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MŪŽIZGLĪTĪBA
LIFELONG LEARNING

JOINTLY BUILDING AN EVALUATION CULTURE: A WORKSHOP METHODOLOGY FOR A EUROPEAN PROJECT IN THE FIELD OF ADULT EDUCATION

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***Abstract.** This paper presents a reflection on the role of cooperative research in addressing the topic of evaluation within the field of adult education. To this end, the authors outline a specific cooperation initiative that involved academics and practitioners from the field of adult education in different European countries. The project presented here is based on the hypothesis that in order to enhance evaluation at the European level, it is necessary to build a European culture of evaluation, which may be developed by creating a concrete space for collaboration among practitioners and researchers from a range of European adult education contexts.*

Specifically, the project was designed to promote an exchange of experiences, expertise and practices among academic researchers and “practitioners” (Schön, 1983) involved in the evaluation of adult education. A key role was played by a Mobility Workshop: viewed as the core of the collaborative approach proposed, the Workshop provided a concrete opportunity for collaboration among evaluators and researchers from different countries within Europe.

***Keywords:** adult education, evaluation, Europe, cooperative research.*

Introduction

Evaluation is a complex task that touches on multiple dimensions at the organizational, individual and sociocultural levels. It has to do with questions of values, ethics and professional skills, which in turn need to be transformed into assessment procedures. Furthermore, constructing an evaluation strategy at a European level means having to address differences in terms of the divergent economic, social and cultural frameworks within which different countries' adult education systems resituated. Given this background, the project presented here is based on the hypothesis that, in order to address the need for evaluation at a European level, it is necessary to build a European evaluation culture. The research partners wish to develop such a culture by creating a concrete space for collaboration among practitioners and researchers from the field of adult education in several different European countries.

To this end, the EduEval project¹ has been designed to enable the exchange of experience, expertise and practices among academic researchers and “practitioners” (Schön, 1983) involved in the evaluation of adult education. This objective was pursued by holding a Mobility Workshop, viewed by the partners as the core element of the collaborative approach underpinning the research design. Specifically, the Workshop provided a unique and concrete opportunity for co-operation among professionals and researchers from different country backgrounds.

The Mobility Workshop comprised a series of different steps, which we describe and discuss in this presentation, based on different group work strategies, from the more traditional – such as brainstorming and focus groups – to the more informal – such as adoption of a “speed dating” format.

In sum, this paper presents the methodology developed by the research partners with the aim of creating a space for thinking about a common European evaluation culture.

Towards a European Evaluation Culture within the Adult Education System

The evaluation of educational and training systems has long represented a focus of attention for researchers and practitioners working in the area. The interest in the quality of adult education staff is also reflected in a growing demand for training, to which, over the years, the national and international debate (Research voorBeleid, 2010; Panteia, 2013) has attempted to respond, producing a multitude of perspectives and proposals that are difficult to summarize.

Moreover, in Europe the evaluation of adult education staff is underpinned by specific evaluation models: numerous studies and articles point up the presence of different evaluation systems for different professional profiles: trainers, teachers, health professionals, social workers, educators and so on. The skills and competences required by adult education staff have been identified and investigated by a series of EU-funded research projects (Carlsen & Irons, 2003; Jäägar & Irons, 2006; Research voorBeleid, 2005; Research voorBeleid, 2010; Research voorBeleid & Plato, 2008).

According to I.F. Shaw (1999), evaluation is focused on the professional effectiveness of training, facilitating enhanced awareness of one’s educational/training interventions. It thus becomes a tool for generating knowledge and developing new ways of working that are conducive to empowerment and social

¹The Grundtvig Learning Partnership project EduEval/ "Evaluation for the Professional Development of Adult Education Staff" (Project Number: 538743-LLp-1-2013-1-IT-GRUNDTVIG-GMP) has been approved under the Lifelong Learning Programme of the European Commission. Note: This project has been funded with the support of the European Commission. This communication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein. For further information about the project, see www.edueval.eu

change. Furthermore, public and private health, social and educational services with the role of promoting processes of change and growth, need to introduce new ways of evaluating and monitoring the work of their staff given the ongoing significant change impacting on both welfare policies and their own organizations. Said organizations also need to guarantee their staff the opportunity to reflect on the hidden meanings driving their daily work.

If we consider that in the social and educational services, staff skills and actions influence both the quality of the specific professional services provided and overall organizational quality, an exchange of views at a European level seems to be both a useful and necessary step towards creating a practical tool suitable for application to different kinds of institutions. This may arguably be achieved via comparison of the different evaluation systems implemented with adult education staff in the research partners' countries, conducted with academic researchers and "practitioners" (Schön, 1983) involved in the evaluation of social and educational service providers.

The aim of the EduEval project – *Evaluation for the professional development of adult education staff* – is to provide a better understanding of policies, practices, and professional competences associated with evaluation. Project partners are six organizations representing five countries: TEI of Crete - School of Health & Social Welfare Department of Nursing and Department of Social Work (Greece); University of Milan-Bicocca (Italy); University of Bari (Italy); Rēzeknes Augstskola - Rezekne Higher Education Institution (RHEI) (Latvia); Wyższa Szkoła Pedagogiczna - Pedagogic University, Warsaw (Poland); Universitat Jaume I (UJI) (Spain) (Kritsotakis *et al.*, 2015). Thus, the partnership is representative of the different European cultures and social systems as they impact on adult education and its evaluation.

The project (still ongoing) involves a number of different phases, from a preliminary investigation of the different national systems of adult education and the evaluation of adult education staff, to the development of guidelines for evaluators (both formally and informally recognised) in adult education centres, to the design and implementation of a pilot training course aimed at fully equipping evaluators of adult education staff with the required professional knowledge and skills.

Halfway through the project, a key role was played by the Mobility Workshop. The partners, indeed, were aware of having cultural differences, in relation to the project topic – the evaluation of adult education staff – not only with respect to the theories and reference frameworks drawn on from an academic point of view, but also to the concrete practices and procedures through which the evaluation of adult education staff is implemented within the adult education systems of their different countries. Moreover, in order to develop an evaluator training course, it was necessary for the partners to identify the key aspects of an evaluator's professional profile, such as training needs, skills required and so on. To this end, sharing knowledge and expertise among

researchers and practitioners (both formally and informally recognised as evaluators, such as managers, counsellors and supervisors at adult education centres) from the partner countries was considered a necessary first step.

The Mobility Workshop

As stated above, a key role was played by the Mobility Workshop, which lasted three days and was attended by around 50 delegates (researchers and practitioners) from the five countries represented in the project consortium. Viewed as the core of the Consortium's chosen collaborative approach, the workshop saw the participation of several kinds of adult education provider, from five European countries. For this reason, the Mobility Workshop was designed to maximise the opportunity for the exchange of good practices among the participating countries, and for sharing knowledge, strategies and meanings of evaluation among practitioners and researchers, so as to build a new awareness of evaluation and evaluation practices (Schon, 1987; Mortari, 2003; Fook & Gardner, 2007). In pursuit of these goals, the Mobility Workshop adopted a case study strategy. Working on case studies is an extremely powerful and efficient means of connecting with concrete situations, and it may be viewed as a research strategy (Yin, 1994; 2006). Thus, the workshop itself was viewed as a space for cooperative research on a shared topic, among practitioners and researchers from the five participating countries, who thus became in a certain sense, a community of practices (Wenger, 1999).

With regard to how the cooperative work was structured, before presenting the core activities of the Mobility Workshop, it is appropriate to describe two preliminary stages. First, on the opening day of the Mobility Workshop a transnational plenary session was held, with the aim of presenting the first results of the investigation carried out by the partners over the previous months². This first step was fundamental in order to share the state of the art in adult education systems and evaluation of adult education staff across the countries involved in the partnership. At the same time, it was also necessary to facilitate the participants in viewing themselves as a "working group" for the duration of the Mobility Workshop. To this end, the second day opened with an informal mutual presentation activity, based on a "speed-dating" format. This procedure, while seemingly inappropriate, helped to create a concrete meeting space, in which each of the participants had the opportunity to share a few minutes face to face with each of the other participants. Indeed in order to create a common European culture, mobility is viewed by the European Union itself as a key generator of connection and interaction, as is borne out by the funds invested in the Erasmus Plus exchange programme. The research consortium believes that the construction of a common European evaluation culture requires the creation of concrete spaces of encounter among people, where ideas and theories about

²The research report is available on the project web site (www.edueval.eu).

evaluation and its impact on the adult education system may be embodied in concrete experiences drawn from participants' working lives.

Given this background, the core part of the Mobility Workshop was conducted in two stages:

1. presentation of the preliminary work carried out by each partner in its own country, with a view to identifying the evaluation "practitioners" from the adult education sector and the researchers who would participate at the second stage of the workshop. In order to target the practitioners, a brochure presenting the workshop had been produced and disseminated in each of the research partners' countries.
2. a Mobility Workshop, with the participation of both the research teams and the practitioners, and focused on the exchange of practices and ideas, in order to build shared knowledge about the evaluation of adult education staff.

Specifically, in preparation for the Workshop, each of the research teams had written up a specific case of evaluation of adult education staff exemplifying the evaluation of adult education staff in their own country. The writing practice became a reflective process (Biffi, 2014) enabling participants to reconstruct their "lived experience" through analyzing the selected situation. In presenting their chosen case, each partner was required to identify given aspects of the situation described: where (the context of the case); when (the time of the case); why (the situation/problem which the evaluation was conducted to address); who (the participants: evaluators, those evaluated and other actors); what (the actions: what happened during the evaluation process). These basic elements were sufficient to identify the situation and give the audience an adequate level of understanding of it.

During the Mobility Workshop, each country presented its evaluation case at a plenary session of the delegates (in English). Subsequently, the same case was discussed within transnational groups, composed by practitioners and researchers from all the countries involved. This was a crucial aspect of the method, as it created concrete space for a face-to-face encounter among different points of view on the same situation/topic. The discussion in the transnational groups allowed the participants to advance their understanding not only of practices and procedures used to evaluate adult education staff, but also of the hidden cultural meanings underpinning them. During the transnational group sessions, the discussion was based on the following topics:

- evaluation methodologies and instruments;
- evaluation criteria;
- representations of evaluation;
- emotional and relational dynamics (on the part of both evaluators and staff).

After the discussion within the transnational groups, the debate continued at the reconvened plenary session, at which each transnational group shared with the others, its achievements with regard to a set of key topics:

- how may the evaluation of adult education staff be defined;
- what were the main features of the particular country case presented;
- what were some of the differences/similarities between the country case studies presented.

Finally, the Mobility Workshop itself was evaluated by the participants.

Conclusion

The Mobility Workshop highlighted the similarities and differences in evaluation assessment processes among the country systems analysed. Specifically, two main positions were observed: on the one hand, some case studies upheld the value of formal evaluation; on the other hand, other case studies advocated more informal forms of evaluation. This aspect is connected with differences in how the service providers in the various countries are organized and administered, as well as in their theories and methodologies of evaluation per se. It should be pointed out here that the evaluation of adult education staff is a topic that may be approached from different perspectives, some closer to educational aspects, others closer to a quality assessment approach, still others closer to a focus on organizational dynamics. The particular perspective adopted is directly related to different perceptions of the role of evaluator and to the issue of which competences and skills he/she requires. In some countries, this role is very clear and defined, while in other contexts the role of evaluator overlaps with other roles such as manager, supervisor, head of department and so on. Within the complexity just described, the Mobility Workshop allowed some elements that are transversal to all the analysed situations to be identified, providing valuable insights on which to build a training programme for evaluators.

With regard to the evaluation methodology used during the Mobility Workshop itself, all the participants completed relevant evaluation questionnaires during the afternoon of the last day. The questionnaire was designed to assess: the organization and contents of the workshop and the materials distributed; the knowledge and information gained from Mobility Workshop; delegates' general awareness of the challenge of evaluation in adult education, via a self-assessment process (comparing themselves before and after the Workshop). The responses collected showed that the Mobility Workshop had mostly fulfilled participants' expectations with regard to the knowledge and information shared during the event, and that this knowledge and information was considered to be mostly applicable to the participants' daily work. Moreover, the self-assessment items showed that participants' ratings of their knowledge, skills and confidence with respect to the European adult education

evaluation scene improved from being defined as “fair-good” to “good-excellent”, as did ratings of knowledge, skills and confidence with respect to the evaluation of adult education staff.

In general, the workshop provided an opportunity for increasing personal awareness with regard to the challenging nature of evaluating adult education staff. Indeed, the main outcome of the Mobility Workshop was enhanced awareness and understanding that within the adult education system the evaluation of the staff can play a crucial role in terms of assuring the quality of the education provided, and in terms of the quality and wellbeing of professionals within the institutions providing adult education services. In this sense, it may be concluded that the professional profile of an evaluator of adult education staff needs to include different skills, covering organizational and managerial competences and effective leadership.

Given all of the above, the next step for the EduEval Project will be the design and implementation of a pilot training course for evaluators of adult education staff (planned for 2015) that can provide them with the main transversal competences as identified during the Mobility Workshop. At the same time, the challenge will be to train practitioners capable of adapting their own profiles to fit the specific needs and features of the particular adult education system within which they operate. This is the main challenge: to be a European professional, while remaining closely connected to one’s own national scene and its peculiarities.

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**SKOLAS PEDAGOGU KOLEKTĪVA VIENOTAS
PROFESIONĀLAS KOMPETENCES PILNVEIDES IESPĒJAS**
*The Opportunity of Unified Professional Competence Development
for School Teachers Collective*

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***Abstract.** Teachers' professional development in Latvia is currently being guided according to the overall mission in education – to create a society, which is engaged in life-long learning. Teaching proficiency and professional growth in teachers' work are the primary strategies, which to a large extent determine, influence and implement changes in the education sphere.*

That is why the ongoing development of professional competencies is planned, and results are expected in the goals of the further education programme and in the development of competencies in teachers' collective.

The significance of the research is determined by the need to provide modern, high quality, competitive education for the younger generation. As a consequence, the need for teachers' ongoing professional development emerges, which is based on the development of competencies appropriate to the time and contemporary methods. Theory and practice have shown that further education is the most effective when it is based on theory, education strategy and real demand/needs.

Investment in the development of teachers' professional growth is one of the most significant resources for improving education quality in the nation.

In searching for new and influential resources for the growth and development of teaching competencies, the professional development system and opportunities of practising teachers and schools, and examples of good practice in the promotion of teachers' professional growth will be analysed.

Keywords: *collective, competence, competitiveness, life-long learning, teachers.*

Ievads
Introduction

Galvenie pārmaiņu procesi 21.gadsimtā, ar ko saskaras Latvijas izglītība, tai skaitā pedagogi, ir tie paši, kas skar visu Latvijas sabiedrību kopumā un ir radījuši laikmetu, kura iezīmes ir transformāciju apjoms un intensitāte visos līmeņos. Visa pasaules sabiedrība piedzīvo dziļas pārmaiņas ne tikai visās dzīves jomās, bet arī piedzīvo to, ka jau zināmām lietām ir jāpieiet no cita skatu punkta, jāmaina pieeja un attieksme.

2007.gadā tika publicēts McKinsey & Company pētījums (McKinsey & Co 2007), kas analizēja izglītības sistēmas kvalitāti daudzās valstīs ar mērķi noskaidrot, kas ir labas izglītības sistēmas „atslēga”. Galvenais secinājums bija: ikviena izglītības sistēma ir tik laba, cik labi ir skolotāji. Austrālijas pētnieks

Dž.Hatti (J.Hattie) savā darbā „Padarīt mācīšanos redzamu (Visible Learning)” (2013) ir apkopojis vairāk nekā 15 gadu pētījumus, analizējot faktorus, kas ietekmē mācīšanās panākumus. Pētījumā minēti 138 faktori, izskaidrojot ar to ietekmi uz panākumiem vērstām mācībām un ietekmi uz skolu un notiekošo tajā. Pētnieks Hatti norāda, ka mācību kvalitāte atšķiras ne tikai starp skolām, bet arī starp atsevišķām klasēm, un tas nozīmē, ka mācību kvalitāte ir atšķirīga starp atsevišķiem skolotājiem. „Ko un kā skolēni mācās, nosaka individuāli skolotājs. Visi pārējie faktori - materiālie nosacījumi, tipa skolas vai speciālās mācību metodes - no otras puses, ir sekundāri”. Uz zināšanām balstītas sabiedrības veicinošas izglītības pamatā ir faktors, ka mūsdienu sabiedrības attīstības procesā strauji mainās zināšanas un to izmantojums, kompetences, kuras nepieciešamas darba tirgū un sabiedrībā kopumā, tātad arī pedagoga attīstībai ir nepieciešama nepārtraukta profesionālā pilnveide. Pedagoga meistarība prasa noteiktu nepārtrauktu kompetenču pilnveidi vai jaunu ieguvu.

Pētījuma mērķis ir izpētīt, kādas šobrīd ir skolas pedagogu profesionālās kompetences pilnveides iespējas kā vienotam kolektīvam, radot ietekmi uz kopējo skolas kolektīva profesionālo pilnveidi, tādējādi nodrošinot izglītības procesus skolā atbilstoši laikmeta prasībām, pamatojoties uz pedagoģiskā procesa transformāciju un skolu vides resursu mijiedarbību, nodrošinot izglītību ilgtspējīgai attīstībai.

Pētījuma datu ieguves metodes ir literatūras teorētiskā analīze, gadījumu izpēte, anketu apstrāde, intervijas.

Pētījums apskata pedagogu profesionālas pilnveides nodrošinājums laika posmā no 2011.gada līdz 2014.gadam, tā formas, iespējas un atgriezeniskās saites nodrošinājumu skolas pedagogu kolektīvā, meklējot jaunus un ietekmīgus pedagoģiskās kompetences izaugsmes un attīstības resursus. Tiks analizēta praktizējošo pedagogu profesionālās pilnveides sistēma, labās prakses piemēri pedagogu profesionālās izaugsmes veicināšanā skolu kolektīvos.

Pedagogu profesionālas kompetences pilnveide stratēģiskajos plānošanas dokumentos

Iekļaušanās Eiropas Savienībā un straujie globalizācijas procesi būtiski ietekmē arī pedagogu profesionalitātes līmeņa prasības. Vides aizsardzības un reģionālās attīstības ministrijas (Reģionālās attīstības un pašvaldību lietu ministrijas) uzdevumā asociētā profesora Roberta Kīļa vadītā ekspertu grupa izstrādāja Latvijas ilgtspējīgas attīstības stratēģiju līdz 2030.gadam. Stratēģijas pamatuzstādījumi ir laimīgs cilvēks labklājīgā valstī, ilgtspējīgs un veselīgs dzīvesveids, radoša, iecietīga un toleranta sabiedrība, sadarbībā radīta konkurētspēja un valsts kā ātrspējas partneris. Ilgtspējības modeļa ietvaros vienīgā iespēja veiksmīgi atbildēt uz globālajiem izaicinājumiem ir veidot tādu attīstības politiku, kur nepieciešamība veicināt ekonomisko izaugsmi, uzlabot ikviena sabiedrības locekļa dzīves kvalitāti, nepieciešamība nodrošināt sociālo

saliedētību un drošību, kā arī nepieciešamība nosargāt ekoloģisko vidi nākamajām paaudzēm būtu līdzsvarā. Izveidot vienu no labākajām izglītības sistēmām ES un kļūt par vienu no līderēm pieaugušo izglītības pieejamības un izmantošanas ziņā. Pamatojoties uz pārmainām sabiedrībā un attīstību virzošo dokumentu rīcības plāniem, viennozīmīgi ir jāmainās arī izglītības sistēmai. Ir nepieciešamas jaunas darba metodes, jauni darba paņēmieni, jaunas darba organizācijas formas un, pats galvenais, lai izglītības sistēma sekmīgi pildītu tai piederīgās funkcijas, ir nepieciešams veidot visu šai sistēmā ietilpstošo elementu partnerību. Partnerība ir divu vai vairāku partneru vienošanās sadarboties kopīga mērķa interesēs un nest kopīgu atbildību par rezultātiem (Wilcox, 1994). Partnerības lielākais ieguvums ir sinerģijas efekts. Informēšana un komunikācija ir tikai ceļš uz partnerības veidošanu (Garleja, 2003) Izglītības vide, kurā darbojas pedagogi, kļūst arvien sarežģītāka un neviendabīgāka; pedagogu darba problēmas ir saistītas ar informācijas un komunikācijas tehnoloģiju attīstību, izmaiņām sociālajā un ģimenes struktūrā, kā arī ar skolēnu sastāvu, kas daudz kultūru sabiedrības attīstības rezultātā daudzās skolās kļūst arvien daudzveidīgāks un bez savstarpējas partnerības dažādos līmeņos nav iedomājams. Pētījumi liecina, ka skolēnu mācību sasniegumi ir lielā mērā atkarīgi no visu pedagoga darba un viņu lomas izglītības iestādē (McKinsey & Company, 2007).

Izglītība ilgtspējīgai attīstībai ir process dzīves garumā un mudina cilvēkus atbildīgi rīkoties ikdienas dzīvē un realizēt sevi saskaņā ar sociālo, kultūras, ekonomisko un dabas vidi sev apkārt.

T.Kože un I.Muraškovska (2007), analizējot zināšanu sabiedrības interpretācijas aspektus, secina, ka pastāv:

- humānistiska pieeja ar mērķi nodrošināt izglītības pieejamību kā cilvēka pašpildījuma un pašvērtības vajadzību paplašināšanas iespēju. Tās autors R. Hatčins akcentēja šo pieeju jau 1968.gadā;
- tehnokrātiskā pieeja, kad humāno vērtību vietā akcents tiek likts uz zināšanu un tehnoloģiju nomaiņu, zināšanu strauju novecošanos un nepieciešamību pastāvīgi paaugstināt kvalifikāciju;
- demokrātiska pieeja ar mērķi paplašināt pieaugušo līdzdalību izglītībā, ko izraisa straujas ekonomikas un sociālās dzīves pārmainās sabiedrībā. Autors Rodžers Bošjērs, 1980.gad.;

T.Hussens (Husen, 1974) akcentē pedagogu profesionālās pilnveides reformu, norādot, ka pieaug nepieciešamība pēc pedagogiem ar jaunām zināšanām, norādot arī uz galveno jautājumu pedagogu sagatavotājiem – inovācijām mācību saturā. Mācīšanās M. Fulana izpratnē nenozīmē iegūt vairāk informācijas, bet palielināt spēju sasniegt to, ko mēs patiešām vēlamies, tā ir radoša mācīšanās visa mūža garumā, nepārtraukti nosakot un īstenojot savus mērķus (Fullan, 1999).

Eiropas Komisijas paziņojums Eiropas Parlamentam, Padomei, Eiropas ekonomikas un sociālo lietu komitejai un Reģionu komitejai „Uzlabot prasmes

21. gadsimtam. Programma Eiropas sadarbībai skolu jomā” kā uzdevumu izvirzīja palīdzēt dalībvalstīm īstenot Padomes secinājumus par skolotāju izglītības kvalitātes uzlabošanu, Komisija ierosina nākotnē sadarboties lielākoties: nodrošinot, lai skolotāju sākotnējā izglītība, ievadīšana darbā un pastāvīgā profesionāla pilnīgošanās būtu saskanīga, ar nodrošinātiem pienācīgiem resursiem un kvalitāti; uzlabojot skolotāju izglītošanas darbavietā nodrošinājumu, kvalitāti un izmantojumu (2008).

