflection abilities less well. Respondents evaluated (Fig.5) the abilities to understand former activity the best (self-evaluation average is 3,96). The most difficult task for respondents was to design a plan of former experience application and to implement it (self-evaluation average is 3,69).
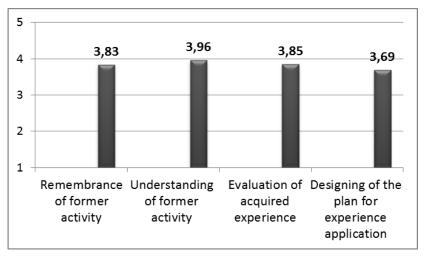

Fig. 5. *Evaluation of ability to reflect former experience*

The results of former experience reflection self-evaluation show that adults should develop these abilities, because the conclusions of activity reflection have a direct impact on adults' education in the future, become the basis for the future aims, provide conditions for further qualitative activity.

Influence of socio-demographic factors on L2L competence expression. Adults of different age, education, sex and living place have different abilities to learn. People who live in rural areas and have lower education have poorer abilities. The cause is that they had and now have poorer abilities to learn: there is a lack of internal motivation to learn, unfavourable external conditions for learning (e.g. access to learning). The differences between men and women groups reveal the real learning situation that women learn more often, active and they go deeper into learning content as well as learning organization forms.

Adults' need to develop L2L competence. Adults who improve their qualification express the need to participate in special classes to strengthen their learning to learn competence. 70 % of respondents *would agree* to participate in learning to learn classes, 27 % think they *might agree*. Statistically significantly more willing to learn are younger people ($\chi2 = 52,266$, df = 16, p = 0,000), women ($\chi2 = 12,973$, df = 4, p = 0,011) and people with lower education ($\chi2 = 29,196$, df = 16, p =

0,023). This result implies a number of assumptions: a) it is likely that younger people are more confident to learn new things. However, the wish of younger people to improve their learning to learn abilities means that they do not feel they have developed an ability to learn in the general education system; b) it is likely that women are more curious, more open to innovation and are more prepared to improve; c) it is likely that people with lower education feel the lack of the ability to learn and hope to achieve better learning results while learning to learn.

Analysing the learning strategies and techniques that adults would like to learn (Fig.6), it appeared that the majority of respondents would like to learn *memory training (54,8%)*, *memorization and reproduction (45,9%)*, *information analysis* (41,9%) strategies and techniques.
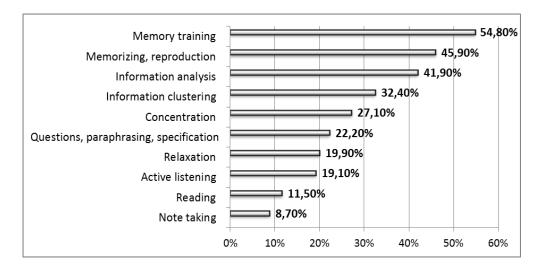

Fig.6. *Need for learning strategies (%), n = 49*

Younger people ($\chi2 = 9,923$, *df = 4*, *p = 0,042*) would like to learn *information memorizing and reproduction* strategies, people of age groups 35-44 and 55-64 ($\chi2 = 10,703$, df = 4, p = 0,030) would like to learn *memory training* techniques, and men more often than women ($\chi2 = 5,087$, *df = 1*; *p = 0,024*) would like to learn *information clustering* technique.

The use of data obtained during the diagnostic research. The conclusions are drawn on the basis of the research data analysis and they are applied for the development of education project methodology and methods. In the methodology of the developed project large attention was paid to the analysis of efficient time management and to the formation of reflective learning skills. The learning strategies that form the understanding of affective learning to learn dimension, learning style and multiple intelligence cognition were included into the learning programme.

The **fourth part** of the dissertation presents the programme of the developed project, discusses its implementation, analyses the results of educational impact and compares them with the results of diagnostic research, reveals the adults' L2L competence possibilities.

The aim of the program of the educational project is to strengthen the teaching staff's ability to learn in order to master the knowledge and acquire skills faster, more efficiently and applying modern methods, to form attitudes and to apply innovations in practice, to take responsibility for learning outcomes. In the educational project training the following strategies were applied: cognitive (memorization, repetition, development and transfer), metacognitive (learning planning, monitoring and evaluation), resource management (motivation, emotion and cooperation) as well as the forms of meaningful, constructive, reflective and creative learning. This allowed achieving a significant intensification of the ability to learn.