Lai veicinātu Latvijas pedagogu dalību Eiropas Savienības tālākizglītības un pieredzes apmaiņas programmās, jāuzlabo arī pedagogu svešvalodu prasmes. Aizvien nozīmīgāka kļūs arī pedagoga psiholoģiskā kompetence, lai pārvaldītu visdažādākās situācijas mainīgajā pasaulē.

Ministru kabineta noteikumi nosaka, ka pedagogam 3 gadus ir jāpilnveido sava profesionāla kompetence. Šo prasību pedagogi ievēro un bieži vien apmeklē pat vairāk nekā 36 stundas, taču pedagogam, atgriežoties atpakaļ skolā, bieži vien mācītais kurss netiek izmantots - vai nu nav atbilstošas tehniskās bāzes, vai arī pedagogs nesaredz vajadzību to izmantot.

„Pedagogs un izglītības kvalitāte nav dalāmi. Šai vienotībai nepieciešams atbalsts. Viens no šādiem pamatakmeņiem ir pedagogu tālākizglītība” uzsver Evija Papule, IZM Izglītības departamenta direktore.

Pedagogu profesionālas pilnveides kvalitātes nozīmīgākais rādītājs ir apgūtā kurss un pieredzes apmaiņa izmantošana ikdienas praksē.

Vai pedagogs apzinās un spēj formulēt savas profesionālās pilnveides vajadzības? Kas notiek skolas kolektīvā, kad pedagogs atgriežas no kursiem?

Lai pedagogiem sniegtu atbalstu pārmaiņu apstākļos, 2009. gada rudenī IZM uzsāka īstenot Eiropas Sociālā fonda projekta „Pedagogu konkurētspējas veicināšana izglītības sistēmas optimizācijas apstākļos”. Projekta mērķis - veicināt pedagogu konkurētspēju, īstenojot atbalsta pasākumus vispārējās un profesionālās izglītības iestāžu pedagogiem. Tā ietvaros darbojas pedagogu tālākizglītības satura moduļu sistēma, kā arī valstī ir uzsākta pedagogu profesionālās karjeras modeļa ieviešana, novērtējot pedagogu profesionālās darbības kvalitātes pakāpi. Pedagogam pašam ir jāprot novērtēt savas tālākizglītības vajadzības, atbalstošā skolas vidē plānot un īstenot izglītošanās procesu.

Pedagoga profesionālās kompetences pilnveide ir pedagoga profesionālās darbības prasmju kvalitātes paaugstināšana, kas, galvenokārt, norisinās tālākizglītības kursu formā, kas Latvijā šobrīd tiek virzīta saskaņā ar virsuzdevumu izglītībā - veidot sabiedrību, kura mācās mūža garumā, tāpēc tālākizglītības programmu mērķos tiek plānota un rezultātos sagaidīta nepārtraukta kompetenču pilnveide. Profesionalitāti raksturo ne tikai zināšanas, bet arī prasmes un attieksmes. Savukārt attieksmes paredz noteiktu vērtību īstenojumu, šajā gadījumā demokrātisku, piemēram, tādu kā pilsoniskā līdzdalība un sociālā atbildība, reaģējot uz skolās un sabiedrībā notiekošo atbilstoši demokrātiskuma principiem. Saeima 2014.gada 22.maijā, apstiprināja

„Izglītības attīstības pamatnostādnes 2014.–2020.gadam”. Izglītības un zinātnes ministrijas (IZM) izstrādātajā dokumentā kā galvenais mērķis izglītības attīstībā nākamajos septiņos gados izvirzīta kvalitatīva un iekļaujoša izglītība personības attīstībai, cilvēku labklājībai un ilgtspējīgai valsts izaugsmei, īstenojot iekļaujošās skolas darbības mērķus un akceptējot multikultūru vides attīstību, skolotājam ir jābūt profesionāli kompetentam, lai izglītības vidē pildītu savu galveno uzdevumu – palīdzētu skolēnam augt konkurētspējīgam mūsdienu straujajos pārmaiņu laikos. Tas prasa jaunu skatījumu uz skolotāja izglītošanās procesu un viņa mūžizglītības nodrošinājumu, kas tiek veidots atbilstoši mūsdienīgām pieaugušo mācīšanās metodēm.

Skola, organizācija, kura mācās

Iepriekš nosauktie fakti par profesionālās izaugsmes potenciālajiem izaicinājumiem un iespējām, apliecina mūsdienu pedagogu tālākizglītības problēmas aktualitāti pārmaiņu kontekstā. Neaizmirstot, ka skola ir patiesā un neatkārtojamā daudzu cilvēku dzīve ar savu komforta un nepieciešamās kvalitātes zonu, par kuru nozīmīgumu liecina savukārt pedagogu tālākizglītošanās labās prakses piemēri. Pedagoģiskās sadarbības procesā pedagogs kļūst konkurētspējīgs savu kolēģu vidū, tādējādi nodrošinot arī skolēnam konkurētspējīgas izglītības ieguvu. Kopā ar jēdzienu organizācija, kura mācās (Learning organization), pastāv otrais jēdziens organizācijas mācīšanās (Organizational learning). Organizācijas mācīšanās ir process, kad organizācijas zināšanas un vērtības ir apvienotas un vērstas uz uzlabotiem darbības risinājumiem un spējām mācīties no darbībām. Organizācijas mācīšanās veids iespaido tās kultūru un vērtības. Tā ieņem vietu starp organizācijas darbiniekiem un darbinieku komandām. Vēlme mācīties ir atkarīga no organizācijas darbinieku vēlmes strādāt kopā un palīdzēt atbalstīt katra darbinieka pūles pastāvīgai attīstībai un savu prasmju uzlabošanai. Organizācijas, kura mācās menedžeru izaicinājumam jābūt „Integrēt mācīšanas visās darbībās, lai tās būtu daļa no ikdienas darba” (Skyrme, 2003).

Tomēr, ikviens uzņēmums, kas ir mēģinājis praktiski organizēt iekšējo apmācību savā uzņēmumā, atzīs, ka šim procesam ir gan savas pozitīvās puses, gan negatīvās puses. Iekšējo apmācību uzņēmumā nevajadzētu uztvert kā vienkāršu un viegli īstenojamu pasākumu, bet gan kā sarežģītu un smalku procesu ar nopietni izvirzītu mērķi uzņēmuma biznesa kontekstā. (D. Skyrme, 2003)

Kādas ir skolas kolektīva ka organizācijas iespējas pilnveidoties?

Skolas iekšējam klimatam ir jābūt orientētam uz mācīšanas koncepcijas audzināšanu, procesiem jābūt virzītiem uz to, lai palielinātu skolotāju mijiedarbību caur esošiem ierobežojumiem. Kā zināms, skolā mācības var nodrošināt vai nu ārējās mācību iestādes, vai lektori, radot skolas kolektīvam iespēju kopīgi mācīties. Taču šis process prasa diezgan lielu finanšu resursu

ieguldījumu. Tāpēc skolas bieži vien neplāno kopīgus profesionālas pilnveides pasākumus tālākizglītības kursu formā. Aptaujājot skolu direktorus, secināms, ka ir skolas, kas skolas kolektīva profesionālajai pilnveidei velta īpašu vietu un ir skolas, kuras pievērš uzmanību tikai formālam faktoram, vai skolotāju profesionālā izglītība atbilst normatīvo aktu prasībām.

Profesionālās kompetences pilnveides vispārīgs novērtējums skolās praksē

Kvalitatīva tālākizglītības sistēma nodrošina pedagogu kompetences paaugstināšanu un prasmju un kompetenču atjaunošanu mūsdienīga mācību procesa nodrošināšanai. Jau sen ir pierādījies, ka ne jau kursu apguves daudzums nosaka skolēna izglītības līmeni, bet gan tas, kā pedagogs prot iegūto informāciju, faktus izmantot reālās skolas situācijās, kā pedagogs prot pašizglīties, kāda ir pedagoga kompetence, prasme izmantot jauniegūto informāciju. Analizējot tālākizglītības kursu saturu, pasniegšanas metodes, formas, nākas secināt, ka bieži vien pedagogs tiek uztverts kā students, kas tikko apgūst pedagoģijas kursu, nevis kā pieaugušais ar savu dzīves pieredzi. Tādēļ pieredzē balstītām mācībām ir vairāk priekšrocību, salīdzinot ar tradicionālo „klases pieeju”, galvenokārt - tā ir efektīvāka. Zinātnieki M. Noulss, E.Holtons, R.Svansons ir teikuši: „Pieaudzis cilvēks vēlas apgūt tās zināšanas un prasmes, kas varētu viņam palīdzēt atrisināt uzdevumus un problēmas reālajā dzīvē” (Noulss u.c., 2012). L.Babajeva savā promocijas darbā „Pieaugušo personības pilnveidošanās tautas skolā” norāda, ka mūsdienās ir vērojama pāreja no kognitīvajām pieaugušo personības pilnveidošanās teorijām (Kolbs, 1984; Mezirovs, 1990, 2000; Merriam, 1996 un citi) uz personības visaptverošajām pieejām (Džarvis, 2005; Illeris, 2009), kur pieredze tiek gūta un integrēta pieaugušā personības veselumā, ķermeņa, emociju un kognitīvajā dimensijā. Pieaugušo izglītībai veltītajos pētījumos ir atspoguļotas izmaiņas tradicionālajos priekšstatos par mācīšanos.”

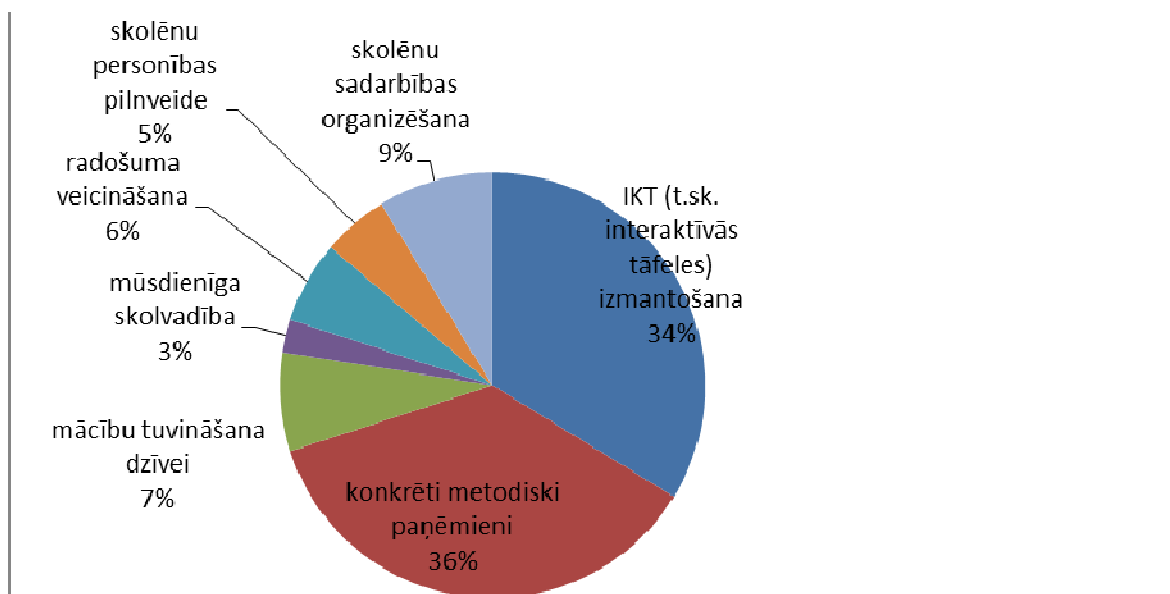
Jelgavas Izglītības pārvaldes Metodiski informatīvais centrs, kas pieder pie tradīcijām bagātākajām pedagogu tālākizglītības iestādēm, 2000.gadā veicot lietišķo pētījumu „Pedagogu tālākizglītības programmu un to īstenošanas efektivitātes noteikšana”, nonāca pie secinājumiem, ka pietrūkst konkrētas informācijas par kvalitātes mērīšanu, kas tālāk neļauj izveidot programmu izvērtēšanas kritērijus. Efektivitātes nodrošināšanai ir jāattīsta nepārtrauktas profesionālās pilnveides sistēma, kas radītu stabilu atbalsta vidi (morālo un metodisko) pedagogu tālākizglītībai.

Laika posmā no 2011.gada līdz 2013.gadam pedagogu profesionālās kompetences pilnveidi nodrošināja Valsts izglītības satura centra ESF projekts „Vispārējās izglītības pedagogu tālākizglītība”, kura mērķis bija vispārējās izglītības pedagogu kompetences paaugstināšana un prasmju atjaunošana mūsdienīga mācību procesa nodrošināšanai un uz zināšanām un inovācijām balstītas sabiedrības veidošanai un kurā savu profesionālo kompetenci

pilnveidoja 24979 pedagogi 57 programmās un 12 radošajās darbnīcās. Projekts savu darbību attīstīja, pamatojoties uz ESF projektā „Pedagogu tālākizglītības metodiskā tīkla nodrošinājuma izveide” (2006-2008) izstrādāto metodiku un tālākizglītības kursu moduļu sistēmu. Pedagogu profesionālā pilnveide pamatos notiek tālākizglītības kursu formā, kuru noslēgumā ir izvērtējuma anketa, kurā ir arī jautājumi par to, vaiursos iegūtās zināšanas un prasmes tiks izmantotas ikdienas darbā ar skolēniem. Taču, vai tas notiek praksē, kāda ir kursu ietekme uz mācīšanas un audzināšanas procesu, netiek izvērtēts.

Izanalizējot normatīvos dokumentus, tiek secināts, ka netiek pievērsta uzmanība tam, kas notiek pēc kursiem, bet rezultāts tiek vērtēts formāli, ar esošas vai neesošas apliecības starpniecību, kas arī sekmē samērā negatīvu un formālu attieksmi pret kursiem. Tā piemēram, pedagogu darbības kvalitātes novērtēšanas procesa punkti ir par uzrādīto apliecību, nevis kursus gūtā izmantošana praksē.

Lai novērtētu kursu atgriezenisko saiti, projekta noslēgumā tika organizētas 10 fokusdiskusijas ar pedagogiem, kuri projekta laikā bija beiguši profesionālās pilnveides kursus. Izmantojot pašu pedagogu iespējas mācīties ne tikaiursos, bet arī skolas vidē un apzinot atgriezenisko saiti no tālākizglītības kursiem Dž. Hatti un H. Timperley savā rakstā „Atgriezeniskās saites spēks” (The Power of Feedback, 2007) norāda, ka atgriezeniskā saitei ir svarīgākā ietekme mācību procesa īstenošanā un novērtēšanā. Autori norāda, ka pēc pētījumu rezultātiem var konstatēt, ka sistemātiski nav pētīta tās jēga. Viņi sniedz atgriezeniskās saites konceptuālu analīzi ar pierādījumiem par tās ietekmi uz mācīšanos un sasniegumiem.



1.att. Kursu ieguvumu tematikas īpatsvars
Figure 1. Course topics proportion

Diagrammā raksturots fokusdiskusiju dalībnieku viedoklis par apmeklētajiem kursiem un to ieguvumiem, kas tiek praktiski izmantoti profesionālajā darbībā. Projektā iegūtie dati no fokusgrupu diskusijām reģionālajos semināros apliecina (https://talakizglitiba.visc.gov.lv/visp/file.php/1/TI_refleksija_7_11_2013.pdf), ka vairākums dalībnieku kā kursu lielāko vērtību min pieredzes apmaiņu un jaunu skatījumu uz zināmām lietām, zināšanu atjaunošanu (vidēji ap 25% respondentu), svarīgi ieguvumi no kursiem ir arī daudzveidīgu metožu piedāvājums (vidēji ap 17%), e-resursu un vides izmantošana (vidēji ap 13%), izglītības satura aktualitāšu piedāvājums (vidēji ap 11%).

Projekta laikā tika izstrādāta jauna profesionālas kompetences pilnveides forma – darbnīcas noteiktas mērķgrupas kolektīvam. Kopumā tika īstenotas 14 darbnīcas: Izaicinājumi izglītībā 21.gadsimtā, Cilvēkdrošība un veselība, Starpdisciplināra mācību vide un integrētu programmu veidošana, Konflikti un to risināšana, Uzvedības traucējumi un atstumtība, Balsošanas sistēmas – pultis, IKT pamatprasmes, Tehnoloģiju izmantošana darbā ar skolēniem, Interaktīvā tāfele, Inovatora un uzņēmēja kompetences, to diagnostika un veidošanas metodes izglītības procesā un personīgo finanšu vadīšana, Skolotāji mācās kopā skolā.

Vislielāko popularitāti ieguva darbnīcas: Izaicinājumi izglītībā 21.gadsimtā; Konflikti un to risināšana; un Inovatora un uzņēmēja kompetences, to diagnostika un veidošanas metodes izglītības procesā, personīgi finanšu vadīšana. Visbūtiskākie ir mācību formas - darbnīcas aprobācijas rezultāti, kas viennozīmīgi atbalsta šo profesionālās pilnveides formu. Darbnīca ir iespēja visam skolas kolektīvam kopā apgūst sev aktuālo tēmu praktiskās nodarbībās, kurās bez apgūtā satura un metodikas pienesuma, būtiska ir skolas kolektīva saliedēšana, aktīva savstarpējā sadarbība un kopīga rīcība, mērķu, stratēģiju izvirzīšana un īstenošanas modelēšana. Līdzdalība, katra individuālais pienesums un produktīva sadarbība drošā un atbalstošā vidē profesionāla vadībā ir darbnīcu kā pieaugušo mācību formas lielākie plusi un pedagogu profesionālajā pilnveidē līdz šim Latvijā neizmantotais resurss. Skolas kolektīva un individuālā profesionālā pilnveide seko atšķirīgiem mērķiem, skolas kolektīvu, protams, veido stipri profesionāļi, tomēr katra indivīda līdzdalības (manī ieklausās, mans viedoklis ir nozīmīgs) un piederības sajūtas stiprināšanai ir izšķiroša loma skolas kā kolektīva efektīvai darbībai. Svarīgi, ka darbnīcas piedāvātā tēma ir skolai aktuāla. Darbnīcas kā profesionālās pilnveides formu pilnībā atbalsta aprobācijas dalībnieki. Darbnīcām kā profesionālās pilnveides formai būtu jāklūst par pieejamu piedāvājumu līdzās individuālajai profesionālajai pilnveidēm.

Secinājumi Conclusions

Analizējot interviju un ESF projekta kursu aptaujas anketu rezultātus, secināms, ka:

- visi pedagogi atbilstoši Ministru kabineta regulējumam apmeklē profesionālas pilnveides kursus,
- kursus apmeklēšanas faktors pārsvarā - normatīvo dokumentu prasības vai profesionālās vajadzības.
- apliecības kā dokumenta lielais novērtējuma spēks, nevis pedagoga praktiskā darbība.
- skolās nav atgriezeniskās saites pēc kursiem – nepieciešama mācīšanās turpināšana organizācijā.

Tālākizglītības kvalitātes nozīmīgākais rādītājs ir kursus un pieredzes apmaiņā apgūtā izmantošana ikdienas praksē.

Nepieciešams pārdomāt un izstrādāt jaunas profesionālās pilnveides formas noteiktiem kolektīviem, it īpaši skolas kolektīvam, kas būtu kļūtu par pieejamu piedāvājumu līdzās individuālajai profesionālajai pilnveidēm.

Tāpat skolas kolektīvam ir jābūt ieinteresētam ar kādām zināšanām un prasmēm pedagogs atgriežas no kursiem. Ir skolas, kuras jau šodien savām darbā ievieš regulāru skolotāju pieredzes dalīšanos ar gūto pilnveides kursus, taču tas nav kļuvis par skolas ikdienu. It īpaši, kad informācija ir kļuvusi par vienu no svarīgākajām lietām sabiedrībā un sadzīvē, dalīšanās ar informāciju kļūst aktuāla arī mūsdienu skolā, veidojot vienotu skolas filozofiju un kultūru.

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INSTRUCTORS' COMPETENCE FOR ENHANCING QUALITY OF IN-HOUSE TRAINING IN MARITIME EDUCATION

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Abstract. *Improving instructors' competence will enhance quality of maritime in-house training (IHT). The research question of this study was: what are the main features of a competent IHT instructor? A mixed-method study using interviews and a questionnaire was conducted among three groups of respondents: 1) safety managers, vetting and technical managers; 2) IHT instructors, and 3) seafarers (including masters, chief engineers, officers and ratings). Professionals of the field were involved in interpretation of results and in elaboration of the recommendations for enhancing quality of IHT.*

Keywords: *In-house training, instructor competence, maritime training, vocational education and training*

Introduction

Enhancing attractiveness of vocational education and training (VET) is a topical priority in Europe, especially since the Copenhagen declaration (EC, 2002). In the Bruges Communiqué, the European Ministers for VET stressed the necessity of "increasing public awareness of the possibilities which VET offers" (EC, 2010:8). A "prerequisite for raising the quality of VET provision is attached to the teachers and instructors, who, just as the curriculum, need up-to-date knowledge and teaching skills (Keller Lauritzen et al., 2014:55).

In this general context, maritime education and training (MET) is not an exception. Recent European policy documents address seafarer' training (EU, 2005; 2008). This study addresses the specific situation in the field of in-house training (IHT). IHT is the professional short-term training the seafarers should receive before going on board the vessel, and it is not prescribed by Standards of Training, Certification and Watchkeeping for Seafarers (STCW) (IMO, 2011). IHT can be compared to workplace learning in ashore enterprises (ReferNet Latvia, 2014). IHT helps new seafarers to familiarize with work and helps professional development of experienced ones. Quality of IHT is also required by ship owners/managers. Moreover, IHT improves attitude towards safety, minimizing further expenses related to health, environment and ship protection. IHT implementation faces a number of problems: participants' lack of time,

difficulties of organization, high costs etc. One of the main problems is the inadequacy of IHT contents and methods to the needs of diverse generations of trainees (Strauss & Howe, 1991). Elder generations esteem that they possess already the necessary knowledge and skills; and for young generations the IHT methods seem old-fashioned, and the format of the training is not attractive.

What are the best solutions to these problems? New elements of IHT are necessary, e.g., leadership, basic office skills, “soft skills” (Dearsley, 2013). However, maritime lecturers remain the “change agents” (Zade, 2003). There is still a gap of literature regarding the necessary competences for VET instructors, and even more in the specific field of MET, whose standard (IMO, 2011) focuses on seafarers’ competences, not on instructors.

This study addresses instructors’ competence for enhancing quality of IHT. The research question was: what are the main characteristics of a competent IHT instructor? A mixed-design study using quantitative and qualitative methods was conducted in spring 2014 among: 1) safety managers, vetting and technical managers; 2) IHT instructors, and 3) seafarers (including masters, chief engineers, officers and ratings).

Theoretical background

Vocational education (VE) and vocational training (VT) have different goals. The general goal of VET is to develop vocational performance, a combination of vocational competence and workplace effort (Klotz et al., 2014). To enhance vocational competence and workplace effort it is essential to develop a vocational identity and workplace identity. The main difference between VE and VT is what kind of identity they seek to develop: the development of a vocational identity is a key aspect of VE, but VT is a strong instrument for the development of workplace identity (Klotz et al., 2014).

Differences between instructors and vocational educators (teachers) are also quite evident. They have distinct recruiting and education processes. “While teachers receive their education at universities ... instructors are promoted within the company after professional experience; their pedagogical qualifications are often quite limited” (Harteis et al., 2014:407). This difference is reflected in the way they organize the learning processes, and in their diverse professional development needs: it is necessary “to improve teachers’ knowledge of work practices on the one hand and instructors’ general pedagogical skills and competences on the other” (EC, 2010:8).