The impact of the educational activity is obvious to all learning to learn sub-competences and their constituent abilities. The most strengthened sub-competences and their constituent abilities are reflection of former experience (change average is 0,43) and time management (change average is 0,36). Changes of other sub-competences (information management, motivation and group work) were relatively smaller, possibly due to the fact that the project participants considered the latter competences were quite well developed.

Changes of sub-competence evaluation

	Change average	Standard deviation	Interval	Min evaluation	Max evaluation
Time management	0,36	0,47	1,98	-0,71	1,27
Information management	0,19	0,45	1,92	-0,63	1,29
Group work	0,14	0,43	1,69	-0,63	1,06
Motivation	0,19	0,41	1,94	-0,69	1,25
Reflection of former experience	0,43	0,58	2,43	-0,49	1,94

Change of personal powers expression. The analysis of the educational project research results and their comparison to the diagnostic research results show that the activities of educational project helped the participants to reveal and understand deeper the sense of L2L. Before the training, participants of both diagnostic research and project had similar understanding about the relevance of

L2L. Ability to learn was *very important* to 35,9 % (general set approach) and 41,7 % (attitude of educational project participants' before the training), *important* – respectively 58,6 % and 58,3 % of participants. After the training the understanding of the educational project participants' changed and already 50 % of the research participants thought that ability to learn is *very important*.

The analysis of the research results (Fig.7) shows how the educational activity partially changed the participants' opinion about the understanding what ability to learn means for them.
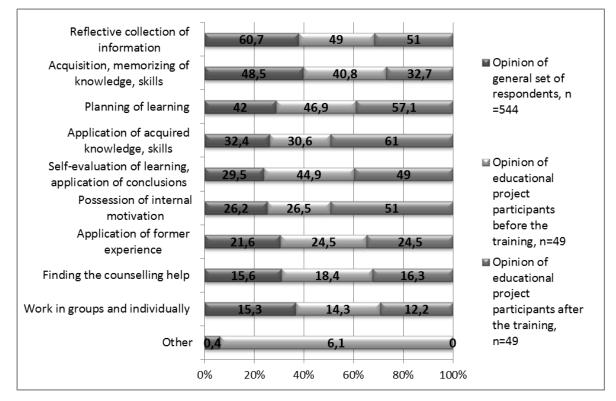

Fig. 7. *Understanding what ability to learn is (%)*

The project participants (before and after the training) as well as respondents of general set usually understood the ability to learn as a cognitive process, but after the training the comprehension of ability to learn as a metacognitive competence increased a great deal. 57,1 % of the project participants after the training understands the ability to learn as an ability to plan learning (before training – 46,9 %); 51 % of participants – as an ability to apply the obtained knowledge and skills in different situation (before training – 30,6 %). Learning activity increased the comprehension of L2L as a meta-competence: after the training 51% of respondents assess the ability to learn as an internal motivation and self-confidence (before training – 26,5 %).

In the motivation factors comprehension sub-competence the attitude towards the ability of self-evaluation as a learning motive changed the most (change average is 0,33). A significant change in the personal powers cognition reveals the change of the multiple intelligence knowledge (Fig.8).
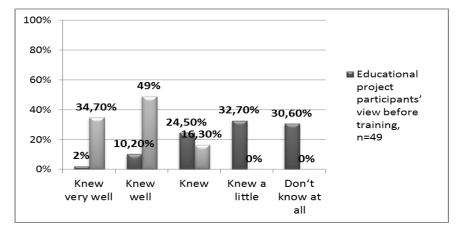

Fig.8. *Knowledge of multiple intelligence types according to H.Gardner (%), n=49*

Before the educational project only 2 % of participants knew the multiple intelligence types *very well*, 10,2 % - knew *well*, 24,5 % – *knew*, 32,7 % - *knew a little*, and 30,6 % *didn't know at all*. At the end of the educational project the situation changed: 34,7 % of participants knew the personal multiple intelligence types *very well*, 49 % - *well*, and the rest 16,3 % - *knew*. Such change was influenced by the multiple intelligence topic research form – individual reflective work and a relatively long period of time. A conclusion may be drawn that proper time, properly formed education aims and selected learning strategies are important for the cognition of person's individual powers. A necessary condition is that adult person must be motivated to know his / her personal intelligence powers and their successful application.

Educational impact for change of socio-demographic factors of L2L competence.

Sex. Educational activity affects both sexes in the development of L2L competence. The greatest progress in the women's group was made in strengthening the ability to reflect former experience, especially to make a plan of previously acquired experience and to implement it. In men's group the greatest changes experienced time management and information management abilities.