As regards MET, the process of differentiation between maritime education and maritime training (MT) is quite recent. Around 1950 MET used to be just MT. It happened on shipboard, it was oriented to develop young seafarers’ “know how”, and it had little interaction with the national education and training system. Some years later, more sophisticated ships appeared and higher

qualifications were needed. MT became MET, higher admission requirements were introduced and the study program was modified.

This research is based on the understanding of competence as a dynamic combination of knowledge, skill, attitudes and values (EU, 2009); we considered also the concept of competences developed by J. Erpenbeck and L. von Rosenstiel (2007), who defined competence as behaviour that focuses on “responsibility” and includes professional-methodical, social-communicative, personal and activity-oriented sub-competences; and also the concept of competence for VET instructor developed in the Framework for VET Professions (Volmari et al., 2009) that describes operational and strategic dimensions in instructors’ competence: operational dimension operates through administration and training areas, and strategic dimension –through networking activities and development, and quality assurance.

Methodology

The questionnaire “Instructors’ competence for enhancing quality of in-house training” was used for collecting quantitative data. It included 20 items grouped in 2 sections. In the first one was based on an international validated instrument (Surikova et al., 2010) that contains a general set of competences of a future-oriented teacher (see Table 1). Respondents were asked to rate these competences (1=most important, 11= less important). In the second part a list of nine instructor’s competences was elaborated on the basis of the previously mentioned works on definition of competence, and of researchers’ knowledge of the field (see Table 2). Respondents were asked to evaluate them in a 5 point Likert scale. The reliability of the questionnaire was high (Cronbach's Alpha = 0.829). The questionnaire included a final open question about the most relevant IHT problems and possible solutions. 105 answers were collected: 70 from seafarers (67 %), 17 from managers (16 %) and 18 from instructors (17 %). Data were analysed using software SPSS_19, using descriptive statistics, Cross tabulation, Chi-square and Cronbach alpha tests.

Qualitative data were collected through semi-structured interviews for exploration of the context of IHT. Three main topics were investigated: 1) what makes IHT courses necessary? 2) where is the main problem in IHT? and 3) what are the best solutions for this problem? Eight interviews were conducted, two with managers, two with instructors and four with seafarers. The average time of each interview was 30 minutes, and they were recorded in audio and/or video format. The 8 interviews (fully transcribed) and the 76 written answers to the open question of the questionnaire were included in the qualitative analysis. Data were imported into the AQUAD_7 software package for improving reliability of analysis and interpretation (Cohen, 2007). Data coding was done by two researchers working simultaneously: researchers read the answers, looked for units of meaning (phrases and short paragraphs) that

expressed the most important aspects and problems of IHT and their relation with instructors' competence. Unities of meaning were labelled using a system of codes that was partly the same that was used in the questionnaire, for facilitating triangulation of results, and partly developed from the new relevant topics that emerged in respondents' answers.

Results

We present the results of both sections of the questionnaire successively, illustrating them with some comments drawn from the interviews and the open answers included in the questionnaire, following a phenomenological interpretative approach (Smith et al., 2009).

General competences of a future-oriented IHT instructor. After data cleaning, 46 answers were retained for analysis. Three rating levels were used to facilitate comparison: high ranked (from 1st to 3rd), middle ranked (from 4th to 8th) and low ranked (from 9th to 11th). The most significant results were highlighted in bold (see Table 1).

Table 1. Ranking of the main general competences of IHT instructor

Criteria Ranking:	High	Middle	Low
1.1. Instructor likes his work	28 61%	16 35%	2 4%
1.2. Instructor chooses interesting contents, adapted to the needs and abilities of seafarers, and has a logical and flexible plan	36 78%	6 13%	4 9%
1.3. Instructor speaks clearly and interestingly, has good communication with seafarers	35 76%	8 17%	3 7%
1.4. Instructor follows the development of students, is available for consultations, is concerned with students' development	23 50%	20 43%	3 7%
1.5. Courses are interesting because instructor uses diversified methodology according to the needs of course participants	22 48%	23 50%	1 2%
1.6. Instructor can create his own presentations and diverse material for the course	13 28%	26 57%	7 15%
1.7. Instructor gives frequent feedback, and emphasizes on participants' strengths and possibilities for improvement	18 39%	22 48%	6 13%
1.8. Instructor is aware and has practical experience on the topics of the course on national and international level	27 59%	17 37%	2 4%
1.9. Instructor looks for new ways of teaching, is open to suggestions, reflects on his own practice	20 43%	18 39%	8 17%
1.10. Instructor involves course participants in research projects (helps seafarers to reflect)	15 33%	15 33%	16 35%
1.11. Instructor uses Internet and new technologies for improving learning	21 46%	12 26%	13 28%

The competence *Presenting interesting content* [1.2] was rated as high by 78% of respondents (N=36). This tendency was confirmed during the interviews. For example, a manager said that “IHT should allow trainee to react in a proper, fast and efficient way” (respondent No 82), and several seafarers stressed that “training instructors should be at least in one step with industry” (No 13).

The competence *Good communication* [1.3] was rated as high by 76% of respondents (N=35). In their open answers, managers stressed that “instructor shall always ensure that the link between him and students is not lost” (No 8), and that “exchange of information between instructor and students is also very important!” (No 24). Some seafarers said that “some instructors’ lessons are very boring due to their monotone and chaotic speech” (No 22).

The criteria *Instructor likes his work* [1.1] was rated as high by 68% of respondents (N=28). It should be noted that this criteria was rated as the most important competence (first rank) most often (N=15), followed by *Good communication* (N=14) and *Presenting interesting content* (N=13). However, in the interviews and open answers this aspect appeared rarely.

International practical experience [1.8.] was rated high by 59% of respondents (N=27). Reflecting in past experience, a seafarer stated that “some instructors were absolutely unaware about conditions and possible risks on board of vessels” (No 51). Managers acknowledged that “It’s a great idea to use the real working seafarers as instructors while they are on vacation ashore” (No 84).

Several criteria related to the use of modern pedagogical means process had a contrasted distribution of ratings. One third of respondents rated the criteria *Involvement in research projects* [1.10] as high, one third middle and one third low. This is the only case with such a big contrast between respondents. Opinions were also shared regarding the criteria *Use of diversified methodology* [1.5]: 48% of respondents (N=22) rated it as high and 50% (N=23) as middle (only 2% as low). Some expressions can illustrate the thoughts of respondents: “Everyone can’t be an instructor/teacher. It doesn’t matter how good (professional) he is or was on board the vessel in his position” (No 22).

Importance of instructors’ skills and attitudes. 95 answers were retained for analysis. All items had a mode of 4 or 5. The most significant results were highlighted in bold (see Table 2).

Four items had a Mode of 5. The most important aspect was instructors’ *Knowledge of the topic* [2.1] (M=4.65; SD=0.71). When this aspect is missing, seafarers are deceived: based on his own experience, a seafarer found unacceptable that “the instructor did not possess either deep theoretical knowledge of the subject or enough practical experience” (No 88).

Balance theory/practice [2.6] was also important for most of respondents (M=4.32; SD=0.87): “Practical and theoretical time should be balanced” (No 67). Instructors should also make a good initial evaluation in order to *Adapt the*

contents of the training to the real needs of the seafarer (M=4.25; SD=0.76). Only two items had a Mean fewer than 4, and they were related to the new pedagogical tendencies. The criteria *Instructor involves seafarers in practical organization of the courses* [2.4] got the lowest rate (M=3.88; SD=0.90).

Table 2. Importance of instructors' skills and attitudes

Criteria	Mode	Mean	SD
2.1. Instructor has good and up-dated knowledge of the topic	5	4,65	0,71
2.2. Instructor has recent experience working in the topic	4	4,16	0,82
2.3. The professional status of the instructor is higher than the trainees.	4	3,80	1,11
2.4. Instructor involves seafarers in the organization of the training	4	3,88	0,90
2.5. Instructor involves seafarers in practical exercises	5	4,13	0,96
2.6. Instructor finds a good balance between theory and practice	5	4,32	0,87
2.7. Instructor makes an initial evaluation for adapting the contents	4	4,25	0,76
2.8. The instructor develops his own teaching skills	5	4,25	0,84
2.9. The instructor reaches the objectives efficiently and fast	4	4,02	0,90

Summarizing, the ideal IHT instructor: 1) has good knowledge of the topic in one step with industry, and delivers interesting content with a good balance between theory and practice; 2) is a real professional with practical experience, a working seafarer; 3) has good communication skills and presents information attractively; creates a link with students, and provokes exchange of information between instructor and students; and 4) likes his work, cares about seafarers and develops his/her own teaching styles. Some aspects of IHT instructors' work that are related to the new pedagogical tendencies do not make unanimity or are low rated.

Discussion

This study shed light on the specificity of vocational education settings regarding instructors' competence. In the previously mentioned study (Surikova et al., 2010), which used the same set of competences as the present study, it was found that the highest rated competences among Latvian professors as teacher trainers in university were *Professional identity* [1.1], *Development of methodological strategies* [1.5] and *Construction of approaches to educational research* [1.10]. In maritime education, the *Knowledge of the contents* [1.2] and the *Quality of the communication* [1.3] are more important. This could be explained by mandatory requirements established by STCW, which gives strict rules about contents to be delivered, and even about the ways of delivering it: there is not much room for focussing on educational approaches and strategies.

The finding regarding the necessity of employing instructors who are real professionals with practical experience, working seafarers, is consistent with recent research. The necessity of involving “teachers from the real world” in VET was recently stressed by academics: “we need to bring the world of education and the world of business closer together. Teachers from the “real world” need to be more visible in the education systems”. (Keller Lauritzen et al., 2014:55). In MET also, it is recognized that the most important role of the vocational system is to enhance competences based on the experience acquired during the practice period on the board of the ship (Stan & Buzbuchi, 2012).

Also regarding the finding that IHT instructors should have a good knowledge of the topic in one step with industry has an echo in recent research on VET. In the mentioned report is stated that “VET teachers need to have sufficient skills and knowledge to undertake teaching that is in line with the times” (Keller Lauritzen et al., 2014:54). The Bruges communiqué proposed to enhance traineeships for VET teachers in enterprises as one of the short term deliverables for 2011-2014 (EC, 2010).

As regards the need of improving MET lecturers’ pedagogical skills and use of innovative methods and teaching styles, MET is still a field where the reluctance to change is present. Long-serving lecturers tend to be reluctant to accept and introduce changes to subjects that they may have taught for decades. The resistance to change appears also in the “preference of some maritime lecturers to perpetuate outdated syllabi contents. Such an attitude is detrimental to the updating of syllabi” (Zade, 2003:39).

Recommendations

A focus group discussion was organized with 25 representatives of relevant companies involved in organization and implementation of IHT in September 2014 to improve the relevance of discussion and recommendations of this study. It was introduced by a presentation of the results obtained in this study. We reproduce here a summary of their recommendations:

- 1) “*Giving sense to the training*”, enhancing awareness of the usefulness of IHT: in general, to change from “must do” to “usefulness” approach; to show why training is needed with concrete examples; to keep eyes open to industry requirements; to give updated, fresh, qualitative information; to simulate emergency situations; to balance theory (30%) and practice (70%); to use an international approach.
- 2) “*Improving communication skills*” in teaching-learning process: to share experiences using (funny) stories from real life; to foster two-way communication; to make small groups, giving frequent feedback; to make training friendly (welcome drinks served by the lector the first day for breaking ice, usage of attractive material, not only PowerPoint presentations).

- 3) “*Innovation in teaching*” using new pedagogical resources: to invite instructors who have interesting teaching style; to invite good lecturers from outside to train teachers; to shift instructors between courses for diversity; to use company specific materials (case studies); to use webinars, multimedia materials (TED talks, internet...); to use outside-class learning.
- 4) “*Adapting to students’ needs*”: to make initial assessment and to apply different programs according to it; to elaborate new programs when necessary; to involve students (instructor should not talk too much, but participants should do more); to make trainees do training by themselves, asking them to “teach” someone else.

The practical implications of this research for training managers, instructors, and directors of MET are quite evident. The findings of this study provide useful information about new possibilities of development of the professional field of IHT. The results shows that competent IHT instructors should not rely only on their knowledge and experience of their topic; they need also to improve their practices as trainers, giving sense to their teaching, improving their communication skills and having the courage to go away from barriers and to adopt a creative approach in the organization of the learning processes. This study opens also new lines for future research on the development of vocational education teachers’ competence.

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PREDICTION OF DISTANT EDUCATIONAL GOALS BY GOALS IN OTHER DOMAINS AND PERCEIVED CONTEXTUAL OPPORTUNITIES

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***Abstract.** Lifelong learning is linked to successful economic participation. At the same time, individual activities are framed by contextual opportunities for education and occupation. This study explored personal and contextual factors predicting choice of education as a distant goal among emerging adults. Research participants were 120 emerging adults aged from 20 to 30 living in Riga (62% females). The participants evaluated to what extent their near and distant goals associate with different life domains and reported perceived opportunities for fulfillment of these goals provided by their living place. Distant goals in the educational domain were positively predicted by current educational, distant occupational, and self-related goals and negatively predicted by higher perceived opportunities provided by their living place. The last finding indicates an association of a perceived lack of opportunities in the local context with a need for planning the further education.*

***Keywords:** contextual opportunities, education, emerging adults, personal goals.*

Introduction

Transforming societies challenge individual values, goals, plans, and action patterns (Pinquart & Silbereisen, 2004). Psychological (Arnett, 2004; Nurmi, 2004) and educational (Appleby & Bathmaker, 2006) researchers confirm that education is one of significant resources for coping with these challenges. Conceptions of lifelong learning reflect increasing individual need for planning continuous education in a combination with society's request for knowledge economy (e.g., Brine, 2006). In addition, prospective views of educational activities are related to a context in which these activities are planned to occur (Sandford, 2013). *The aim* of this study was to specify personal and contextual factors predicting subjective importance of education as a distant goal.

In the field of psychology, comparisons of adolescents' goals in different countries (e.g., Nurmi et al., 1995; Chang et al., 2006) demonstrate that educational, occupational, and family domains are the main themes among their views of the future. Aimed at preparing for a career, studying remains among the main activities for emerging adults till 30 (Arnett, 2004). During the preparation, individuals are choosing, continuing, or changing educational trajectories looking for a more effective entry into the field of economic production (Nurmi, 2004). Students' involvement in educational activities is regulated by internal and external motives (Vansteenkiste et al., 2006) and by near and long-term consequences of their action (Kauffman & Husman, 2004).

Educational researchers also emphasize a crucial role of education in preparing for the future or even “futures” reflecting various possibilities and uncertainty associated with socioeconomic changes (Sandford, 2013). Importance of education for the further occupational activities leads to increasing role of lifelong learning (Appleby & Bathmaker, 2006; Brine, 2006) as continuous training and development promoting successful economic participation (Hughes et al., 2006).

Researchers from both fields (e.g., Nurmi, 2004; Sandford, 2013) agree that socioeconomic and cultural contexts channel individual choices by providing opportunities or constraints for their education and employment. For example, community studies (Arcidiacono et al., 2007) demonstrated that perceived low opportunities at a living place lead to a sense of powerlessness in young people. Coping with powerlessness differed among individuals. Many of them were not engaged in social activities and future planning. At the same time, some of youths were oriented to social participation and achievement.

These findings reveal variation in individual reactions to similar contextual conditions and confirm importance of individual-context interaction for understanding future plans in general (Nurmi, 2004) and in the educational domain in particular (Sandford, 2013). Individuals need balancing their interests and priorities with opportunities and possible consequences of their choices (Nurmi, 2004). Therefore, it is important to take into account multiple factors at individual and contextual level in order to predict distant educational plans.

Previous studies demonstrated relations between personal goals and demographic factors, cultural context, socioeconomic situation, and parents’ support (for a review see Nurmi, 1991; Seginer, 2009). In order to specify factors predicting distant educational goals, *the present study* tests a regression model with demographic factors, importance of current educational goals and of near and distant goals in other domains, perceived support, and perceived opportunities at a living place as independent variables and importance of distant goals in the domain of education as a dependent one.

Method

Participants. Research participants were 120 emerging adults aged from 20 to 30 living in Riga (mean age = 22.9, *SD* = 2.9). The most part of participants were students (92%), some of them have completed some level of higher education (31% of the sample). Among participants, 62% were females, 58% working, and just 9% married. The number of participants was in accordance with an expected ratio of cases to independent variables in order to evaluate individual predictors in a multiple regression model (Tabachnick & Fidell, 2007).

Measures. A new measure of personal goals and perceived context was developed on a basis of previous studies demonstrating relatively stable structure of the main domains across cultures (Chang et al., 2006; Kolesovs,

2013; Nurmi et al., 1995; Seginer, 2009). A seven-point Likert-type scale was used for answering questions regarding personal goals, perceived support, and opportunities.

Importance of personal goals was evaluated by answering two questions: “To what extent your *near (distant)* goals are associated with the following domains?” For both near goals and distant goals, a list of domains included *education, occupation, family, children, parents and relatives, friends, and personal growth*. Importance of each domain was assessed from 0 (‘not topical’) and 1 (‘minimal extent’) to 6 (‘maximal extent’).

The near and distant goals related to a family and children formed a *Family goals* sub-scale (internal consistency assessed by Cronbach’s alpha coefficient was .81). Goals related to parents, relatives, and friends constituted a *Network goals* sub-scale (Cronbach’s alpha = .84). Near and distant goals regarding personal growth were joined into a *Self-related goals* sub-scale (Cronbach’s alpha = .70). For each sub-scale the sum of answers was divided by a number of items in the sub-scale. Near and distant goals in the domain of education or occupation were assessed at a single item level taking into account research objectives.

Perceived support at a meso-system level was evaluated as support for goal attainment provided by parents, siblings, relatives, and friends by asking “To what extent your goals are supported by people listed below?” (0 = ‘not topical’; 1 = ‘minimal support’; 6 = ‘maximal support’). Cronbach’s alpha coefficient for the sub-scale was .70. Support from a romantic partner or spouse was assessed at a single item level.

Opportunities provided by a living place were evaluated answering the question “Does your living place provide opportunities for fulfillment of your goals?” Two items (for near and distant goals respectively) were assessed in a scale from 1 (‘minimum’) to 7 (‘maximum’). Cronbach’s alpha coefficient for the sub-scale was .74.

Subjective income level was assessed by evaluating relative difficulty to cover monthly expenses. A 7-point scale included values from 1 (‘very difficult’) through 4 (‘relatively easy’) to 7 (‘very easy’). *Income range* was assessed as monthly income per person. Six intervals were suggested taking into account an average income per person per month in a household (Central Statistical Bureau of Latvia, 2014).

Procedure. The research was conducted in fall 2014. The questionnaire was completed individually or in groups of students with no time limit and was administered in the Latvian language.

Results

A multiple hierarchical linear regression was applied in order to answer the research question. Table 1 demonstrates the results at each step of the analysis.

The variance inflation factor varied from 1.17 to 1.99 indicating acceptable level of covariance among independent variables.

Table 1. Multiple hierarchical linear regression on distant educational goals (N = 120)

Predictors	B	SE B	β
Step 1			
Model: F (6, 113) = 2.50, p < .05; R2 = .12; adjusted R2 = .07.			
Age	0.14	0.07	.27*
Gender	-0.99	0.30	-.30**
Higher education	-1.05	0.41	-.30*
Marriage	0.06	0.52	.01
Income range	-0.03	0.13	-.02
Perceived income	0.15	0.14	.11
Step 2			
Model: F (12, 107) = 8.04, p < .001; R2 = .47; adjusted R2 = .42; Δ R2 = .35.			
Age	0.07	0.05	.13
Gender	-0.39	0.26	-.12
Higher education	-0.50	0.34	-.15
Marriage	-0.20	0.45	-.04
Income range	-0.08	0.11	-.06
Perceived income	0.16	0.11	.12
Near educational goals	0.42	0.10	.34***
Near occupational goals	-0.14	0.12	-.10
Distant occupational goals	0.37	0.11	.29**
Family goals	0.06	0.10	.06
Network goals	0.02	0.10	.01
Self-related goals	0.39	0.13	.24**
Step 3			
Model: F (15, 104) = 7.07, p < .001; R2 = .51; adjusted R2 = .43; Δ R2 = .04.			
Age	0.08	0.05	.14
Gender	-0.49	0.26	-.15
Higher education	-0.42	0.34	-.12
Marriage	-0.36	0.45	-.06
Income range	-0.14	0.11	-.11
Perceived income	0.22	0.11	.15
Near educational goals	0.40	0.10	.33***
Near occupational goals	-0.10	0.12	-.07
Distant occupational goals	0.37	0.11	.29**
Family goals	0.05	0.10	.05
Network goals	0.02	0.10	.02
Self-related goals	0.39	0.13	.24**
Perceived support (meso-system)	-0.04	0.09	-.04
Perceived support (partner relations)	0.06	0.06	.09
Perceived opportunities (living place)	-0.19	0.08	-.17*

Notes. Female and male students were coded as 1 and 2, respectively. Higher education and marriage were coded as 1 (presence) and 0 (absence).

*** p < .001. ** p < .01. * p < .05.

Step 1 involved gender (a nominal variable), higher education and family status (binary “dummy” variables indicating presence or absence of a characteristic), and participants’ age, income range, and subjective income level as independent variables. Step 2 added to the model near goals in the domain of education, near and distant occupational goals, family goals, social network goals, and self-related goals. Step 3 included perceived support at a meso-system level, perceived support from a romantic partner, and perceived opportunities for fulfillment of personal goals provided by a living place.

At Step 1, demographic factors provided relatively low contribution of three independent variables to prediction of distant educational goals. Age of emerging adults positively predicted their distant goals associated with education. At the same time, having a higher education negatively predicted importance of distant educational goals. Females associated their distant goals with education in a greater extent than males. The model at Step 1 explained only 12% of variance of the dependent variable

At Step 2, demographic factors lost their significance when personal goals were added to the model. Importance of near educational goals became the most significant predictor of distant educational goals. It was followed by importance of distant occupational goals and self-related goals. The model at this step explained 47% of variance of the dependent variable.

Finally, Step 3 added perceived opportunities provided by a living place as a negative predictor for setting distant educational goals. The model at this step explained 51% of variance. It should be noted that adding assessment of perceived contextual opportunities and support did not change significance of previously revealed predictors (near educational, distant occupational, and self-related goals).

Discussion

The results demonstrate that predictors of distant educational goals can be revealed at different levels. The most significant predictors are identified at the level of personal goals. In addition, perception of possibilities provided by participants’ living place (local social context) is also among significant predictors of distant goals in the domain of education. These findings need to be discussed in greater detail.

The performed test of demographic variables revealed higher interest in continuing education among females and relatively lower interest in education among emerging adults having higher education. However, adding personal goals excludes any demographic variable from a list of predictors and indicates higher importance of subjective evaluation of future goals. Importance of educational goals in the near future and distant goals in the field of occupation predicted positively distant educational goals, while demographic variables lost their significance. Significance of near educational goals in prediction of

continuing education confirms subjective importance of education among other personal goals for emerging adults (Arnett, 2004; Nurmi et al., 1995; Seginer, 2009) and a role of involvement into educational activities for higher academic motivation (Kauffman & Husman, 2004). The second predictor is in accordance with a view of lifelong learning as aimed at successful economic participation emphasized by psychologists (Nurmi, 2004) and educational researchers (Hughes et al., 2006). In addition, both kinds of predictors of the further education confirm a view on students' motivation as determined by near (education) and distant (occupation) outcomes of their learning (Kauffman & Husman, 2004).

It should be noted that a positive relationship between distant educational and distant occupational goals indicates instrumental value of education. At the same time, self-related goals as a predictor of educational goals demonstrate high potential of education for personal growth. Young people more interested in personal development assessed educational track as a more important possibility for their development. Therefore, long-term educational plans can be considered as a resource for actualization of personal growth and development as an intrinsic motive (Vansteenkiste et al., 2006).

The last, but not the least significant finding of this study is an opposite relationship between distant educational goals and perceived opportunities for fulfillment of personal goals provided by the living place. It means that a lower level of opportunities associated with the local social context predicts higher importance of distant educational goals. Therefore, higher effort in the educational domain can be considered as an adjustment strategy aimed at more effective preparation for the future under insufficient opportunities for individual development associated with the current socioeconomic environment (Nurmi, 2004). This finding is also in accordance with a view of education as a resource for adaptation to uncertainty associated with the future and changing socioeconomic conditions (Sandford, 2013).

An exploratory nature of the study leads to various limitations. The most important of them is a research sample including emerging adults selected higher education as a way for their socialization. As previous studies demonstrated (Arcidiacono et al., 2007), active participation and pursuit for personally and socially valuable goals is one of constructive ways among possible developmental trajectories. In addition, research participants were living in Riga (the capital of Latvia) providing relatively high number of alternatives at each level of education. Therefore, revealed tendencies can be generalized to a group of emerging adults living in a relatively favorable social context and oriented to a career based on higher education. The further research should involve participants living in different contextual conditions for a better understanding of their role in planning short- and long-term educational and career activities.

Changing significance of predictors within a hierarchical regression analysis indicates a possibility to apply a mediation model aimed at revealing relationships among independent variables. Two aspects of the relationships can be tested: a) mediation of demographic variables by personal goals; b) interdependence of personal goals and possible mediation effects among them. Requiring more sophisticated statistical methods, this kind of analysis needs also a broader research sample.

Conclusions

It can be concluded that distant goals in the domain of education are positively related to consideration of educational goals in a near perspective, distant occupational goals, and individuals' orientation to personal growth. In addition, perceived lack of opportunities in the local context facilitates planning the further education. These findings emphasize significance of individuals' involvement into educational activities aimed at adapting to socioeconomic context and subjective value of a career and personal development. It opens a dual perspective on potential benefits of lifelong learning including instrumentality of acquired knowledge and personal growth associated with education.

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**НЕПРЕРЫВНОЕ ОБРАЗОВАНИЕ КАК УСЛОВИЕ
ПРОФЕССИОНАЛЬНОГО СОВЕРШЕНСТВОВАНИЯ
СОВРЕМЕННОГО ПРЕПОДАВАТЕЛЯ**
*Continuing Education as a Condition of the Modern Teacher
Professional Development*

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Abstract. *The article discusses the professional development of the teacher as the main condition for the effectiveness of educational process in higher school. The basis of the professionalism of the teacher, the author considers the psycho-pedagogical competence, it reveals the types and defines their role in the process of learning management students. In the framework of the system of additional professional education of the University presents the possible stages in the development of psycho-pedagogical competence, offers innovative approaches to the organization of continuous professional education of teachers.*

Keywords: *continuous professional development, psycho-pedagogical competence, personality of the teacher.*

Введение

Усиливающаяся информатизация общества XXI века, динамизм социокультурной среды делают определяющим фактором социального прогресса стремление личности к постоянному самосовершенствованию на основе интеграции потребностей общества, государства и собственных интересов. Современный человек выходит в принципиально другое время – пространство (Фельдштейн, 2013), и ему необходимы новые ориентиры и соответствующая подготовка. Он должен быть готов к осознанному саморазвитию в течение всей жизни, к своевременной адаптации к переменам и, конечно, к профессиональной мобильности. Бытующее когда-то понятие «профессия на всю жизнь» устарело, его сменил призыв «образование через всю жизнь». В этих условиях главной целью высшей школы становится подготовка конкурентоспособного профессионала с высоким уровнем как специальных, так и метакомпетенций, сформированной гражданской позицией, способного продуктивно работать в инновационном режиме. Но достижение данной цели возможно лишь при наличии высококвалифицированного преподавательского состава.

Профессиональная деятельность преподавателя вуза отличается многогранностью и многоаспектностью. Эффективность педагогической деятельности сегодня обусловлена не только актуальным содержанием предмета и решением воспитательных задач, но и личностью самого преподавателя. Отсюда, цель нашей статьи – представить основные тенденции развития профессиональной компетентности преподавателя.

От способности преподавателя определять близкие и отдаленные последствия своих педагогических действий, предвидеть ответное поведение студента, учитывать его чувства и потребности, прогнозировать и проектировать развитие учебной деятельности и процесс адаптации обучающихся к будущей профессии будет во многом зависеть качество образования в высшей школе (Коряковцева, Бугайчук, 2013).

Профессиональное развитие педагога: новый взгляд

Переход от знаниевой парадигмы к личностно-ориентированной деятельностной системе образования меняет суть, цель и мотивы образования; степень ответственности участников образовательного процесса и позицию педагога; формы, методы и средства обучения, систему контроля и оценки качества образования, а значит, порождает настоятельную необходимость в развитии именно преподавательской компетентности научно-педагогических кадров, которая требует интеграции педагогических, психологических, методических, управленческих и специальных знаний и умений преподавателей.

Роль педагога сегодня меняется: из преподавателя – носителя знаний и учителя, который разрабатывает уроки, он должен превратиться в консультанта, организатора, модератора и координатора проблемно-ориентированной, исследовательской, учебно-познавательной деятельности обучающихся, то есть в преподавателя, который обладает еще и компетенциями менеджера и тьютора. Он создает условия для самостоятельной образовательной деятельности студента и сопровождает её, всячески поддерживая инициативу обучающихся. Для организации такого процесса преподавателю необходимо обладать целым рядом профессиональных умений, и, если они недостаточно сформированы, работать над их развитием (Новиков, Коряковцева, Мищенко, Доссэ, 2010).

Необходимо отметить, что в системе дополнительного профессионального образования уже используется инновационный подход к формированию профессиональной компетентности преподавателя. На основе предыдущих исследований ведущих ученых (в 2011-2013 г.г. авторы принимали участие в исследованиях) выделены конкретные профессиональные умения, которые являются показателями профессиональной компетентности современного преподавателя:

организаторские; системно-квалитативные; проектировочные; гностические; коммуникативные.

Например, гностические умения педагога предполагают развитие аналитической способности, способности к моделированию и синтезу. Конструкторские компетентности требуют пространственного мышления; коммуникативные - связаны со способностью «говорить публично», точно и образно формулировать мысли, управлять эмоциональной сферой (своей и студентов).

Важнейшим условием эффективной организации учебного процесса является наличие проектировочных компетенций и организаторских умений, в основе которых не только хорошо продуманная педагогическая деятельность, но и интуиция (обычно говорят «педагогическое чутье»). Импровизационные умения – это синтез всех компонентов педагогической профессиональной компетентности, они предполагают совершенное владение своим предметом и технологиями, ораторское искусство и актерские способности.

На основании наших исследований было определено, что одной из слабо развитых является системно-квалитативная компетентность преподавателей, которая связана с практической реализацией ответственности команды педагогов за качество образования по конкретной специальности. По нашему мнению, всей команде преподавателей необходимо принимать участие в анализе и коррекции системы обучения посредством проектирования своей педагогической траектории как части коллективного проекта по подготовке студентов к профессиональной деятельности по определенному направлению обучения на основе компетентностного подхода (Коряковцева, Тарханова, 2012).

Родившаяся в конце 1960-х - начале 1970-х г.г. тенденция движения от понятия «знание» к понятию «компетентность» сегодня признана общемировой. В современной общественно-экономической ситуации само по себе «знание» утратило ведущее значение. Сейчас важна не столько сама информация, сколько способность применять её для разрешения конкретных ситуаций и проблем, возникающих в профессиональной деятельности и в жизни. Компетентность включает в себя и «знания», и «умения», и «навыки».

Компетентностный подход: модель психолого-педагогической компетентности преподавателя

Так что же мы понимаем под словом «компетентность»? Компетентность – это новообразование субъекта деятельности, представляющее собой системное проявление знаний, умений, способностей и личностных качеств, позволяющих успешно решать функциональные задачи, составляющие сущность профессиональной

деятельности. Основой профессионализма преподавателя, на наш взгляд, является психолого-педагогическая компетентность, которая включает уже упомянутые организаторские, системно-квалитативные, проектировочные, гностические, коммуникативные умения. Это системное явление, сущность которого состоит в единстве педагогических знаний, опыта, свойств и качеств педагога, позволяющих эффективно осуществлять педагогическую деятельность, целенаправленно организовать процесс педагогического общения и также предполагающих постоянное личностное развитие и совершенствование педагога.

На рис. 1. представлена модель психолого-педагогической компетентности преподавателя, лежащей в основе психолого-педагогического управления образовательным процессом.



1 рис. Модель психолого-педагогической компетентности преподавателя
Figure 1. Model of psychological and pedagogical competence of the teacher

Как видим, это целый комплекс взаимосвязанных профессиональных компетенций педагога, не овладев которыми, невозможно эффективно организовать процесс обучения будущих специалистов и тем более – управлять им. Для получения представления о наиболее важных составляющих профессиональной компетентности преподавателя, определим их значимость для ведения эффективной педагогической деятельности.

Проектировочно-конструктивная компетентность аккумулирует знания и умения преподавателя в области определения приоритетной цели, выбора адекватных этой цели педагогических средств, диагностирования условий педагогического процесса, прогнозирования результатов и разработки на этой основе конкретного плана действий.

Организационно-технологическая компетентность связана, прежде всего, со способностью преподавателя управлять технологической стороной педагогического процесса. В основе этого вида компетентности лежат знания о педагогических технологиях и умение их использовать в зависимости от специфики дисциплины и поставленных задач. Педагогические технологии призваны максимально упорядочить, оптимизировать учебно-воспитательный процесс и обеспечить его гарантированную результативность.

Без организации совместной деятельности студентов невозможно продуктивное обучающее общение. Хотя, безусловно, со стороны преподавателя требуется управление этим процессом. Все это предполагает развитие у педагога коммуникативно-регуляционной компетентности.

Преобладающий в течение длительного времени авторитарный стиль педагогического руководства позволил, на наш взгляд, сформировать контрольно-оценочную компетентность преподавателя. Очевидно, что контроль позволяет выявить слабые места, обнаружить ошибки и вовремя их скорректировать. Но при оценивании преподаватель ориентируется на желаемые показатели учебной работы, на некие идеальные нормы. Проблема, к сожалению, заключается в том, что критерии оценки часто носят субъективный характер, то есть зависят от усвоенных педагогом стереотипов, от индивидуального понимания «нормы», в том числе и от отношения к конкретному курсанту. Кроме того, часто оценивается только результат учебной деятельности, а не то, каким образом он достигнут.

Чтобы правильно понимать причины несоответствия между предполагаемыми и реальными результатами педагогической деятельности, преподавателю приходится анализировать все стороны педагогического процесса и его психологической составляющей; уровень подготовленности; характер познавательной деятельности студентов, свои действия и свои профессиональные возможности. Результаты такого анализа во многом зависят от сформированности аналитико-рефлексивной

компетентности преподавателя. И это далеко не полный перечень востребованных сегодня высшей школой профессиональных компетенций научно-педагогических работников, которые необходимо совершенствовать.

Все вышесказанное требует обновления как принципов подготовки программ и организации курсов повышения квалификации научно-педагогических кадров, так и осмысления самого процесса, а значит, и педагогической деятельности тех, кто реализует образовательные программы.

Непрерывное образование: становление профессиональной компетентности преподавателя

Сегодня необходимо проектировать индивидуальную траекторию переподготовки и повышения квалификации конкретного преподавателя на основе первичной диагностики его личностных качеств, педагогических способностей и профессионального уровня, в том числе необходима и самодиагностика. Наиболее эффективна целевая интенсивная переподготовка на базе широкого набора учебных модулей с использованием методов активного и интерактивного обучения. Именно такое дополнительное профессиональное образование создаст условия не только для развития организационных и качественных умений, но и артистических, и импровизационных способностей. Все это достигается в процессе организации занятий в интерактивной форме тренингов, игр, дискуссий, разработки проектов и т.п. Особое внимание следует уделять повышению профессиональной компетентности руководителей в сфере образования, в университете это, прежде всего, заведующие кафедрами, которые организуют как учебную, так и научную деятельность педагогов.

На этапе зачисления в группы важно проводить корректную диагностику каждого слушателя, которая не только выполняет роль некоего «входного контроля», но и выявляет мотивы педагогической деятельности.

Мотивирование мы понимаем как процесс воздействия на человека для побуждения его к конкретным действиям путем пробуждения определенных мотивов. Эффективность образовательного процесса в системе дополнительного профессионального образования во многом зависит от того, насколько сформирована мотивация слушателей к освоению нового. Формирование внутренних мотивов к успешному обучению гораздо эффективнее внешней мотивации с помощью различных стимулов. Для этого следует создавать ощущение недостатка знаний, умений, навыков, подсказать пути развития профессиональных компетенций. Особенно важно оказывать психолого-педагогическую помощь в освоении нового: помочь добиться ощутимого результата; показать точки профессионального роста, возможности и перспективы.

Таким образом, можно сформулировать основные подходы к организации непрерывного образования преподавателей высшей школы:

- обучение и повышение квалификации – это развивающаяся система;
- эта система ориентирована, в первую очередь, на образовательные потребности и развитие основных профессиональных и метапредметных компетенций современного педагога (предметные, психолого-педагогические, системно-квалитативные и др.);
- повышение квалификации осуществляется на основе компетентностного личностно-ориентированного и деятельностного подходов.

Особо отметим, что по содержанию образовательные программы курсов повышения квалификации могут быть различными: проблемными, комплексными, целевыми. Возможны варианты организации обучения: на базе одного коллектива (кафедры, факультета) и командное обучение, которое наиболее перспективно в условиях модернизации образования, поскольку предполагает создание коллективного проекта (Тарханова, Коряковцева, 2012).

Миссией образовательной программы для научно-педагогических работников может быть: формирование инновационной психолого-педагогической, организационной (или управленческой) и системно-квалитативной компетентностей.

Основные цели для преподавателей, участвующих в реализации программ непрерывного образования:

- научить слушателя организовывать собственную преподавательскую деятельность на основе проектирования своей педагогической системы;
- развивать умение организовывать учебную деятельность студентов в системе разных образовательных технологий (например, РК МЧП, дебаты, портфолио, тренажер и т.п.) на основе «погружения» в роль студента и преподавателя для своих коллег;
- помочь в осуществлении индивидуализации обучения студентов;
- стимулировать инновационный подход к проектированию образовательного процесса (целостной педагогической системы) как командной деятельности;
- организовать взаимообучение (взаимопосещение, передача опыта).

Основные цели слушателей:

- освоить и уточнить основные понятия и закономерности в области организационной и квалитативной компетенций, проектирования и использования современных образовательных технологий для обеспечения качества высшего образования;
- сформировать установку на инновационный подход к проектированию педагогических систем и развитие навыков и умений работы на основе блочно-модульной структуры учебной программы;
- выработать практические навыки по реализации конкретных образовательных технологий в учебном процессе;
- освоить основные игротехнические процедуры, применяемые в учебном процессе;
- достигать личностного развития на основе рефлексии и самооценки.

На наш взгляд, результативными формами рефлексии и самооценки могут быть:

- оценка каждого дня занятий;
- заполнение экспресс - анкет по итогам модуля (блока);
- первоначальная оценка своей педагогической системы ее характеристика (достоинства и недостатки);
- анализ своей педагогической системы, обобщение (анализ наработанных модулей), с итоговой работой «Анализ (модели) педагогической системы по предмету (дисциплине, курсу, блоку, модулю, занятию)» (в аспекте использования современных образовательных технологий и формирования компетенций студентов);
- определение точек своего профессионального роста и перспектив преподавательской деятельности.

В целом система контроля на всех этапах обучения должна включать систему самоконтроля (обобщение, тренажеры, проверка по образцу, текущие тесты), взаимоконтроля (взаимопроверка тестов, тренажеров) и итогового контроля со стороны преподавателя.

На заключительных этапах каждого образовательного модуля проводится анкетирование слушателей с целью определения эффективности программы и последующей корректировки содержания и организационной структуры с учетом замечаний и предложений.

Вывод

Необходимо констатировать, что современный образовательный процесс в системе непрерывного образования современного преподавателя является обязательным условием профессионального совершенствования профессиональной личности.

Summary

The article discusses the professional development of the teacher as the main condition for the effectiveness of educational process in higher school. The basis of the professionalism of the teacher, the author considers the psycho-pedagogical competence, it reveals the types and defines their role in the process of learning management students. In the framework of the system of additional professional education of the University presents the possible stages in the development of psycho-pedagogical competence, offers innovative approaches to the organization of continuous professional education of teachers. It should be stated that the modern educational process in continuing education of modern teacher is a prerequisite for professional development of professional identity.

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DEVELOPMENT OF PERSONAL AND PROFESSIONAL COMPETENCE OF SENIOR PUPILS BY INTERACTIVE LEARNING METHODS

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Abstract. *The use of interactive learning contributes to the development of personal and professional competence of senior pupils. The article presents data which prove that the most effective method is the psychological training. It develops skills of teamwork, constructive communication, skills of planning own professional future and the solution of social problems. Cognitive methods contribute to the development of competence of integration of personal and social interests in professional activities. Art therapies techniques are effective in the development of skills of cognitive reflection, the ability to analyze goals, interests and needs. The author gives a Scale diagnostic personal and professional competence of senior pupils, as well as describes the results of a formative experiment, in which the program was implemented psycho-pedagogical support of career self-determination of senior pupils.*

Keywords. *Ability, cognitive reflection, experience, interactive learning, knowledge, personal and professional competence, professional choice, skill, willingness.*

Introduction

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The problem of the development of competences using the methods of interactive learning is relevant to modern psychology. The majority of existing studies addressing the development of core competencies of the subjects of the educational process. For example, Dvulichanskaya N.N. found that the method of projects and case method are effective for the development of such competencies as the ability to identify the problem and find ways to solve it, the ability to assess and control the activities, and responsibility (Двуличанская, 2011).

Kolesnikova E.L. indicates that, in general interactive methods contribute to the development of creative abilities and increase the activity of the students (Колесникова, 2012).

Yafaeva V.G. found that such methods as discussions, graphic material organization, mutual learning have a positive influence on the development of professional competence of teachers (Яфаева, 2011).

But there are methodological problems in studying the influence of interactive teaching methods to the development of competence. Most researchers consider only certain methods of interactive learning, so there is no clear picture of what methods are most effective in the development of

competence. In addition, few studies have focused on the issue of personal and professional competence of senior pupils. This underlines the fact that this study is important. The purpose of this study was to verification of the effectiveness of the program of psychological and pedagogical support for career self-determination of senior pupils, based on the use of interactive methods and aimed at the development of personal and professional competences.

J. Sandberg believes that human competence is a concept that describes the nature of the relationship between the individual and professional activities and assumes essential knowledge and skills (Sandberg J., 2000). A similar view is held by McClelland (1973), Boyatzis (1982), Kolb (1984), Morgan (1988) and others.

Personal and professional competence as a kind of human competence is a multidimensional phenomenon that reflects a balanced ratio of the three components of personality: the value-motivational willingness, cognitive-operational willingness, emotional and personal willingness (Парфенова, 2011). Value-motivational willingness includes professional interests, a positive attitude toward learning and cognitive activity, professional expectations and intentions. Cognitive-operational willingness reflects the ability and willingness to practice and research activities. Emotional and personal willingness is activity and responsibility in the formation of professional competencies, self-regulation of emotional states.

Personal and professional competencies that are necessary for a successful career of self-determination of senior pupils were selected from a list of competencies specified in the Federal state educational standard for secondary schools. The selection of competencies was conducted by an expert survey. Experts were lecturers at the Faculty of psychology of the Pskov State University with degrees in psychology and professional experience of more than 10 years. Total are 5 people. Five competencies were selected as a result of the expert survey:

- Readiness and ability to lifelong education, including self-education;
- Conscious choice of future profession and opportunities for implementation their own life plans; relation to professional activities as opportunities to participate in overcoming personal, community, state, national problems;
- Ability to determine goals and plan activities; independently implement, monitor and correct activities;
- The ability to effectively communicate and interact in the process of joint activities, to take into account the positions of other stakeholders, effectively resolves conflicts;
- Possession of skills cognitive reflection as awareness made actions and thought processes and their results.

Materials and methods

Formative experiment was chosen as the main method of the study. The program of psychological and pedagogical support of senior pupils was developed for its implementation. The volume of this program was 100 hours of training including both classroom and distance lessons. The program consists of four parts:

1. Questions of career psychology;
2. Psychology of career choice;
3. The concept of professional-important qualities. The construction of professional profile;
4. Career planning, taking into account the socio-economic development of the region.

Classroom training was constructed using interactive learning methods. Interactive learning methods were divided into four groups: training, cognitive, play and art therapy. The lecture was also used as a traditional method of learning to be compared with the effectiveness of interactive methods. Distance lessons were to provide psycho-diagnostic testing of professionally important qualities and abilities.

Participants in the program „Career planning” were experimental group. Total are 32 people. Age of participants was 15-17 years. They were all pupils of 9-10 classes of schools of Pskov (Russia). The sample was formed by the method of randomization.

The control sample was created and is identical to the experimental group by age and sex. Participants in the control group were selected as the method of randomization. Selection is made of a plurality of senior pupils who are studying in the same classes with the participants in the experimental group.

Special scale was developed for the diagnoses of personal competencies are necessary for a successful career of self-determination of senior pupils. The text of the scale is presented in Table 1.

Psychometric testing of the reliability of this scale included the following procedures:

- Analysis of the internal structure of the scale and level of generalization using factor analysis; the results of this analysis are the basis of the processing algorithm answers (processing algorithm results on this scale is given in Table 2);
- Study the internal consistency of indicators based on the criterion of Cronbach's alpha. Criterion value for the scale was 0.969;
- Research of reliability of equivalent to half of the test. Make a correlation analysis of the total score for the even and odd questions. The value of the correlation coefficient was 0.939 with a significance level of 0.000;

- Analysis of test-retest reliability was performed by determining the correlation coefficients between the secondary factors obtained in the first and second diagnosis. There is a correlation between all scales with the value of the coefficient of not less than 0.448.