Age. Participants of different age groups constituted the educational project group. For research purposes they were divided into five age groups: 21-30 years (1 person), 31-40 years (17 persons), 41-50 years (15 persons), 51-60 years (14 persons) and over 60 years (2 persons). Assessment

results of 21-30 years and over 60 years age groups were not analysed separately because of statistically insignificant number of participants.

In the age group 31-40 the following aspects increased the most: participants' ability to make a plan of former experience application and implement it (change average is 0,74), the attitude that possibility of self-evaluation motivates to learn (change average is 0,54), ability to assess the experience gained in previous activity (change average is 0,49). In this age group the information search abilities should be improved the most (the lowest positive change average is 0,07). The participants of 41-50 years age group mostly improved the ability to use time meaningfully (change average is 0,87) and ability to plan the sequence of performed actions (change average is 0,47). The abilities to be improved in this age group – to understand and assess former activity (the lowest positive change average 0,07) and ability to communicate (the lowest positive change average is 0,08). In the age group 51-60 years the following abilities were improved – to plan time performing the tasks (change average is 0,61) and ability to assess former opinion critically about the former level of learning to learn competence.

CONCLUSIONS

The following conclusions are formulated on the basis of theoretical and empirical research and educational project results.

1. The analysis of scientific literature sources showed that:

   - Learning to learn competence is a holistic competence (meta-competence) which forms in self-regulating, active construction of knowledge, self-cognition and social process. L2L competence includes the attitudes and abilities that help people to take responsibility for their learning, and create preconditions to be a participant of lifelong learning.

   - The reflection and comprehension of adult person age, development tasks' complexity, maturity of thinking, cognition abilities, former knowledge and experience help the adult person to make policy of L2L more efficient. There are no limits (age, mental ability) to develop the L2L competence in adult age because an adult person is able to learn until old age. The change of cognitive abilities because of age can slow down the learning speed, the quality of information perception and reproduction, but this does not show the adults' disability to develop the L2L ability.

2. The designed and theoretically based hypothetic model of adults' L2L competence consists of:

- Personal dimension, which is based on moral values and which includes the understanding of learning to learn sense, internal need to learn, learning motivation, self-perception as a student and perception of personal powers necessary for successful learning, attitude towards self-esteem.
- Process dimension, which includes efforts and abilities necessary for learning planning and management (time management, development of learning environment, information management), creativity, relations with other people (cooperation, looking for help and providing help).
- Reflection dimension, which includes remembering, understanding and evaluation of former activities, the analysis of acquired experience, design and implementation of experience application action plan.
- Basic cognitive abilities, which consist of different area knowledge, skills and their transfer to other situations.

3. The diagnostic research identified the adults' learning to learn competence expression. The research analysis showed that:
- Adults understand the essence of L2L and the provided benefit for general progress of learning and personal development. The ability to learn is understood in a narrow (traditional) sense and it is related to cognitive L2L dimension, i.e. information search, processing and reproduction abilities. Adults lack the comprehension of a wide sense of L2L – meta-learning, which consists of cognitive and affective learning dimensions.
- The most mature adults' L2L sub-competence is the comprehension of motivation factors. The abilities of time planning and management, former experience reflection and self-cognition (intellectual powers, applied learning strategies) are to be improved the most.
- Some demographical factors affect the expression of L2L abilities: a) rural residents have weaker L2L abilities than the residents of towns or settlements; b) women have statistically significantly more learning abilities in all L2L competence constituent groups than men; c) people with university or college education have statistically better developed abilities than people with secondary (with or without vocational) education.

4. The results of the educational project showed that:
- Educational activity, which is well planned and organized, based on learner's experience, appropriate learning strategies, positive emotions and cooperation is a significant factor,

which changes adults' L2L situation, and an important possibility for L2L competence development.

- The educational affect was significant to all abilities that constitute L2L competence in adults' groups of different sex and age. The greatest change experienced the abilities that the participants of educational project considered as developed less: abilities to reflect former personal experience and abilities to manage time. Participants' critical approach to their abilities evaluation increased.

- The educational activity for the improvement of L2L competence is a long-term process, which is organized in stages and cycles: when results of one stage are evaluated, new aims are set and strategies for the next stage are foreseen.

- The development possibilities of L2L competence are linked to the learning strategies. The main learning strategies for adults' learning to learn competence development are metacognitive (learning planning, monitoring, evaluation, correction; internal control of personal success steps; reflection and experience transfer) and resource management (self-evaluation of motivation to learn, search for self-motivation means, time management, effort and emotion control, cooperation).

5. The results of diagnostic research and educational activity showed that:

- Adults want to improve their learning to learn competence and would participate in a direct educational activity if there were a possibility. Statistically significantly younger people, women and people with lower education would agree to learn more often.