Table 1. Scale for diagnostics of the personal and professional competencies of senior pupils

Assess whether you possess the following knowledge											
1	Knowledge about the world of professions	1	2	3	4	5	6	7	8	9	10
2	Knowledge of the requirements for the individual who makes one or another profession	1	2	3	4	5	6	7	8	9	10
3	Knowledge about the needs of the labor market	1	2	3	4	5	6	7	8	9	10
4	Knowledge about own professional purposes	1	2	3	4	5	6	7	8	9	10
5	Knowledge about own needs and desires	1	2	3	4	5	6	7	8	9	10
6	Knowledge about own personal features	1	2	3	4	5	6	7	8	9	10
7	Knowledge of own opportunities	1	2	3	4	5	6	7	8	9	10
8	Knowledge of own abilities	1	2	3	4	5	6	7	8	9	10
9	Knowledge of the characteristics and laws of interaction between people	1	2	3	4	5	6	7	8	9	10
10	Knowledge about own career orientations	1	2	3	4	5	6	7	8	9	10
Assess whether you possess following skills											
11	Skill of planning for the future	1	2	3	4	5	6	7	8	9	10
12	Skill search for information about the professions of interest	1	2	3	4	5	6	7	8	9	10
13	Skill to analyze your goals, needs, desires	1	2	3	4	5	6	7	8	9	10
14	Skill understanding of the people	1	2	3	4	5	6	7	8	9	10
15	Skill to communicate	1	2	3	4	5	6	7	8	9	10
16	Skill of control their behavior and activities	1	2	3	4	5	6	7	8	9	10
17	Skill to make a mental introspection (reflection)	1	2	3	4	5	6	7	8	9	10
18	Skill to make reasoned decisions	1	2	3	4	5	6	7	8	9	10
19	The ability to choose favorable behavioral strategy	1	2	3	4	5	6	7	8	9	10
20	Skill to resist negative influences of other people	1	2	3	4	5	6	7	8	9	10
21	Skill to work in a team	1	2	3	4	5	6	7	8	9	10
22	Skill to take responsibility for own words, actions, and life in general	1	2	3	4	5	6	7	8	9	10
23	Skill to decide own problems independently	1	2	3	4	5	6	7	8	9	10
24	Skill harmonize their professional and personal interests	1	2	3	4	5	6	7	8	9	10
25	Skill to be useful to society	1	2	3	4	5	6	7	8	9	10
26	Ability to learn	1	2	3	4	5	6	7	8	9	10
27	Skill absorb and use the experience of other people	1	2	3	4	5	6	7	8	9	10
28	Skill to choose goals and achieve them	1	2	3	4	5	6	7	8	9	10
29	Skill to present themselves to the best advantage	1	2	3	4	5	6	7	8	9	10

Assess whether you have the following experience											
30	Implementation of independent professional choice	1	2	3	4	5	6	7	8	9	10
31	Search for the information you need about jobs, education	1	2	3	4	5	6	7	8	9	10
32	Making plans of their professional and career development	1	2	3	4	5	6	7	8	9	10
33	Continuing education and self-education, aimed at the development of the chosen profession	1	2	3	4	5	6	7	8	9	10
34	Use your existing resources to achieve career goals	1	2	3	4	5	6	7	8	9	10
35	Use your existing resources to achieve life goals	1	2	3	4	5	6	7	8	9	10
36	Confront obstacles that will arise in your life	1	2	3	4	5	6	7	8	9	10
37	Implementation analysis of your career and professional goals, desires, plans	1	2	3	4	5	6	7	8	9	10
38	Retreat from personal interests in favor of the public, if it will require the current situation	1	2	3	4	5	6	7	8	9	10
39	Experience of participation in socially useful activities	1	2	3	4	5	6	7	8	9	10
40	Experience in solving social problems	1	2	3	4	5	6	7	8	9	10
41	Work in a team	1	2	3	4	5	6	7	8	9	10
42	The ability to fend for themselves and their business	1	2	3	4	5	6	7	8	9	10

Table 2. Processing algorithm of results to Scale of diagnostics of personal and professional competencies of senior pupils

Factors of the first order	
<i>factor</i>	<i>scale issues that need to summarize</i>
Knowledge in the field of professional self-determination (KSD)	1, 2, 3, 4, 9, 10
Knowledge about the features of the self (KFS)	5, 6, 7, 8
Skills of cognitive reflection and self-control (SRC)	13, 16, 17, 18, 19, 22
Socially important skills (SS)	14, 15, 20, 21, 25
Skills to harmonize personal and public interests (SHI)	23, 24, 27, 29
Planning skills (PS)	11, 12, 26, 28
Experience in solving of personally and professionally important tasks (EST)	30, 31, 32, 33, 34, 35, 36, 37, 39, 42
Experience in solving of socially important problems (ESSP)	38, 40, 41

Factors of the second order	
<i>factor</i>	<i>formula for calculating</i>
The ability and willingness to integrate personal and social interests in professional activity	$(SHI + EST)/14$
The ability and willingness to professional interaction and solving of socially important problems	$(SS + ESSP + KSD)/14$
The ability and willingness to cognitive reflection	$(SRC + KFS)/10$
The ability and willingness to plan own career and professional future	$PS/4$

This scale was performed in the experimental group twice - after experimental exposure and six weeks after. The control group was tested once immediately after forming experiment.

Results

Analysis of the results of the experiment was conducted according to the following plan:

1. Analysis of the results of the first diagnosis of personal and professional competencies of senior pupils (comparison of the experimental and control groups);
2. Comparison of the results of the first and second diagnosis of personal and professional competencies in participants of the experiment;
3. Determination of contribution each group of interactive learning methods to the development of personal and professional competencies of senior pupils.

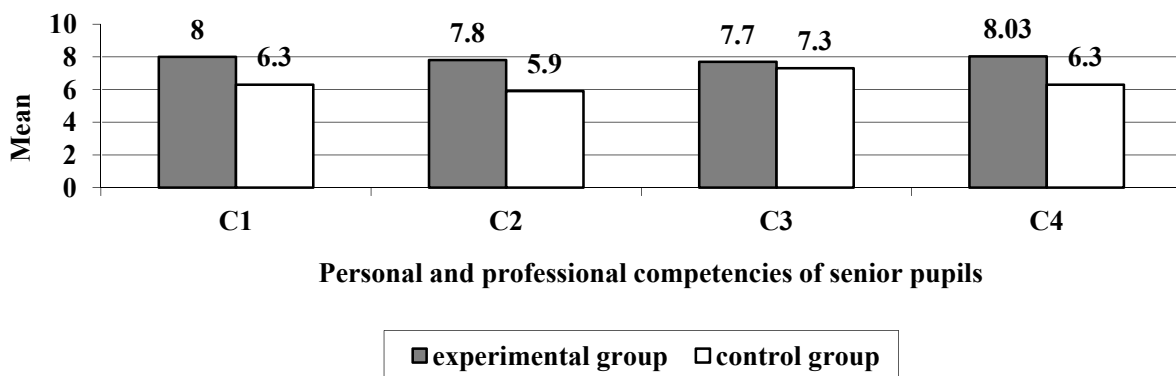


Fig.1. Intensity of personal and professional competence of senior pupils of experimental and control groups (C1 - The ability and willingness to integrate personal and social interests in professional activity; C2 - The ability and willingness to professional interaction and solving of socially important problems; C3 - The ability and willingness to cognitive reflection; C4 - The ability and willingness to plan own career and professional future)

According to the results of the first diagnosis was found that the severity of personal and professional competencies of senior pupils higher in the experimental group (Figure 1). This is confirmed by the results of comparative analysis using the U Mann-Whitney test. There were significant differences in the first ($U=109.5$; $p=0.000$), second ($U=108$; $p=0.000$) and fourth ($U=124$; $p=0.000$) competence.

Analysis of the frequency distribution of values on competences shows that in the control group it is normal. There is a shift to higher values in the experimental group.

Figure 2 illustrates the results of re-diagnosis of personal and professional competencies in the experimental group.

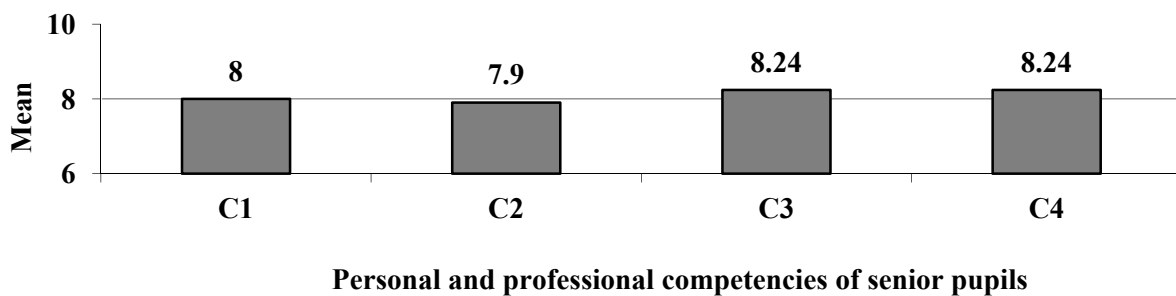


Fig.2. Intensity of personal and professional competence of senior pupils of experimental groups (the results of re-diagnosis)

Comparative analysis with the use of Wilcoxon test revealed no significant differences between the results of the first and second diagnosis of personal and professional competencies for senior pupils. But the analysis of mean values shows that the third and fourth competence values began to rise. Consequently, the senior pupils learned the knowledge and skills necessary for successful of career self-determination.

Regression analysis was done to determine the role of interactive learning methods in the development of personal and professional competencies in senior pupils. The task was to check the extent and nature of the influence of each of the four groups of methods for the development of each of our competencies. Consider the results.

1. The role of interactive learning methods in the development of the ability and willingness to integrate personal and social interests in professional activity.

The regression results are true, since the value of these parameters corresponds to the statistical significance:

- Multiple correlation coefficient is 0.932;
- The model describes the 86% of the variance;
- Fisher criterion value equal to 72,618 with a significance level of 0,000.

Cognitive methods (Beta=1.432; $p=0.000$) and techniques of art therapy (Beta=-0.632; $p=0.001$) have the greatest influence on the development of this competence. These data indicate that the use of cognitive methods of interactive learning significantly increase the level of development of this competence. In contrast, the technique of art therapy hampers the development of this competence. Likely this is due to the fact that art therapy techniques more focused on work with personal goals, needs, and characteristics.

2. The role of interactive learning methods in the development of the ability and willingness to professional interaction and solving of socially important problems:

- Multiple correlation coefficient is 0.945;
- The model describes the 89% of the variance;
- Fisher criterion value equal to 58,570 with a significance level of 0,000.

Psychological training has the greatest influence on the development of this competence. (Beta=0.657; $p=0.000$). This is due to the fact that the method of psychological training uses the interaction between participants, requires a joint action with the subsequent discussion.

Lecture contributes to the development of this competence (Beta=0.718; $p=0.000$). Likely due to the fact that it is a source of information, knowledge needed to solve social problems.

Using cognitive methods of interactive training inhibits the development of this competence (Beta=-0.403; $p=0.033$). Perhaps this is due to the fact that they require a lesser degree of teamwork in comparison with psychological training and focused more on awareness of the problems rather than solving them.

3. The role of interactive learning methods in the development of the ability and willingness to cognitive reflection.

Regression analysis indicated highly correlated all the methods of interactive learning and the development of this competence. On the one hand, it shows the effectiveness of these methods, but on the other hand, does not allow identifying the degree of influence of each method.

4. The role of interactive learning methods in the development of the ability and willingness to plan own career and professional future.

The regression results are true, since the value of these parameters corresponds to the statistical significance:

- Multiple correlation coefficient is 0.993;
- The model describes the 98% of the variance;
- Fisher criterion value equal to 475,527 with a significance level of 0,000.

Psychological training has the greatest influence on the development of this competence. (Beta=1.062; $p=0.000$). Cognitive techniques are also effective (Beta=0.148; $p=0.033$). Lecture conversely inhibits the development of this competence (Beta=-0.265; $p=0.000$).

Conclusions

1. Specially organized program of psycho-pedagogical support of the process of career self-determination of senior pupils, based on the use of interactive learning methods, is more effective than traditional forms of career guidance. Formed personal and professional competence of senior pupils is an indicator of successful mastering the program.
2. Competencies that should be developed: a) the ability and willingness to integrate personal and social interests in professional activity; b) the ability and willingness to professional interaction and solving of socially important problems; c) the ability and willingness to cognitive reflection; d) the ability and willingness to plan own career and professional future. The level of development of these competencies for the program participants is higher than of senior pupils who participate in traditional forms of career guidance.
3. Psychological training is the most effective method of interactive learning for the development of personal and professional competence of senior pupils. This method contributes to the development of skills in teamwork, constructive communication, solving social problems, and planning skills of own professional future.
4. Cognitive techniques develop the ability and willingness to integrate personal and social interests in professional activities, the ability to plan, but inhibit the development of competence with the sphere of interpersonal interaction and solving social problems.
5. Art-therapy techniques are effective for the development of skills of cognitive reflection, but inhibit the development of socially important skills, as they are focused on the realization of own goals, interests and needs.
6. Efficiency of game interactive learning methods to the development of personal and professional competence of senior pupils has not been established.

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SOCIAL NETWORK TYPES AMONG POLISH SENIOR CITIZENS AND PERCEPTION OF THE QUALITY OF THEIR LIVES

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***Abstract.** The objective of this paper is to establish social network typologies of Polish elderly people based on empirical data. Moreover, the aim is to determine the frequency of occurrence of particular network types in Poland and examine the association between the distinguished social network types and older people's perceptions of the quality of their lives. The analysis was conducted using data collected in 2013 and is available on www.diagnoza.com. The data concerns 9673 Polish senior citizens. The cluster analysis was used to form groups of people participating in the analysis. The following three types of social networks among Polish seniors were identified: "diverse", "family and friends" as well as "restricted". The restricted type constitutes the most numerous group but it is characterized by the lowest level of well-being. However, the elderly belonging to the diverse network are found to be the most satisfied with the quality of their lives.*

***Keywords:** informal learning of seniors; senior citizens; social networks.*

Introduction

A social network is a social structure made up of individuals with whom one maintains contacts. The social network consists of immediate and distant family as well as non-relatives one encounters in different situations and circumstances. Social networks provide social support to their members facing various problems and challenges. The more an individual establishes close relationships the more likely it is that an individual can receive support. Social networks are an essential component of social capital which can be defined as: "social networks seem to be regulated by moral norms and customs (and not, or not only, by formal legal regulations) binding an individual to society in order to enable them to cooperate with other members of society for the benefit of the common good" (Czapiński, 2011, p.284). Older people's social networks can be analyzed taking their extent into account (a number of people composing social networks), their structure (members of social networks and their sense of belonging to various categories, such as family, friendship, a circle of acquaintances) and their significance in people's lives (Grotowska-Leder, 2008). For the purposes of this article, the extent and structure of social networks were taken into consideration when conducting the analyses.

Analyzing social participation of older people may be interesting not only from the standpoint of gerontology, but also social assistance policy (Wenger, 1991). Furthermore, it is extremely important to know social network types

among the elderly in order to identify their needs and determine methods of helping those in need and estimate social exclusion risks. The effectiveness of the support provided to senior citizens in difficult situations may depend on a social network type, its structure and extent. Members of the social network may help an individual to acquire information which may make it easier for them to overcome difficulties and challenges in their lives (Wenger, 1991). The social network plays a crucial role in adapting to new living conditions, for example, death of a spouse. Participation in the social network may be educational in nature and related to different types of seniors' informal education. Local, social and family environment of the elderly can be regarded as an element of educational environment (Kozerska, 2013). When interacting with others, an individual gains knowledge in various areas of social life. Observations focused on people's behaviours, their way of thinking and acting as well as comparisons with their own behaviours stimulate reflection and encourage them to acquire knowledge. People learn through community participation, active involvement in society (Wenger, 1998). "The process of learning is located in the interface of people's biography and sociocultural environment in which they live, for it is at this intersection that experiences occur (...) Learning occurs in a tension field between the individual and the society" (Illeris, 2006, p. 131). In interpersonal interactions, various types of psychosocial processes, which in a sense shape and change an individual's identity, take place in an individual's life influencing their personality (Kargul, 2005). Interpersonal relationships "are the field of education in which an individual can learn the skill of empathic communication, provided that an individual can make an educational effort to learn communication codes of an interaction partner (...) Intuition plays a significant role in the educational process defined in this way" (Kargul, 2005). According to Łukaszewski (1986), an individual's personality structure changes during interactions with the outside world. There is scientific evidence that senior citizens, who interact with many people, belonging to extended social networks are likely to assess their own well-being as relatively high compared to people belonging to less extended social networks (Litwin & Stoeckel, 2013, Dominguez, S. & Arford, T., 2010, Garcia et al., 2005).

Social network typologies among elderly people and their representation in selected countries

Social network types among older adults depend on the cultural context. The authors (Litwin & Stoeckel, 2013) note that there are four types of social networks that were identified by analyses of data gathered in different countries. The authors distinguished a typology of four network types that were labelled: *a/ diverse*, *b/ family-focused*, *c/ friend-focused*, *d/ restricted*. The presence of a particular network type depends on the country where research was conducted. It should be noted, however, that Litwin and Stoeckel state that unique types of

social networks, which are specific to a particular area, can be found in source literature, for example, the *widowed* network in Mexico (Doubova et al., 2010), or the *distant family* network type in Hong Kong (Cheng et al., 2009). The analysis of trust network types based on the SHARE data concerning Europe's ageing population (Litwin & Stoeckel, 2013) leads to the conclusion that the *spouse and children* network has emerged as the dominant social network in Southern European countries, whereas the *children* network type has become prevailing in Western Europe. In this respect, Polish seniors are similar to elderly people in Southern Europe who prefer the *spouse and children* trust network (34,7%). Furthermore, Polish elderly population is characterized by relatively considerable popularity of the *spouse* type (26,7%). When comparing the strength of family ties in different countries around the world (Alesina & Giuliano, 2010), it can be stated that Poland holds one of the highest positions in the world. Network types mainly oriented towards non-family members appear to be relatively unknown in Poland. For instance, Polish senior citizens are not willing to belong to trust network types such as *friend* (4%) and *other* (3,7%). Similar results were found by Kääriäinen and Lehtonen (2006). The analyses carried out by the authors reveal that seniors' social networks consisting mainly of family members and very close friends were the most popular type among post-socialist countries. Social networks composed of non-family members tended to dominate in Nordic countries (e.g. Denmark and Norway), as well as in Great Britain, the USA, Australia, Canada. The popularity of social network models made up of non-family members among elderly people in Poland may be related to a low level of social trust after the 1989 political transformation in Poland. Polish older adults lived most of their lives in a totalitarian country. Even though Poland has been a democratic country for over 20 years, it seems difficult to change habits. According to the analyses carried out by Growiec (2009), social trust plays a substantial role in the formation of social networks composed of acquaintances (non-relatives constituting a group distinct from the "friends" group). Social trust increases a circle of people with whom one can maintain social relationships. A similar connection can be noticed between of social trust and building relationships with friends. However, there seems to be no link between social trust and establishing family ties. Therefore, social trust is needed to build extended social networks including not only family members.

The type and nature of social participation of older people are related to variables such as (Dzięgielewska, 2006): gender (women are more actively engaged in society compared to men), education (the higher the education level, the higher the level of social participation), health condition, features of family environment such as having children and grandchildren, family economic conditions (the better ones the higher the level of participation), the place of residence (there are more offers for elderly urban dwellers which results in increasing social participation). The research on social networks shows that people who experience loneliness often tend to be linked to others who are

lonely (Cacioppo et al., 2009). Moreover, longitudinal research (Cacioppo et al., 2009) suggests that people who are around lonely individuals tend to grow lonelier over time. Loneliness spreads much more easily among women than among men. Social participation is an important correlate of well-being. The research conducted so far has found that different social network types have significant effects on an elderly individual's mental health and the quality of their life.

Research results on a relationship between social networks among seniors and their well-being

Research conducted in Israel identified a typology of five social networks among older people: *diverse*, *friends focused*, *neighbour focused*, *family focused* and *restricted* (Litwin, 2001). High income, higher level of education and good health condition are observed among the elderly embedded in the *diverse* network type (30% of the polled). For comparison, the *friends focused* type can be described similarly, with a slight difference – the “*friends*” network (23,7%) is composed of relatively younger people. Low-income individuals with low levels of education belong to the “*family*” type (9%). Five network types, similar to the ones discussed above, were derived in the USA based on other research carried out among the elderly: *diverse*, *family*, *friends* and *non-family-restricted*, *non-friends* (Fiori et al., 2006). The *diverse* network, which accounts for 32% of the population, is the most common type among American older people, whereas the *family* type (12%) appears to be the least numerous group. The analysis of the association between the social network type and mental health shows that depressive symptomatology was the highest for individuals in the *non-friends* network and lowest for individuals in the *diverse* type. Results indicate that the social network type has a powerful impact on mental health among senior citizens. The results suggest that the absence of family in the context of having friends is less detrimental than the absence of friends in the context of having family. Further research (Litwin & Shiovitz-Ezra, 2010) on older Americans revealed five social network types: *diverse*, *friend*, *congregant*, *family* and *restricted*. The *friend* network (30% of the polled) appears to be the most prevalent. This network type is characterized by maintaining close ties and contacts with many friends as well as the frequency of attendance in organized group meetings. For comparison, the *family* type (15%) consists of the least number of members and it is characterized by a large number of children and involves a limited number of social ties with friends. Litwin and Shiovitz-Ezra's research shows statistically significant association between a social network type and each of well-being indicators analyzed by the researchers. Respondents embedded in the network types characterized by greater social capital tended to exhibit better well-being in terms of greater happiness, less anxiety and less loneliness. Similar conclusions were formulated by Litwin and Stoeckel (2013)

on the basis of data concerning elderly people in Europe. They noticed that trust networks consisting mainly (or only) of a spouse are not associated with a sense of well-being, although they are correlated with emotional closeness.

Adams and Blieszner (1995) claim that elderly individuals who build a large social circle of friends and have close ties and contacts with their families are more socially and psychologically adjusted than those who do not maintain close family ties. Based on the literature review, Adams and Blieszner (1995) stated that instrumental support is more often provided by family, whereas friends are more likely to provide emotional support. Family members typically provide assistance to older adults when long-term support is needed. This assistance can meet a variety of needs e.g. personal hygiene, household chores, transportation. Social networks made up of close and distant friends are more essential for mental well-being of elderly people than social networks composed mainly of family members and relatives. Older people's friends are often their peers of same or similar age which may be important when providing emotional support. Since they are of similar age, they have similar life experiences. Adams and Blieszner emphasize that interactions with friends and satisfaction with friend interactions are key predictors of happiness. Moreover, they note that relationships with relatives have a significant impact on a sense of happiness.

Purpose

The objective of this paper is to establish social network typologies of Polish elderly people based on empirical data. Moreover, the aim is to determine the frequency of occurrence of particular network types in Poland and examine the association between the distinguished social network types and older people's perceptions of the quality of their lives. The following questions were asked:

What social network types do seniors tend to belong to?

What is the relationship between preferred social network types and seniors' subjective quality of life?

Data made available in the framework of the *Diagnoza Społeczna* project (the *Social Diagnosis* project) [www.diagnoza.com] has been analyzed in order to answer the questions. The objective of the project is a diagnosis of the conditions and quality of life among the Poles. The research is regularly conducted (at intervals of several years) on a random sample of the Poles and is based on a panel forum. Seven rounds of research have been carried out so far: in 2000, 2003, 2005, 2007, 2009, 2011, 2013. "The results of the *Social Diagnosis* project reveal not only the current state of Polish society, but also allow us to follow how it has changed over the last ten years. Furthermore, taking into account earlier research on the quality of life in Poland, it even gives us an insight into nearly the entire process of system transformation"³. *Diagnoza*

3 <http://www.diagnoza.com/>

Spleczna is public in nature and a database collected during the research can be downloaded free of charge from the website: www.diagnoza.com.

Data

The data concerning Polish seniors (people above the age of sixty) was collected via a survey in 2013 and used for the purpose of analysis. In a randomly chosen research sample including 9673 persons, there were 5586 women and 4087 men. Cases with missing data were omitted. Complete data were obtained from 8093 people. The respondents were divided into three subgroups differing in social contacts net. The method of statistical analysis which was used to group the polled is a cluster analysis – grouping with the use of k-means method. This method is used to reveal the structures of data. Its purpose is to divide the polled seniors into groups in a way that people belonging to the same groups were as much similar to each other and at the same time the least similar to those belonging to other groups. Variables taken into consideration during grouping are numbers of persons whom a senior regularly stays in touch with for the social and personal purposes: 1. The family, 2. Close friends, 3. Acquaintances (colleagues, neighbours, others).

Results

There have been differentiated the following types of social networks in which Polish seniors are functioning as a result of the cluster analysis:

Type 1: *family and friends* Group 1, includes 2211 persons, that is 27,3% of all the polled people at the age of 60+ (N=8093). Every third polled senior functions in this social network type. These are people who are regularly in social and personal contacts with family members (an average number of people whom they stay in touch with M=13,2). Moreover, the social network of seniors includes also good friends (M=7,1) and friends with whom they stay in touch (M=7,6).

In the group *family and friends* 70% of respondents are married. The average age is M=69 years; standard deviation is s=7,6. The average number of years of formal education is 10,8, s=3,4. 6% of seniors functioning in the *family and friends* network type are participants of a religious organization, and 1,2% participate in activities of organizations promoting knowledge (for example, TAU). When asked about a membership in organizations, associations, parties, committees, councils or religious groups 20,8% of respondents answered positively. In group 1 there are socially active persons, a relatively small proportion has the feeling of loneliness. 14% of seniors from this group claim that they feel lonely, even though they do not want that. Almost all persons from this group (95%) feel loved and being confided in.

Type 2 *restricted*: Group 2 includes 5623 persons, 69,5% of all the polled (N=8093), who are regularly in social and personal contacts mainly with a small

number of family members. In comparison with the other groups they have a small number of friends and family members with whom they stay in touch. They are regularly in contact with 5 family members on average, 2 good friends ($M=2,6$) and about three acquaintances ($M=2,7$). This is the most frequent social network type in which Polish seniors function. In this group 57,9% of seniors are married. The average age is $M=70,7$; $s=8,3$.

The average number of years of formal education in this group is the smallest in comparison with the other groups and it is $M=9,9$; $s=3,3$. Seniors functioning in this social network type are rarely participants of a religious organization or an organization promoting knowledge. 2% of seniors of this group are involved in a participation in activities of a religious organization, 0,6 % of seniors are members of an organization promoting knowledge (e.g. TAU). When asked about a membership in organizations, associations, parties, committees, councils or religious groups 8,6% of respondents answered positively. These are persons who more frequently than the other two groups answered positively a question regarding their feeling of loneliness. Every fourth senior in this group (24,7%) answers positively such a question. In the group 2, in comparison with the other groups, there is the smallest proportion of persons who feel loved and being confided in (87%).

Type 3 *diverse*: Group 3 includes 260 persons who are regularly in social contacts with many people. Group 3 makes 3,2% of all the polled. Persons in this group have around 20 people from their family, 17 good friends and 30 friends whom they are in touch with for social or personal purposes, a few times a year at least. On average they have the biggest number of friends and family members whom they are regularly in touch with in comparison with the other two groups. 71,5% of seniors in this group have a spouse. The arithmetic average of age in this group is $M=68,2$, the standard deviation is $s=6,4$. This is a group characterized by the biggest proportion of people involved in participation in religious organizations (8,1%), and organizations promoting knowledge, for example TAU (2,7%). When asked about a membership in organizations, associations, parties, committees, councils or religious groups 38,8% of respondents answered positively. 11,1% seniors in this group are involved in participation in more than one organization. When asked about the feeling of loneliness 15% of seniors in this group answered positively. In this group, just as in the group 1, almost everybody feels loved and being confided in (95,4%).

On the basis of ANOVA test it can be stated that the three groups differ statistically with regard to age ($F=40,8$, $p<0,01$). Tukey's HSD test results for unequal samples shows that group 1 and 3 are similar with regard to age, but group 1 and 2 ($p<0,05$), and group 2 and 3 ($p<0,05$) differ significantly. Group 2 can be described as the group of the oldest ones. There is a significant difference with regard to the years of education ($F=76,6$; $p<0,01$). Group 1 and 3 are similar with regard to that, but group 2 can be described as a group with the lowest level of education. It differs significantly ($p<0,05$) from group 1 and 3.

The next step of analysis was to compare three selected groups with regard to the subjective quality of life. Selected three groups of seniors differ statistically significantly with regard to a majority of variables being the indicators of the subjective quality of life (Table 1.). Group 1 and 3 are similar in terms of satisfaction derived from various fields of one's life. Group 2, *restricted network*, the largest one, the least educated and the oldest one at the same time, is characterized by the lowest level of satisfaction derived from all the fields of life being the subject of analysis. Among fields being analyzed, there is not any field in which their satisfaction would be higher than that of seniors from the other two groups. Group 1 and 3 differ in terms of evaluation of a level of satisfaction from the relation with a circle of friends. Group 3 presents a higher level of satisfaction - *diverse* (descriptive statistics of a *diverse* group $M=2,2$; $s=0,9$, the *family and friend* group $M=2,4$, $s=0,9$, the *restricted* group $M=2,7$; $s=0,9$). The next difference regards the level of satisfaction from one's own life achievements. The *diverse* group expresses the highest level of satisfaction (*diverse*: $M=2,5$; $s=1,0$; *family and friend* $M=2,8$, $s=0,9$, *restricted*: $M=3,1$; $s=1,1$). It is similar in terms of differences when it comes to a range of satisfaction derived from the way of spending leisure time (*diverse*: $M=2,4$; $s=1,0$; *family and friend* $M=2,7$, $s=1,0$, *restricted*: $M=2,9$; $s=1,1$).

Discussion

The results of research confirmed other authors' observations regarding a 'family' nature of social networks of Polish seniors. In comparison with the research, for example Fiori et al. (2006) or Litwin & Stoeckel (2013), there can be noticed a lack of a social network type in which a structure consisting of family members does not dominate numerically (for example, *nonfamily* and *friends*). Each cluster selected in the group of Polish seniors can be characterized by keeping in touch with family members. Even in the *restricted* group relatives are those who make the most numerous network structure. As it results from the report by the Centre for Public Opinion Research (Omyła-Rudzka, 2012) presenting the results of research carried out on a sample of 266 retired Poles, regarding the ways of spending their leisure time, almost every second woman (46%) frequently or occasionally takes care of her grandchildren or great-grandchildren. The proportion regarding men is 39%. There is a tradition in Poland that grandmothers and grandfathers look after their grandchildren when their parents are at work. It is significant when it comes to the well-being of grandchildren. "Relations between grandparents and their grandchildren can be an important element of family relations, and seniors' sacrifice and help can be a really effective form of a social support" (Napora, 2014, p.54). Seniors' contacts with their family may also be indicated by helping their children or a family in running the house. Such a way of spending the time has been declared by 38% of senior women and 28% of senior men. A big

number of the respondents helps also their children and family members with their gainful employment. It is 32% of women and 24% of men. It is more likely that in the *restricted* group there are persons who spend their time in such a way, what results in a lack of time to function in more developed social networks, consisting of members out of the family circle. Functioning in social networks of the *restricted* type is typical for Polish seniors. Majority of the elderly people in Poland belong to that group. In comparison with the other groups the *restricted* group can be characterized by the lowest level of satisfaction derived from respondents' health condition. It is another factor that may influence the seniors' lifestyle, in particular – relations with others.

Seniors functioning in the *diverse* network type are persons with a higher level of formal education in comparison with seniors from the other groups. They are younger in comparison with persons from the *restricted* group and they evaluate their health condition better. These factors are significant in terms of lifestyle. There is the biggest proportion of persons participating in TAU classes and social organization's activities. These are persons who probably feel comfortably in situations similar to formal learning at school (e.g. TAU). Third Age Universities, also other senior organizations, often aim at seniors' activation, support them in their successful ageing, promote certain behaviours which facilitate the so called healthy lifestyle. Seniors belonging to the *diverse* group can be said to be highly satisfied from every field of their life. Participation in a social network consisting of such people may enhance a positive, optimistic way of perceiving reality (Kozerska, 2014). Thanks to common experiences, participation in undertakings related to the activity in organizations and interactions with many members of a social network, seniors probably have more opportunities to learn various ways of handling problems from one another; their educational environment is more differentiated than the environment of seniors in the other groups, and it favours learning to a larger extent.

Taking into consideration aspects discussed herein, related to perceiving the quality of life and demographic conditioning, the *family and friend* group is similar to the *diverse* group. These are persons with a similar level of education and at the similar age as those in the *diverse* group. Social networks are not as much developed as in the *diverse* group, but persons functioning in this network type have numerous relations with relatives and persons out of the family circle. Seniors functioning in the *family and friend* net do not get involved in various organizations as much as seniors from the *diverse* group. They maintain relations of another type, more 'modest'. The average evaluation of a level of satisfaction from such contacts is statistically lower than in the *diverse* group. The evaluation of satisfaction derived from the way of spending leisure time is also lower. The *family and friend* group keeps in touch mainly with family members. Family members can provide help and support when seniors need it. On the other hand, various family events, family situations that require taking

care of other family members (e.g. grandchildren, ill family members) may lower a subjective feeling of the life quality within a range of such fields as a level of satisfaction from the way of spending the time or relations with a group of friends. However, the level of general life satisfaction is the same in the *diverse* and *family and friends* group. Both groups evaluate own life during the recent days at a similar high level, and they evaluate the level at which they want to live in a similar way. They evaluate their relations with children and spouses at the same high level – there are not statistically significant differences within this field.

The results show a regularity observed many times in the research carried out in various countries: social participation is in relation to the well-being of seniors. The achieved result for example coincides with results by Fiori et al. (2006), according to which seniors functioning in the *restricted* network got results showing a high intensity of depression symptoms, while the *diverse* network was characterized by a low level of depression symptoms.

Table 1. Description of a level of satisfaction from selected fields of life of chosen senior groups

A field of life for which a level of satisfaction was defined by seniors (higher values of the presented scale refer to a lower level of satisfaction; scale from 1 to 6)	Group 1. <i>Family and friends</i> 2203 persons		Group 2. 5562 persons <i>restricted</i>		Group 3. 260 persons <i>diverse</i>		Significance of differences, result of Kruskal-Wallis test		Pairs of groups which are statistically significantly different (on the basis of the Dunn's multiple comparison test result). p<0,05
	M	SSD	SM	SSD	MM	SSD	H	p	
1. Relations with the closest family members	1,9	0,8	2,1	1,0	2,0	1,0	103,8	0,000	Group 1 and 2 Group 2 and 3
2. Financial situation of a family	3,1	1,2	3,4	1,4	3,1	1,3	85,9	0,000	Group 1 and 2 Group 2 and 3
3. Relations with a group of friends	2,4	0,9	2,7	0,9	2,2	0,9	259,4	0,000	Group 1 and 2 Group 2 and 3 Group 1 and 3
4. One's own health condition	3,5	1,3	3,7	1,3	3,4	1,3	64,8	0,000	Group 1 and 2 Group 2 and 3
5. One's own life achievements	2,8	0,9	3,1	1,1	2,5	1,0	177,1	0,000	Group 1 and 2 Group 2 and 3 Group 1 and 3

6. A situation in the home country	4,5	1,2	4,5	1,2	4,3	1,4	8,3	0,02	---
7. The housing conditions	2,3	0,9	2,6	1,1	2,2	0,9	135,2	0,000	Group 1 and 2 Group 2 and 3
8. A senior's place of living	2,2	0,8	2,4	0,9	2,2	0,9	100,5	0,000	Group 1 and 2 Group 2 and 3
9. Future perspectives	3,5	1,3	3,8	1,3	3,5	1,4	97,6	0,000	Group 1 and 2 Group 2 and 3
10. Sexual life	3,2	1,2	3,5	1,3	3,1	1,3	52,3	0,000	Group 1 and 2 Group 2 and 3
11. One's own education	2,9	1,8	3,2	1,2	2,7	1,2	116,2	0,000	Group 1 and 2 Group 2 and 3 Group 1 and 3
12. The way of spending leisure time	2,7	1,0	2,9	1,1	2,4	1,0	135,1	0,000	Group 1 and 2 Group 2 and 3 Group 1 and 3
13. Children	1,8	0,8	2,0	0,9	1,8	0,9	68,1	0,000	Group 1 and 2
14. Marriage	2,0	0,9	2,2	1,0	2,0	1,0	42,6	0,000	Group 1 and 2 Group 2 and 3
15. The state of safety in the place of living	2,5	0,9	2,6	0,9	2,5	1,0	7,3	0,03	---
16. Evaluation of one's own life during last days made by seniors (scale from 1 to 4. 1 – stand for 'very happy', 4 – 'unhappy')	2,1	0,5	2,3	0,6	2,1	0,5	129,2	0,000	Group 1 and 2 Group 2 and 3

Source: own analysis based on: Social Monitoring Council (2013). Social diagnosis: an integrated database. www.diagnoza.com [access 13.02.2014].

Learning (Wenger, 1998) is an essential element of a social participation of an individual. Entering into interactions with other people, realization of common tasks, solving problems and developing confidence require from seniors the constant negotiating and renegotiating of the sense of the world in which they live in, and building one's own identity. This in turn provides some potential to build a social capital that influences the subjective life quality of seniors. The analysis shows that in this respect seniors with higher education are

more privileged. People functioning in poor social networks are characterized by a smaller number of years of formal education. Considering the analysis carried out by Growiec (2009), the social trust is a vital condition needed to form bonds out of the original group. Such bonds can be built by encouraging seniors to cooperate for the benefit of the common good and cross-generational cooperation, thus showing the sense of cooperation to realize the general interest.

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PROJECT METHOD IN ADULT EDUCATION: SELF-EXPERIENCE ANALYSIS

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***Abstract.** The project method has swiftly gained ground in education and it has now become integral to the education process offering new ways for modernizing the education environment. Implementing projects provides learning opportunities for all of the involved parties – students, teachers, school principals and parents. In this article the Author has analysed the characteristics of the project method and the differences between project-based adult learning and non-adult learning, and the impact of globalization on projects. Projects can be implemented not only in the scope of specific subjects or specific schools but also as cooperation projects among schools of different countries. Based on the Author's experience in international school cooperation projects and by applying the biographic method, the Author has analysed professional growth in the context of international projects in different project phases – planning, implementation and evaluation. The object of research – to analyse personal experience in participating in international projects by applying the method of biographic reflection and to establish, through self-experience analysis, the potential impact of projects on the upgrading of contemporary school's pedagogical process.*

***Keywords:** project method, project-based adult learning, international school cooperation projects, self-experience analysis.*

Introduction

The project method implies a widely applicable working frame work and contemporary approach to learning. It opens up new experiences by bridging the gap between theoretical knowledge and real life. In literature it has been acknowledged that projects in schools stimulate reflection and cooperation (Toman, 2012). Taking part in projects provides an enriched outlook on the specific study subjects as well as other benefits. The project method may be widely applied – from small projects during classes up to large international projects. In fact, international projects are instrumental for developing learning-oriented cooperation networks (Andersone, 2011). Projects may provide any of these benefits: 1) practical or tangible benefits, and 2) intangible or personal-growth benefits, not quantifiable (Andersone, 2011). In this article, by using the biographic method, the development of self-experience through implementing international projects has been analysed with a focus on intangible benefits.

Context of research

In order to effectively assess the development of participation experience in international projects and its role, first, it is important to establish the social context of a given time period. Before Latvia regained independence in 1990,

teachers had only limited possibilities to get first-hand experience with learning practices abroad, to cooperate with students and teachers from other countries. The Author's previous cooperation experience was restricted to the neighbouring Baltic countries – Estonia and Lithuania. After the regaining of national independence the opportunities to engage in international projects gradually increased. For that matter, command of foreign languages has always been pivotal for successful international cooperation.

During the previous decade Ventspils Secondary Evening School took part in 5 international projects. It has brought new opportunities and new challenge son institutional and individual level. The Author has personally been involved in all of these projects – in the planning, implementation and evaluation stages. In two of these projects the Author was acting as Project Coordinator. The number of partner schools involved in international cooperation varied from 2 to 9 schools. Below in Table 1 “Participation of Ventspils Secondary Evening School in International Projects” a summary is provided on the international projects where Ventspils Secondary Evening School has participated.

Table 1. Participation of Ventspils Secondary Evening School in International Projects

Project	Objective	Number of people involved (from schools)
1. Comenius language project (bilateral, partners) <i>„Youth Cultural Activities in the expanded European Union”</i> 2005 – 2006	<ul style="list-style-type: none"> ✓ To improve the students' motivation and ability to communicate in foreign languages; ✓ To improve team-work skills, carry out polls through learning about culture, everyday life and education systems of other countries; ✓ To compare leisure activities of youth from Ventspils and Hamburg and the associated costs, thus creating a singular image of a contemporary European adolescent 	7 teachers (mobility activity – 4); 30 students of secondary school programmes (mobility - 20, including 1 special needs student)
2. Comenius school project (trilateral, partners) <i>„Challenges posed by EU expansion: issues – facts – solutions”</i> 2006 – 2007	<ul style="list-style-type: none"> ✓ To disseminate information on EU-related processes and their effect on our lives; ✓ To initiate and lead activities to improve understanding of the EU expansion process; ✓ To activate and stimulate the students' cognitive activities on EU related issues. 	6 teachers (mobility activity - 4); 15 students of secondary school programmes (mobility activity - 5)
3. Comenius multilateral school partnership (7 schools, 6 countries, coordinators) <i>„ICT – the safest investment in my future (ICT –</i>	<ul style="list-style-type: none"> ✓ To set up and regularly update website www.ictcomenius.eu; ✓ To conduct surveys, interviews, to engage external experts in educational activities; 	24 teachers (mobility activity - 7); 66 students (mobility activity - 10); 2 associated partners

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Project	Objective	Number of people involved (from schools)
<i>information and communication technologies)</i> ” 2008 – 2010	<ul style="list-style-type: none"> ✓ To make video guides on the safe use of computers and other IT appliances; ✓ To research, summarise and present through video conferences information on career-building in one’s own country and in some of the partnering countries; ✓ Making presentations on the use of ICT tools in schools for curricular & extra-curricular activities and for running the school; ✓ Developing an electronic news bulletin. 	(Ventspils University College, Ventspils Digital Centre).
4. ERAF Latvia and Lithuania cross-border cooperation project (Ventspils Municipal Board of Education, 9 schools, partners) <i>„Improving the Quality of Natural Sciences Education in Western regions of Latvia and Lithuania”</i> 2010– 2011	<ul style="list-style-type: none"> ✓ To upgrade the infrastructure of math & natural sciences’ classrooms; ✓ To equip classrooms with modern study aids and technical facilities; ✓ To develop an elective environmental education course for 1st -10th grade „Preserve the environment – protect our future”; ✓ To develop methodical materials for elective classes and to compile them in a Manual; ✓ To learn about the partners’ experience, incl. Finland’s experience in teaching natural science subjects. 	12 teachers (mobility activity – 6); Students of grades 1 st -12 th – indirectly (equipment for classrooms and methodical materials for classwork)
5. Nordplus Adult Programme– a project (trilateral, coordinators) <i>„Enhancing e-learning with video conferencing”</i> 2012. – 2013.	<ul style="list-style-type: none"> ✓ To learn how adult education is organised in other Baltic countries and Nordic countries; ✓ To establish thematic cooperation networks for developing new projects; ✓ To master new skills in the use of new web-based tools, i.e., video conferencing tools; ✓ To organise web meetings and to use public access tools in everyday work 	14 teachers, partners from Ventspils University College (mobility activity – 11 teachers, 1 – university lecturer)

Research problem

Based on reflections on self-experience, the personal pedagogical benefits and benefits for fellow teachers have been assessed as well as the benefits gained for the school as an educational establishment out of participation in international projects. However, among the public and teachers themselves it is not yet uncommon to see participation in projects as entertainment rather than a profound, alternative form of the study process. Therefore it is important to address the question whether participation in international projects should be seen as a purposeful investment in fostering the further growth of schools and their human resources or rather as a self-centred goal driven by a wish to travel (to visit European countries)? Given the Author's professional background as a principal of Ventspils Secondary Evening School, the role of international projects in the professional growth of teachers and principals will be analysed from the point of view of both the teacher and the principal.

Theoretical framework of the research

In order to carry out a quality self-experience analysis in international projects, let's begin with a brief overview of the project method. In Latvia there have not yet been any detailed theoretical studies on the project method. In Germany U. Schaefer incorporated in his bibliographic compilation on the use of project method between 1895 and 1982, in total, 7400 records on the history, theory and practical examples of the project method spanning 40 countries (Schaefer, 1988a, 1988b). Bibliographic information analysis leads to the conclusion that main credit for the development of the project method goes to Germany and the United States, and in the early 20th century – also to the Soviet Union. J.Dewey and W.H.Kilpatrick, representatives of the American progressive education movement have written and reflected on this subject extensively. Also in Germany there is long record of extensive discussions on the project method, project-based learning and project weeks (Knoll, 2011). Great variety of studies on the project method and project-based learning can be found also in contemporary German literature and publications.

The project method is an open form of learning oriented towards local specifics and students' interests (Toman, 2012). As H.Toman notes, the project method does not have a specific definition and it is based on the experiences, active participation and versatility of those involved in the project. Project, in this context, means a learning activity undertaken by a particular group, thoroughly planned and executed (Frey, 2012). The group itself selects the area of activity and the problem to be addressed based on their interests. As K.Frey puts it, the project method is a way of learning for both students and teachers, it is a process based on contextual meaning. Depending on the duration and the number of people involved, projects are grouped into small, medium and large-scale projects. According to K.Frey, the project method comprises these

components – project's initiative, formulating the idea (project concept), drawing up the project's plan, implementing and completing the project, meta-interaction (discussions, talks). According to D.Hänsel, project is a practical problem-solving method, the ideal form for child-oriented learning (Hänsel, 1997). Project-based work is rooted in the concept of self-driven learning (Traub, 2012a, 2012b). In his studies S.Traub compares the project methods and project-based work described by such distinguished German authors as W. Emer, K.D.Lenzen, K.Frey, H.Gudjons, D.Hänsel, H.J.Apel and M.Knoll by focusing on learning to cooperate and self-driven learning individually and in groups.

H.Gudjons has listed 10 parameters of project-based learning: acknowledging the given situation, orientation towards the interests of those involved, importance for the public, relevance, goal-oriented planning, self-organisation and self-responsibility, involvement of other parties interested, social learning, product-oriented approach, interdisciplinarity, clear limits (Gudjons, 2008).

O.Jäger, in his turn, analyses the project method in the context of project weeks. He lists 12 inter-linked criteria: co-deciding, relevance for the general public, educational value, profundity, uniqueness, holistic aspect, rhythm, social learning, lucidity, successful experience, documentation and reflections (Jäger, 1998). These criteria will facilitate drafting project ideas and will be helpful in planning and implementing projects. They can be applied also as guidelines for evaluation or as a tool for identifying project's weaknesses and flaws. O.Jäger believes that reflection in particular is one of the most significant criteria.

During the project reflection phase answers to the following questions are sought: whether the set goals have been achieved, has there been any growth on cognitive, social and emotional levels or in behaviour. By working in groups, participants should reflect on any conflicts had and on the ways they have been resolved, on any mistakes made that should be avoided in the next project. K.Frey has identified 4 elements of reflection – orientation towards goal, interaction, remote situation assessment and specific reflection.