SUGGESTIONS AND PRACTICAL RECOMENDATIONS

For adult education politicians

Implementing the provisions for the National Education Strategy 2003-2012 (2003, paragraph 13.1) that in all levels of education, including adult education, abilities to learn are trained purposefully as a basis for all other learning abilities, that help adults to remain in professional activity and be employable, to be valuable members of society, it is necessary to provide real conditions for the development of adults', especially with lower education, learning to learn competence, including the required financial measures.

For adult education organizers and trainers (teachers, trainers, adult teachers)

1. In order to improve the efficiency of adults' participation in learning, it is necessary to communicate the learning to learn competence in a broad sense as a meta-learning or meta-competence, not only as a cognitive dimension, revealing the learning ability's deep sense and practical benefit.

2. Adults who are interested in learning to learn should be provided with favourable conditions (sufficient amount of time, proper curriculum) to know the essence of learning to learn thus adults are able to compare their learning to learn abilities with different learning opportunities and are able to make decisions about further development of learning to learn.

3. Learning to learn competence should be developed not only in special (directly), but in all training for adults (indirectly), part of the training devoting for the discussion of the question *How to learn*? This recommendation is closely related to the learning to learn competence level of training organizers and teachers and presents the following requirements: a) be able to learn themselves; b) be able to provide and discuss the peculiarities of learning to learn to their learners.

4. The development of students' learning to learn competence and ability formation should be included in the andragogue study programmes in order to develop their future learners' learning to learn competence.

For adults

1. Evaluate the learning to learn competence, applying the designed evaluation instrument. The evaluation of present situation allows the identification of LL competence strengths and weaknesses, and then the most optimal ways and measures will be applied for their elimination.

2. Be interested in the possibilities of the learning to learn competence development. Share the learning to learn experience with other learners, relatives and colleagues.

3. Develop reflection skills participating in any training and self-direction: reflect on each day, evaluate things that succeed and don't succeed, decide which conclusions could be applied in the future activities; write a diary.

4. Be interested in personal intelligence powers (mental capacity, learning styles), the possibilities of their development and ways of their application.

5. Consider learning as a „discovery about the world of learning", but not as an obligation and boring thing. Positive attitude provides additional motivation for learning.

For the follow-up researches it would be appropriate:

a) To analyse the expression of learning to learn competence not only in the groups of people who improve their qualification, but also in different groups (e.g. unemployed people).

b) To analyse how the development of learning to learn reflects in the adult education programs (secondary education, vocational training, non-formal education) and what are the possibilities to integrate learning to learn into education programs.

c) To perform a comparative analysis of different instruments used to evaluate the learning to learn competence in Lithuania, in order to determine if learning to learn competence may be analysed applying the same instruments in different age groups (children, teenagers, and youth).

d) To analyse the reasons why adults are poorly motivated by the challenges they face and by the difficulties that require efforts to overcome them.

Information about the candidate

Education:

1975 – 1978 Studies at Vilnius Pedagogical University, Diploma of Teacher of German language.

1998-2000 Master degree of Educology at Vytautas Magnus University.

2008 – 2014 Doctoral studies at Lithuanian University of Educational Sciences.

Work experience:

1978 -1979 Teacher of German language, Secondary school of Skapiškis.

1979 – 1993 Teacher of German language, Secondary school Nr. 12, Vilnius.

1993-1995 Organizer-interpreter, Lithuanian Children and Youth Centre, Vilnius.

1996-1998 Project manager of development project in the sphere of informal adult education, Lithuanian Association of Adult Education, Vilnius.

1999-2002 Consultant, Vilnius Adult Education Centre.

2002 – 2005 Co-coordinator of the Socrates Grundtvig project "European Intercultural Competence Programme" in Lithuania, Lithuanian Association of Adult Education, Vilnius.

2005 – 2009 Leader of the project financed by EU Social Fund "Development and implementation of the model of continuous in-service training of adult educators - practitioners", Lithuanian Association of Adult Education, Vilnius.

2009 – 2011 Expert of the LLP Project „Identification, assessment and recognition of informally acquired competences", Lithuanian Association of Adult Education, Vilnius.

2010 – 2012 Expert of the LLP Project "Grundtvig International Network of Course Organisers, Lithuanian Association of Adult Education, Vilnius.

2013 – till now President of the Lithuanian Association of Adult Education.

Areas of scientific interest: the peculiarity of adults learning, theory and practice of training of adult educators, the problems of adult education, key competences of/for adults, expecielly learn to learn competence.

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