In schools, when applying the project method, the teacher organizes the reflection process. Conscious reflection may help taking better, smarter, informed decisions (Bartolotti, 2011). Reflection can also be complemented with intuition. Besides, reflection is also a form of learning, and, as such, it may contribute to experience-building (Koçe, 1999). The teacher's insight and ability to do quality reflection is incremental for the quality of reflection done in projects. The teacher as an adult will do it in a more purposeful, mindful way, as adult learning, in fact, is based on learning from one's own experience, the drive to apply new knowledge in new, unfamiliar situations.

International projects are basically a modern transformation of project ideas and the project method. They can be oriented towards both students and teachers depending on the project's objectives and tasks. Participation of teachers in projects, incl. international projects, is a form of learning in the workplace for

teachers, an opportunity to improve their general and professional competencies. In that way learning and growth can be achieved not only within the school's environment, but also based on the experience of other countries and partners. For teachers it provides an opportunity to reflect on their experiences, to discuss it with others. Experience may come in two forms: self-experience which is acquired through direct perception, and indirect experience, which is acquired through language and communication (Koçe, 1999). Studies show that auto-biographic reflection for teachers' professional growth may help acquire new knowledge through reflective practice (Choi, 2012).

Self-experience is the basis of each individual's competencies. It comprises knowledge, skills and attitudes acquired and tested through the course of life (Špona, 2006). Self-experience may take either of the two forms: primary and secondary self-experience (Brigmane, 2012). According to the S.Kemmis and R.McTaggart model described by B.Brigmane, a person assesses one's current experience, identifies new needs and sets goals, and then, by learning through practice, applies one's existing knowledge. Then, by using reflection, knowledge is evaluated. As a result, new or secondary experience is acquired.

Conscious and high-quality reflection constitutes the main difference between student learning and teacher or adult learning through applying the project method. When forming new understanding, a person is able to reconstruct one's previous experience and to develop new techniques to be applied in future in similar situations (Hickson, 2011). By reflecting on their newly acquired secondary experience, adults establish the potential situations where this particular experience could be transformed.

Research methods & activities

Biography is a subjectively experienced and related life story, a collection of individually interpreted lifetime achievements and experiences. Biographic studies are the basics for adult learning studies. Hence the biographic study is being done in an institutional context to allow for institutional and biographic relativity. During one's lifetime different actions follow one another, without always being duly reflected upon. Only by looking back to the past, one can establish which of the biographic changes that have taken place as a result of specific actions have made a lasting impact (Benedetti & Kade, 2012).

T.H.Choi believes that the biographic method is a social outlook on building of knowledge, the need to contextualise knowledge, previous experience in a new learning situation, basing experience in theory, self-growth reflection. It is a transformative learning process towards one's professional growth (Choi, 2012).

Personal reflection and social activity are closely linked. According to C.Stewart and K.McKnight Casey, they are circumstances which contribute to one's experience and that of other people in the context of versatility. Besides,

reflection here does not simply mean random associations but rather structured processing of experiences (Stewart & McKnight Casey, 2013).

Three out of five international projects undertaken by Ventspils Evening Secondary School (see projects No. 1, 4 and 5 in Table 1 above) have been the most significant for the Author's professional experience. In this article the Author has evaluated and analysed the experience gained during different project phases – developing and planning the project concept, implementation, evaluation, further application of the experiences and results acquired. Comparative analysis has been done on the changes occurring in regard to professional needs, perception, understanding and evaluation quality based on the experiences accumulated through participation in international projects.

For self-experience assessment, partially the self-experience assessment criteria and indicators as proposed by B. Brigmane in her doctoral thesis have been applied. To begin with, one needs to identify existing experiences and to formulate needs. Next, one proceeds to awareness and understanding of new phenomena linked to co-experience. The new experience can then be applied in practice and assessed accordingly resulting in improved competencies, and thus new or secondary experience is acquired (Brigmane, 2012). Self-experience assessment is done by applying the following criteria:

- Activation of primary self-experience;
- Assessing secondary experiences;
- Transfer of secondary self-experience competence.

Results of research

In each of the project phases (planning, implementation, evaluation, application of experience & results gained) the experience acquired is different. Reflection and self-experience analysis can be used as tools for assessing how these can be used in the future, for both professional and personal growth. The scope of school's participation in projects has expanded, after the completion of projects their impact on the school's development and upgrading of the pedagogical process has become more profound. However, not always enough time or effort is put into analysis of benefits and reflection. Reflection is instrumental for establishing whether the planned results have been achieved, are they sustainable, and what changes, if any, have taken place. Table 2 "Primary & secondary self-experience in international projects" structured summarize of the Author's reflection on three major international projects.

Table 2. Primary & secondary self-experience in international projects

Project	Activating primary self-experience	Assessing secondary self-experience	Transfer of secondary self-experience competence
<p><i>„ Youth Cultural Activities in the expanded European Union “</i> (2005– 2006)</p>	<ul style="list-style-type: none"> - no previous experience in international projects; - foreign language skills—at minimum level. 	<ul style="list-style-type: none"> - cooperation experience with German peers; - organising & coordinating various work groups(mixed); - use of foreign languages; - wider use of electronic communication tools, - reconciling needs & interests among the partners, teachers and students, - financial management skills - experience in preparing project documentation 	<ul style="list-style-type: none"> - searching new cooperation partners; - better understanding of international cooperation; - improved documentation preparation skills, - switching roles with students; - improving foreign language skills.
<p><i>„ICT – the safest investment in my future “</i> (2008 – 2010)</p>	<ul style="list-style-type: none"> - no previous experience as project coordinator; - no previous experience in working with so many partners; - highly varying foreign language skills among students and teachers; 	<ul style="list-style-type: none"> - learning about the culture, traditions, education system, experiences of the 6 involved countries; - assessing and summarising the experience gained during the teacher exchange visits in schools in Germany, Bulgaria and Austria; acting as the host-school; - joint planning for each next project stage and discussions (with all partners); - conflict solving with partners, seeking compromises, harmonising mutual interests. 	<ul style="list-style-type: none"> - inter-cultural skills (incl. conflict solving); - generating innovative ideas for school’s growth in work groups (distance learning, safety & data security on the web); - reflection skills in groups and individually, understanding their importance - know-how on safety & data security, use of IT; - foreign language skills; - basic skills with Moodle; - developing & licensing a distance learning programme

Project	Activating primary self-experience	Assessing secondary self-experience	Transfer of secondary self-experience competence
„Enhancing e-learning with video conferencing” (2012 – 2013)	<ul style="list-style-type: none"> - no previous experience in cooperating with Nordic countries, - no previous experience with Nordplus grants (the coordinator responsible for financial management). 	<ul style="list-style-type: none"> - the school’s best practice examples that could be presented to other partners have been identified and assessed by working together; - summarising previous experience on distance learning by working in small groups; - joint planning of contents & finances; - practical workshops and tasks on use of ICT tools (in the context of distance learning); - division of responsibility and tasks among the partners 	<ul style="list-style-type: none"> - cooperation and communication skills, in particular, use of online tools in e-environment; - ways for applying IT tools more effectively; - mutual learning and fostering the culture of learning in the workplace in schools; - foreign language skills; - bettering skills for effective application of Moodle by way of mutual cooperation

Conclusions and items for discussion

Reflection is essential for any learning process. However, when applying the project method in the implementation of various projects, sometimes not enough time is given for reflection. So, one should keep in mind that when applying the project method it is not only the result to be achieved that matters, but also the process itself, therefore reflection on any given project must be done on a systematic, structured basis for the whole duration of the project.

Based on self-experience, one may find that individual needs become increasingly more lucid already in the planning process. In addition, evaluation and reflection skills gradually improve and so does the quality of the associated skills. During the drafting of the project application more active discussions take place regarding the contents and each partner’s responsibility and required contribution. As from the moment the project idea is formulated, there is an increasing need for high-quality feedback and for establishing future needs. Precisely formulated ideas for the school’s and personnel’s professional growth will contribute to more substantial project’s impact on both the personnel’s professional growth and the school’s development. Then, when working on every next project, there are more and more discussions on the potential benefits on a professional and institutional level. It also leads to better awareness of the increasing demands related with the changes occurring in the field of education. So the following item for discussion has been put forward: *how to bridge the gap between the growing needs of teachers and those of the school as an institution, and the ability to reconcile and meet these needs?*

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IMPACT OF PLURILINGUALISM ON LEARNING QUALITY IN EVENING (SHIFT) SCHOOLS

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***Abstract.** This paper presents the main findings of the second stage of the Asia-Europe Meeting (ASEM) Lifelong Learning study (2011-2014) on identification of good practices that facilitate adult learning (aged 18-24) engagement in second chance education in evening (shift) schools. It analyses students' perceptions of plurilingual learning processes and the impact of people's plurilingualism on their learning. The methodology of early school leavers' learning in working life research was used applying combined phenomenological semi-structured and narrative interviews. 116 people (72 early school leavers and 44 second chance education teachers) representing all geographical regions of Latvia were addressed. The study identifies the differences between learning of bilingual and plurilingual people in formal and informal learning environments and describes the impact of plurilingualism on the learning quality.*

***Keywords:** bilingualism, informal learning, learning, learning to learn, plurilingualism.*

Introduction

Globalization, rapid development of new information and communication technologies, ongoing increase in knowledge production speed requires the development of new competencies. Understanding and speaking many languages is essential.

Plurilingualism has become a widespread social reality and it is a part of many people's lives nowadays. It can be even said that plurilingualism is an everyday experience (Bach & Wolff, 2013).

In Latvia, people traditionally learn more than two languages, which is caused by the special status of small countries where in order to survive it is necessary to learn other languages. According to Eurobarometer survey in 2006, 56% of respondents indicated they were able to speak at least one foreign language. The countries with the highest rates of multilingualism were: Luxembourg, with 99% saying they spoke at least one foreign language; Slovakia (97%) and Latvia (95%). The Eurobarometer survey in 2012 showed that almost all respondents in Luxembourg (98%), Latvia (95%), the Netherlands (94%), Malta (93%), Slovenia (92%), Lithuania (92%), Sweden

(91%) admitted being able to speak at least one language in addition to their mother tongue (Europeans and their languages, 2012).

The fact that most people in Latvia speak several languages urged the authors of the paper to study if there are differences between learning of bilingual and plurilingual people in formal and informal learning environments, and which impact plurilingualism could have on the learning quality. In this paper the authors are seeking the answers to the question – what exactly is required in order to be able to face challenges of the future. Answers to this question have been sought both by analyzing previous studies and surveying young adults (aged 18-24) engaged in second chance education in evening (shift) schools of Latvia since in Europe special attention has recently been paid to young adults as one of the target groups of lifelong learning.

In order to attain the EU benchmarks for 2020 (ET 2020, 2009; Europe 2020, 2010) regarding participation of young adults in lifelong learning and increasing their competence level and upgrading knowledge, the primary focus has been on early school leavers. The key issue is the evaluation of the existing educational offer for the target group in order to find out the possibilities of improving the current education practice.

This problem has been in the focus of attention since 2010 when the share of early school leavers (aged 18-24 years) in Latvia constituted 13.3% of the target population. Although there is a trend for the number of early school leavers to decrease – in 2011 the number decreased to 11.6% and in 2012 to 10.5% (Early Leavers from Education and Training Aged 18-24, 2013), the problem still exists and new, contemporary, effective ways for learning are being investigated.

One of the opportunities how to obtain formal education is evening (shift) schools that have long traditions in Latvia and that offer both general secondary education and vocationally oriented secondary education. Evening (shift) schools offer to acquire education in evening groups, extramural groups, for people in custody and even e-learning. They are open to everyone who has such a need and as argued by Karnite (2012) their success factor is their flexibility.

Teachers of evening schools have adapted to work with students having different levels of knowledge, skills and competences, different motivation, age and social status. An advantage of evening (shift) schools is teachers' tolerance, understanding of their students and readiness to change.

It has to be emphasized that the majority of evening (shift) schools are the second chance education institutions in Latvia. The programs for such schools are developed according to the demand (Country Report on the Action Plan on Adult Learning: Latvia, 2011).

The current research started in 2011 when a trend in closing down evening (shift) schools in the country was evident. In 2008/2009 there were 34 evening schools (13,223 learners) in the country. Their number decreased to 28 (12,732 learners) in 2010/2011 and further on to 25 (12,002 learners) in 2011/2012. In

the study year 2012/2013 the number of evening (shift) schools remained the same (25 schools) but the number of students decreased to 11,727, which may also be explained by the demographic situation in the country (*Statistika par vispārējo izglītību*, 2009; 2011; 2012). The evening (shift) schools have been located throughout the country, mainly concentrating in the largest cities.

However, despite the created network of evening (shift) schools and their long traditions in Latvia, the practice showed that the activity of the existing educational institutions did not adequately promote adult participation in learning. Considering the above-analyzed context, the authors researched the impact of plurilingualism on the learning processes.

Theoretical Framework

The study is based on the analysis of theoretical and empirical studies on plurilingualism and learning.

The concept of plurilingualism has been developing for more than thirty years. Different approaches have dominated in different periods of time. For example, in 1970ies Wandruszka (1979) considered that plurilingualism was innate in all individuals and he called it *internal plurilingualism*. The author implies that even in mother tongue speakers switch over from one language style to another, one dialect to another, and so on. He also introduced the term *external plurilingualism* addressing it to an individual's ability to learn other languages in addition to their mother tongue. According to Neuner (2004), for more than twenty years plurilingualism was associated with natural language acquisition processes in which speakers have developed a similar competence level in all languages. The latest concept of plurilingualism postulates that languages contribute to each other and it is not necessary to attain native-like language competence in all languages (Neuner, 2004).

In the present paper the authors have adopted the approach that *plurilingual* is a person using two or more languages in their daily lives. Plurilingualism is perceived as one competence which encompasses a range of languages in a variety of contexts (*Valuing All Languages in Europe*, 2011). Thus, languages are becoming a tool for learning other subjects, and many languages give certain advantages for an individual to learn.

Plurilingualism - a "way of life in Europe"

Eurobarometer survey points to 23 officially recognized languages and more than 60 indigenous regional and minority languages, and many non-indigenous languages spoken in Europe. 88% of Europeans consider that languages other than their mother tongue are useful for personal development (*Europeans and their languages*, 2012) which clearly indicates to plurilingualism in Europe.

In general, plurilingualism is associated with the person's "ability to use languages for the purposes of communication and to take part in intercultural interaction, where a person, viewed as a social agent has proficiency, of varying degrees, in several languages" (CEFR, 2001: 168). Plurilingualism, the same as pluriculturalism, is regarded as a personal feature which is put into action in a communicative situation (Bernaus et al., 2007). Moreover, being plurilingual also describes a personal attitude. It comprises communication abilities as well as the awareness of the world as multilingual and the ability to live in multilingual contexts (Bach & Wolff, 2013).

As previously said, everyday life for many people in the world is multilingual. However, plurilingual people are often still considered as extraordinary people. Unfortunately, this understanding often leads to the point-of-view that such people do not master any of the languages. Therefore, a special role of the present paper is to show that these people can speak these languages, can apply them in problem solving situations and attaining their personal aims. Understanding and speaking of many languages is one of the dimensions in future competencies; plurilingualism has even been claimed to be a "way of life in Europe" (Beacco, 2005). Plurilinguals are people who claim to possess a plural linguistic and cultural repertoire, developed through a variety of experiences which promotes the development of different competencies at various levels (Beacco, 2005). The focus here is not on the simple addition of various languages, but on the learning processes which occur when people learn new languages and learn in general. Learners may be or become plurilingual individuals (Bach & Wolff, 2013). Among other benefits of plurilingualism the following ones have to be stressed: 1) heightened capacity to compete in the knowledge economy, 2) greater opportunities for participation in public life, and for shaping democratic practices, 3) better strategies to combat prejudice, promote tolerance and mutual understanding (Valuing All Languages in Europe, 2011).

Certainly, languages open the door to people who want to succeed in the modern globalized society. "There is empirical evidence that skill in several languages fosters creativity and innovation: multilingual people are aware that problems can be tackled in different ways according to different linguistic and cultural backgrounds and can use this ability to find new solutions" (*Multilingualism: an asset for Europe and a shared commitment*, 2008: 8). And, problem-solving, flexibility, creativity, innovation and learning-to-learn are essential attributes to succeed in the versatile and rapidly developing world.

Learning-to-learn through languages – a necessary competence for the future

Nowadays, learners in most regions of Europe bring many different languages to school with them. This means that plurilingualism is an important component of education for all learners. It is not connected with only language

learning, but it also impacts all learning and helps developing learners' cooperation strategies (Boeckmann et al., 2011).

The studies (Boeckmann et al., 2011; Neuner, 2004; Krumm, 2004) reveal the significance of languages in learning other subjects. "The language of the subject represents the knowledge structure of that subject and is one of the central tools for studying it. Language competence is thus an integral part of subject competence, and the two can hardly be separated from each other" (Boeckmann et al., 2011: 11), i.e., "learning a new subject largely consists of learning a new language. This is why learners of language(s) in other subjects can draw on their experience and competences from language(s) as a subject that they have acquired beforehand or are acquiring simultaneously" (*ibid*: 11-12). This means that the learning strategies developed in language learning are applied when acquiring other subjects.

Learning through languages – promoting inclusive, plurilingual and intercultural education is the goal of the European Centre for Modern Languages programme for 2012-2015 and languages represent the principal medium through which learning is achieved (Learning through languages, 2013). In turn, plurilingualism is not achieved by overlapping or juxtaposing different competences, as it is a global and complex competence which has four main dimensions: 1) the socio-affective dimension, 2) the dimension of linguistic and communicative registers, 3) the dimension of learning strategies, and 4) the dimension of interaction management. These dimensions comprise the learner's ability to maintain a dialogue, use their previous experience and knowledge in other situations, be ready to resolve communication problems and manage communication in situations characterized by linguistic and cultural plurality (Bernaus et al., 2007). Language learning stimulates learner's openness to new learning experiences and helps attaining relevant competences in other courses. Language is a tool for acquiring and transferring knowledge.

Methodological Framework

The present research is the second stage of the Asia-Europe Meeting (ASEM) Lifelong Learning study "Identification and analysis of new challenges and solutions that have influence on engagement and reintegration of adults (18-24 years) in lifelong learning" (2011-2014) and it identifies good practices that will facilitate adult learning engagement in second chance education in evening (shift) schools. The study was managed by the State Education Development Agency of Latvia in collaboration with the University of Latvia (ESF Project *Support to Education Research*, Activity 1.2.2.3.2.). Its goal was to work out evidence based recommendations for the Ministry of Education and Science of Latvia for curricula development for 2013-2020 in Asian and European perspective in order to increase the ratio of inhabitants (aged 18-24) with basic and secondary education engagement in learning. The results of the study reveal

what changes have to be introduced in order to more effectively engage adults in learning by using the existing infrastructure, analysing obstacles (challenges) and good practice of how to eliminate obstacles (demonstrate good practice of opportunities) in engaging adults with incomplete basic or secondary education in the learning process. The present paper deals with the analysis of the findings from the qualitative part of the study – focus group discussions with learners and teachers (2012-2013).

In this paper the authors deal with individuals' perceptions of plurilingual learning processes and the impact of people's plurilingualism on their learning (research question). The authors propose to: 1) identify the differences between learning of bilingual and plurilingual people in formal and informal learning environments; 2) analyze how cognitive, affective and social dimensions interplay in plurilingual people's learning; 3) describe the impact of plurilingualism on the learning quality. The authors are convinced that the good practice of the impact of plurilingualism upon the learning quality may be interesting in European and world wide learning quality perspective.

The methodology of studying of early school leavers' learning in working life was used (Illeris, 2004; 2005) applying a combined phenomenological semi-structured and narrative interviews (Kvale, 1996). Learning histories were collected in focus group discussions as audio files, then coded in a 5 researchers' group applying the coding system developed in the study on the relationships between characteristics of workplace practices and types of informal learning (Doornbos et al., 2008) and analysed applying AQUAD 6 software (Huber & Görtler, 2003). Implicit theories of the interplay of cognitive, affective and social dimensions in plurilingual people's learning were explored, expressions were analyzed, as well as linkages among the categories and implicants were determined and analyzed. The findings were statistically validated by applying the latest AQUAD software and SPSS software.

116 people representing all five geographical regions of Latvia (Riga, Kurzeme, Vidzeme, Latgale, Zemgale) were reached. 72 of them were early school leavers (male=25; female=47) and 44 were second chance education teachers (male=3; female=41) which corresponds to the actual feminized situation of teachers in the schools of Latvia.

Findings and Discussion

The findings connected with learning and languages showed that most students were plurilinguals, whereas the teachers were bilinguals. The codes of frequencies regarding the use of different languages were more expressed in students' discussions (202 codes) compared to teachers' discussions (135 codes). Informants admitted that they had learnt languages in formal education (83 frequencies) and in non-formal education (27 frequencies), as well as in informal situations at work and life. Regarding informal learning, the informants

acknowledged learning languages at life more than at work (89 frequencies vs. 32). Several informants, especially students, admitted that they had lived and worked abroad. The informants also expressed their ideas on the learning process and the learning outcomes.

The results of Chi Square Test confirm a significant difference ($p \leq 0.01$; $\chi^2 = 64.98$) between the students' and the teachers' answers. Students predominantly are assessment-oriented and content-oriented. Both, students and teachers are process-oriented.

Students stress the role of individual learning in language learning process, whereas teachers emphasize learning from colleagues:

I am not quite experienced. I have been learning from my colleagues a lot. At the same time, I am teaching them as well. I have understood that I can learn from communication and experience which are constantly updating. The more I communicate, the more ideas I have.

Both, students and teachers admit learning together and learning from experts, i.e., experienced people:

Last summer I went to England and worked in an on-line shop. I liked that every morning started with a joint meeting – evaluation of the day, suggestions how to improve work. I was told what was good and what needs to be improved, they also taught me. It's very important.

However, learning outside the accustomed learning environment is characteristic only to students. Nearly all students and half of teachers learn languages in formal and informal (everyday) learning process. A part of students and a part of teachers admit workplace learning and prefer non-formal ways of learning.

Students feel that they have learnt something when they have good knowledge and skills. The following quotations illustrate this:

When I am aware of what is going on, when I understand everything, when I know that I can do it and I do not need anyone's help.

Learning is a process of self-assurance and elimination of fear; when I see the result, I am satisfied.

When I can do it, I am glad. When I can speak to a foreigner and see that he has understood me, I can do it. I couldn't earlier, but now I can.

Teachers consider that they have learnt something when they have attained a definite competence level, and when they are able to creatively apply the acquired knowledge and skills in different situations. For example:

When I can freely speak about the topic, express everything what I think and tell it to others.

It is essential for me to be self-assured, calm at a certain situation and be able to communicate with others. Learning is like a flowing river. There are some things that we learn during the course of life, which are really useful in

communication. But there are very many things that are changing, and we have to accept it. We have to change ourselves.

If I can overcome some barriers in me which I could not do earlier; when I do something new which I could have never thought of before. Then I consider that I have learnt something. This is my step ahead.

Both, teachers and students emphasize that in everyday life they face situations which they have not encountered before and when solving the problems they gain positive experience:

I think 'lifelong learning' is exactly for me. I learn everywhere, at any situation, at any time, from all the people I have ever met, and not only.

Experience exchange, when students organize meetings, express their point-of-view, what could be improved, what they like and what not. Students and teachers learn together, in a group. They think about others, not only about themselves. They discuss what each has found, understood, can suggest others. Learning together is cooperation.

Learning is formulation of one's own opinion, developing oneself. The more one knows, the more developed individuality one is.

Sometimes they point to negative experience, although this negative experience is more characteristic to teachers than students.

In order to verify if the findings obtained may be generalized and referred to other contexts as well, Mann-Whitney U test for two independent samples as well as Crosstabulation for determining χ^2 was applied. The results showed that in the language learning process students compared to teachers are more assessment-oriented ($p=0,016$; $\chi^2=0,015$). Students prefer individual learning ($p=0,001$; $\chi^2=0,001$), informal learning at life ($p=0,000$; $\chi^2=0,000$), formal language learning ($p=0,000$; $\chi^2=0,000$), knowledge acquisition ($p=0,014$; $\chi^2=0,014$) and they are more plurilingual than teachers ($p=0,017$; $\chi^2=0,017$). In turn, teachers are more oriented to learning from colleagues ($p=0,017$; $\chi^2=0,017$) and to the competence development ($p=0,017$; $\chi^2=0,017$).

The linkages constructed with a 3 minute intervals in order to find out the relationships between different phenomena, pointed to five types of linkages: 1) between plurilingualism and non-formal learning; 2) between plurilingualism and informal learning at life; 3) between plurilingualism and formal learning; 4) between plurilingualism and informal learning at work; 5) between bilingualism and informal learning at life.

The linkage (relationship) between plurilingualism and non-formal learning was discovered in 27 cases. It was especially exposed in the focus group discussion in Riga region where 11 confirmations of this relationship were discovered. More confirmations were also found in the focus group discussions in Latgale region, which historically has been the region where two, even three, languages (Latvian and Russian) had coexisted, and a special dialect of the

Latvian language – the Latgalian has been spoken in that region as well. The following quotations are some examples of the above-said:

I learnt German at school. Then I decided to learn English. I attended the course organized by the Employment Agency and I admit that I have learnt something. To be sure that I can speak a language, I checked it during my trip. I felt that it had been worth learning.

I learn at Students' Council a lot. There are projects at school and I can learn there. Last year we had a project which gave us a possibility to go to France and work one day in Euro Parliament. I learnt a lot there!

The linkage between plurilingualism and informal learning at life was discovered in 68 cases. The relationship was found both in students' and in teachers' focus group discussions. The construction of linkages had more confirmations than the ones to confirm the relationship between plurilingualism and non-formal learning, which points to closer relationship between informal language learning at life and language application in practice than non-formal language learning of plurilinguals. Confirmations were discovered in Riga, Latgale and Kurzeme regions. This also points to the fact that plurilinguals learn languages easier, not so much effort is devoted to extra hours of learning as they learn languages at life in their accustomed everyday environment. Thus, learning by doing is significant here: "I learn in practice. Learning is a process, a practical process" and "It is easier to learn something in action". Informants also stressed the role of environment in learning, for example:

It is easier to learn a language abroad, not communicating with people from one's motherland. I know people who have lived here for two years and could not learn the language. It is easier to learn communicating with others. If one goes abroad alone and communicates with foreigners only, one can learn the language in 2-3 months.

One can learn communicating to each other, listening to each other. If opinions differ, one can learn more. The more versatile opinions are, the more you find out, the more you learn.

I spent a week with a person who cannot speak Russian and Latvian. I could not speak English, so I did not know what to do. Then it came to my mind that it is possible to use drawings and thus solve the situation. When I wanted to eat, I drew some food and he told me the word in English – food, and thus I learnt this word. Next time I used the English word. I was trying to remember my childhood.

The linkage between plurilingualism and formal learning was discovered in 81 cases. The confirmations of the linkage were significant. It has to be emphasized that in two focus group discussions 17 confirmations of the present linkage were discovered which points to strong links between plurilingualism

and formal learning. These links were especially expressed in students' focus group discussions, which was also natural as all students had studied Latvian and at least 2 foreign languages (mostly Russian and English) at school. Regarding their language competence level, most of them admitted being fluent in at least two languages and partially fluent or fluent in the third language.

The linkage between plurilingualism and informal learning at work was discovered in 21 cases. These confirmations were less vivid compared to the previously-mentioned confirmations of other relationship. However, it has to be added that all teachers were experienced and most of the students had at least some kind of work experience, too. Apparently, respondents had considered having learnt language at formal and non-formal education first and then applying the language skills at practice at work. Informants recognized having improved language skills during their work experience abroad, especially the English language skills.

The linkage between bilingualism and informal learning at life was the least expressed of all. It was discovered in 12 cases only. The confirmations ranged from 2 to 5, no distinct confirmations were found. However, these confirmations have to be taken into consideration as well, as the lines were analyzed with a 3 minute interval which allowed tracing the slightest nuances in respondents' answers.

In general, findings revealed relationships between plurilingualism and informal learning. Both, students and teachers consider that in everyday life they learn anything, including languages, mostly in spontaneous, previously not planned activities. Students and teachers learn the language in language environment, including e-environment by communicating face-to-face and on-line, electronically, when reading books, listening to music and watching movies. Teachers learn during their subject classes applying and explaining international terms, together with students communicating with collaboration partners as well as with youngsters, searching for all possible answers to students' questions, working in projects (welcoming project partners, presenting), in service industry (shopping, at the manicurist), travelling and during their business trips. Students learn by contacting with their friends, playing games, watching cartoons. Students who have work experience learn from "practical things that have to be done", their motivation is "to understand in detail what everything means in order to perform the work well".

Analysing teachers' expressions relationships were discovered between plurilingualism and non-formal learning. They learn languages with a private tutor, participating in specially arranged courses, raising their qualification abroad.

Analysing students' expressions relationships were discovered between plurilingualism and formal learning. They learn languages in educational institutions (at kindergarten and school) which are the main stages of hierarchically and chronologically structured education system of Latvia. They

learn languages by studying vocabulary, memorizing the names for the objects, etc.

Next, implicants in interplay of cognitive, affective and social dimensions in learning of bilingual and plurilingual early school leavers (aged 18-24) and second chance education teachers in formal and informal learning settings were studied. The most significant findings of implicants are summarized below:

- Analysing informants' answers (students' and teachers' answers) the following most repeated set of *conditions for bilingualism* was discovered: the development of bilingualism was influenced only by a multilingual environment (4 cases);
- Analysing students' answers the most repeated set of *conditions for bilingualism* was discovered: the development of bilingualism was influenced only by a multilingual environment (4 cases);
- Analysing informants' answers (students' and teachers' answers) the following most repeated set of *conditions for plurilingualism* was discovered: plurilingualism was promoted by gaining positive experience in solving new situations (6 cases);
- Analysing students' answers the most repeated set of *conditions for plurilingualism* was discovered: plurilingualism was influenced only by the environment in which at least two languages are spoken (4 cases);
- Analysing teachers' answers the most repeated set of *conditions for plurilingualism* was discovered: plurilingualism was influenced by the link between language learning and the enhancement of attitude and competences (3 cases).

The research findings confirm the viewpoints that languages open the door to more opportunities in life; the more languages people speak, the more opportunities they have. Learning through languages has become a way of life.

According to the findings, the majority of the youngsters have gained experience abroad. It is even possible to say that in their situation the following order exists: language skills provide them an opportunity to get employment abroad, the employment abroad widens their experience, returning home students' choice to study in the evening (shift) school is very conscious and purposeful and it stems from their life and learning experience as well as corresponds to their aims. This is an example for learning through languages.

People are inspired to learn not only by their interest in languages and culture – instrumental or integrative motivation understood in the tradition of Gardner and Lambert (1972), but they also have other aims of life in which language is a tool or as cited above “Languages open the door”.

It is evident that there are other factors that help the informants to solve complex tasks and provide that these processes happen naturally and no one finds them as a burden. They have aims of life and focussed interests. According to the notions by Illeris (2007) this interest and purposefulness provide the

necessary interaction between cognitive and affective dimensions. This interaction with social processes secures successful learning.

It is evident that the learning process comes from the students themselves. All students are very motivated as they have chosen to return to the education system. Learning-to-learn competence is developing in process. They know how to learn which is expressed in their wish to study in the evening (shift) school as well as in the reason for their learning, which is confirmed by their expressions:

- *Learning means to know how to use opportunities;*
- *Learning is to know how to solve the problem in the changing situation;*
- *I have learnt if I can solve a new situation;*
- *If I can independently do a task, it means that I have learnt;*
- *I have learnt when I can tell others what I have learnt about.*

Experience gained from several socio-cultural contexts proved to be beneficial which also emphasizes the impact of plurilingualism on the learning processes.

Conclusion

The findings revealed the fact that plurilinguals and bilinguals perceive the learning process and learning outcomes differently.

For plurilinguals learning means implicate solution of critical situations by using different resources, problem-solving process, life activity as a result of which they overcome obstacles and develop self-assurance and build their career. It is a conscious life activity, communication, self-realization, situation analysis. Learning outcomes is a synergy as a result of which new ideas are created and which motivates setting up new targets, adequate self-assessment, and selection of optimal learning strategies.

Bilinguals associate learning with knowledge acquisition (*I know how to do it*), memorizing (learning lexis), comprehension on further knowledge application. Learning outcomes are associated with assessment (*I know during the test, after it – not, examination*).

Bilingualism interplays with cognitive and affective dimension of content-oriented learning in formal learning settings: learning is a difficult cognitive process (examples of expressions: *agitate, excite, tense, and worry*) the benefits of which are affective sense (*be or feel at ease, breathe easy, interrupt work, take a break, take a breath*). Whereas plurilingual ones - with social dimension of learning towards language use (*speak fluently on the topic, help others, teach others, explain, tell about their experience*) and they benefit from informal learning – use learning opportunities in any context, unintentional learning promotes independence, well-being, flexibility, knowledge transfer in new unknown situations, as well as transcultural communication.

Cognitive and affective dimensions are connected with formal learning (lessons), and social dimension is connected with informal learning processes (to see the opportunities where it is possible to learn unintentionally).

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PERSONĪBAS ATBILDĪBA KĀ VĒRTĪBA

The Personality's Responsibility as a Value

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Abstract. *The modern society can be characterised by the rapid process of social and moral differentiation. Destruction and reassessment of traditional values, orientation of the modern personality to achievement and attainment of material benefits as leading values in human life caused the spiritual and moral crisis in the society, especially amongst teenagers. Responsibility as a value feature of a personality issues the challenge of the moral choice, which is expressed in the spheres of living, interests, needs and social relations, defining the meaning of life of every member of the society.*

Keywords: *personality, value system, responsibility, teenagers', modern society.*

Ievads

Introduction

Sociāli ekonomiskās krīzes, politisko konfliktu un tradicionālo vērtību devalvācijas apstākļos, kas notiek Eiropas sabiedrībā, īpaši sarežģīti ir jaunākajai paaudzei ar savu nenobriedušo pasaules uzskatu un vērtību sistēmu. Tieši pēc šīs vērtību sistēmas var spriest par sabiedrību, tās potenciālu un attīstības perspektīvu. „Cilvēki, šķiet, ir zaudējuši tieksmi uz taisnīgumu un cieņu, pārstājuši cienīt to, ko ir izdevies izcīnīt iepriekšējām paaudzēm ziedojot milzīgus upurus... Galu galā visu cilvēka vērtību un morāles pamatā ir atbildība un tikumība, kas nosaka cilvēka darbības rīcību un dzīvi” (Eiņšteinis, 1991: 16). Garīguma trūkums, un tās rezultāts - patērētāju savtīgā attieksme pret dzīvi, koncentrēšanās tikai uz sasniegumiem un materiālo vērtību iegādi kā vadošā dzīves vērtība daudziem pusaudžiem ir attīstījusi garīgo cinismu, neuzticību sev un sabiedrībai, attālināšanos no morālajām vērtībām, tā rezultātā veidojas vērtību tukšuma situācija.

Pētījuma mērķis ir teorētiski apskatīt atbildības problēmu kā personas kvalitātes vērtību un noteikt atbildības rangu pusaudžu vērtību hierarhijā.

Pētījuma metodes:

- Teorētiskajā pētījumā: filozofijas koncepcijas par atbildības un vērtību mijšakarību (H. Jonas, E. Fromm, V. Tugarinov), koncepcijas par personības garīgi tikumisko un vērtību būtību (K. Abulkhanova – Slavskaja, A. Maslow, V. Frankl), vērtību teorija (M. Rokeach).
- Empīriskajā pētījumā: psihodiagnostiķojošās metodikas komplekss - Socioloģiskās anketēšanas metode „Pusaudžu personīgo īpašību vērtību sadales nozīmīgums”, metode „Vērtības tests” (S. Schwartz).

Atbildība kā personas kvalitātes vērtība *Responsibility as a value quality of teenager's personality*

Personiskās atbildības problēma - viens no sarežģītākajiem morāles jautājumiem mūsdienās, tā kā tieši šī personības īpašība izpaužas rīcības tikumiskā izpratnē un ir indivīda uzvedības un rīcības iekšējais regulators. Atbildības jēdziens ir daudzpusīgs un tam ir dziļāka nozīme: atbildība pret sevi (prast izvēlēties un uzņemties par to atbildību), atbildība par savu konkrēto rīcību (spēja domāt par citiem, par savas rīcības sekām), atbildība par sabiedrību un valsti (sabiedrības normu ievērošana).

Vērtību sistēma robežojas un sasaucas ar sociālo normu sistēmu, pildot to pašu funkciju - cilvēku uzvedības regulēšana. Atbildība kā vērtība indivīdam izvirza morālās izvēles problēmu, tas ir problēmu, kas ir personīgi nozīmīga tai. Šajā situācijā personība vienlaicīgi ar vērtību apgūst arī to iegūšanas procesu. Viņš iegūst vērtību pašnoteikšanas pieredzi, tas ir, nepieciešamību un spēju redzēt, atrast savas darbības nozīmi. Līdzīgā pieredzē - vērtību pašnoteikšanās pieredzē - „veidojas indivīda vērtību sistēmas attiecības ar realitāti, kas ir personas uzvedības sabiedrībā regulators” (Разбегалева, 2001).

Filozofijas vēsturē ir bijuši vairāki mēģinājumi definēt jēdzienu “atbildība” un cilvēka rīcības kritērijus, “izdarītus, pamatojoties uz brīvu izvēli, kur atbildības vērtību nosaka ar kopējo labumu” (Йонач, 2004). Šis jēdziens ir saistīts ar tādām kategorijām kā “brīvība”, “nepieciešamība” un “sirdsapziņa”. Vācu-amerikāņu filozofs Hans Jonas ierosināja apvienot jēdzienus „brīvība” un „atbildība”, nosakot to par vērtību un apskatot vērtības kā pašregulācijas galveno faktoru (Йонач, 2004).

XX gadsimta lielākais domātājs E. Fromms savā grāmatā “*Man for Himself*” apskata ētikas, normu un vērtību problēmas, kas noved personu pie sevis apzināšanās un tās funkciju īstenošanas. E. Fromms rakstīja: “Mūsu uzvedību un rīcību lielā mērā nosaka vērtību spriedumi, un uz to pamatojas mūsu psiholoģiskā veselība un labklājība” (Фромм, 1992). E. Fromma koncepcija ir tāda, ka „mūsdienu sabiedrība izvairās no brīvības un atbildības, bet mūsdienu civilizācijas krīzi var pārvarēt, radot veselīgu sabiedrību, kas balstīta uz humānisma ētikas principiem un vērtībām un harmonijas atjaunošanu starp cilvēku un dabu, indivīdu un sabiedrību” (Фромм, 1992).

Svarīgas atziņas ir izteicis amerikāņu psihologs A. Maslovs par sabiedrības relatīvo nozīmību un atkarību no indivīda, uzskatot, ka tieksmei pēc augstākajām vērtībām ir jāklūst par “jebkuras personas eksistences veidu, un, ja sabiedrība nevar izaudzēt šādu personību, tad tā ir nolemta” (Маслоу, 2008). Pēc A. Maslova domām, “izvēlētā vērtība ir vērtība, kas šajā gadījumā ir īsti pareizā izvēle - tā, kas ved pie pašrealizācijas. Pastāvot brīvai izvēlei un atbildībai, persona pati instinktīvi izvēlas patiesību, nevis melus, labu, nevis ļaunumu, bet tas ir ar nosacījumu, personai ir konkrētas vērtības” (Маслоу,

2008). Tādējādi A. Maslovs parāda jēdzienu “vērtība”, “izvēles brīvība” un “atbildība” savstarpējās attiecības.

“Vērtības - tas ir tas, kas cilvēkiem ir nepieciešams, lai apmierinātu vajadzības un intereses, kā arī viņu stimulu pēc normām, mērķiem un ideāliem” (Тугаринов, 1998). Tomēr ir noteiktas vērtības, kas ir “būtiskas jebkurai personai jebkurā darbības jomā, piemēram, darba mīlestība, izglītība, labsirdība, atbildība, godīgums, pieklājība un tolerance. Šo vērtību nozīmīguma kritums konkrētā vēstures periodā vienmēr izraisa dziļu krīzi sabiedrībā” (Тугаринов, 1998).

Austrijas psihologs V. Frankls par augstākajām vērtībām nosaucis brīvību, garīgumu un atbildību: tieši tās „veido augstākā līmeņa personības struktūras un ir to pastāvēšanas veidi un formas” (Франкл, 1990). Analizējot savu vērtību kategoriju sarakstu, V. Frankls secina: “Cilvēka dzīve ir pilna ar nozīmi līdz pēdējam elpas vilcienam. Un, kamēr prāts nav atstājis cilvēku, viņa pienākums ir pastāvīgi realizēt vērtības un uzņemt atbildību. V. Frankls ar personības vērtībām saprata “nozīmes, kas raksturīgas lielākajai daļai sabiedrības, visai cilvēcei visā tās vēsturiskajā attīstībā” (Франкл, 1990). Subjektīvajai nozīmes vērtībai jābūt saistītai ar atbildību par tās īstenošanu.

Uz vērtību un atbildības savstarpējo saistību norāda arī Krievijas psiholoģe un filozofe K. Abulkhanova-Slavskaja. Pēc viņas domām, atbildība – tā ir „slodze, un, lai šo slogu panestu, mums ir nepieciešams spēks, izteikts vērtību pasaules uzskatā un iespējā izvēlēties, spēja atdot un prasme sniegt būt atbildīgam par savu rīcību, jo tieši šīs personas īpašības ir caur laide uz pieauguša cilvēka dzīvi” (Абулханова – Славская, 2001). Par personības dzīves stratēģijas veidošanās galveno parametru K. Abulkhanova-Slavskaja uzskata aktivitāti, kas izpaužas kā „spēja atrast balansu starp to, kas ir vēlams un nepieciešams, personīgo un sociālo, un tiek noteikts ar vērtību un personības atbildības palīdzību” (Абулханова – Славская, 2001).

Amerikāņu psihologs M. Rokičs ir apskatījis individuālo vērtību sistēmu un vērtību orientāciju kā „uzskatu sistēmu, ņemot vērā vēlamo mērķi un uzvedību tipus” (Rokeach,1973). Viņš vērtības klasificējis terminālajās (gala) un instrumentālajās (veicināšanas). Terminālo vērtību saturā ietilpst galvenie mērķi, kurus persona vēlas sasniegt savā dzīvē (vērtības–mērķi). Instrumentālās vērtības ir izturēšanās veidi, ar kuru persona sasniedz vēlamo rezultātu (vērtības–līdzekļi). Atbildība, pēc viņa domām, ir „tās vērtības, ar kuru persona izpaužas jebkurā dzīves situācijā” (Rokeach,1973).

Problēmas teorētiskā analīze ļāva noteikt, ka atbildība - ir daudzšķautņains jēdziens, kas izpaužas visās sabiedrības dzīves jomās, kas paredz tādas lēmumus, personas rīcību, rezultātus un sekas, kuras atbilst interesēm un sabiedrības attīstības vērtībām. Atbildība kā indivīda kvalitāte - ir viena no dzīves pozīcijas pusēm, kas atklāj personības attieksmi pirmām kārtām pret tās lomu un vietu sabiedrībā, un virza tās darbību saskaņā ar pieņemtajām sabiedrības normām un izvirzītajiem pienākumiem. Tādējādi atbildība ir

atkarīga no vērtībām un ir personas īpašību vērtība, kurā integrētas tās garīgās, morālās, sociālās un psiholoģiskās funkcijas.

Sabiedrības pārveidošanas apstākļos izskatot atbildības kā vērtīgas personības īpašības izskatīšana ir īpaši aktuāla, jo mūsdienu Eiropas sabiedrībā ir izveidojies pieprasījums pēc atbildīgas personas.

Empīriskais pētījums *Empirical Research*

Empīriskā pētījuma mērķis ir: noteikt „atbildības” rangu pusaudžu vērtību hierarhijā.

Empīriskajā pētījumā piedalījās 502 skolēni no dažādu Latvijas vispārējās izglītības iestāžu 8. -11. klasēm.

Pētījuma metodes:

- Socioloģiskās anketēšanas metode „*Pusaudžu personīgo īpašību vērtību sadales nozīmīgums*”;
- Metode „*Vērtību tests*” Š. Švarcs (1992).

Socioloģiskās anketēšanas metode „Pusaudžu personīgo īpašību vērtību sadales nozīmīgums”

The method of social inquiry “Distribution of significance of values in teenagers’ personal characteristics”

Pētījumā izmantota anketēšanas metode, kas ļauj identificēt kvantitatīvos un kvalitatīvos pusaudžu vērtību sociāli psiholoģisko īpašību rādītājus. Aptaujā izmantoti jautājumi, kuru mērķis ir identificēt pusaudžiem nozīmīgas personiskās īpašības.

1. tabula. Pusaudžu personas īpašību vērtību nozīmīguma sadalījums (Marčenoka, 2014)

Distribution of significance of values in teenagers’ personal characteristics

No .	Vērtību raksturojums	Vidējie nozīmes rādītāji (%)	Rangu vērtība
1.	Kulturāls, izglītots cilvēks	31,0	3
2.	Personība, kura cenšas sasniegt savas dzīves mērķi	63,2	1
3.	Personība, kas spēj nodrošināt savu labklājību	38,6	2
4.	Radošs, kvalificēts speciālists	27,5	4
5.	Apzinīgs, disciplinēts strādnieks	19,0	5
6.	Kritiski domājoša personība	4,2	10
7.	Personība, kas spēj uzņemties atbildību	5,8	8
8.	Uzticams savas valsts aizstāvis	12,5	7
9.	Principiāla personība, kas nemeklē kompromisu	3,4	11
10.	Romantīķis un entuziasts	4,6	9
11.	Personība, kura jūt skaisto	3,2	12
12	Personība, kura spējīga izveidot stipru ģimeni	18,7	6

Pētījuma mērķis: apzināt pusaudžiem svarīgas personiskās īpašības.

Rezultāti liecina, ka pirmās trīs rangas ieņem pusaudžiem nozīmīgākās identitātes īpašības: „Personība, kura cenšas sasniegt savas dzīves mērķi” (63,2%), „Personība, kas spēj nodrošināt savu labklājību” (38,6%), „Kulturāls, izglītots cilvēks” (31%), bet tāda īpašība kā „Personība, kas spēj uzņemties atbildību” ieņem tikai 8. rangu. Līdz ar to mēs varam secināt, ka pusaudži ir orientēti uz personas sasniegumiem, tieksmi pēc sociālās un materiālās labklājības, var konstatēt pragmatisku orientāciju, vienlaikus samazinoties pilsoniskajai, profesionālajai un ģimenes nozīmībai, kas pēc pusaudžu domām nav prioritāte.

Metode „Vērtību tests” Š. Švarcs (1992)
The method “Value survey” by S. Schwartz (1992)

Anketa izstrādāta, lai pētītu vērtības, ideālus un uzskatus, kas ietekmē personību. Š. Švarcs ir identificējis un sagrupējis vērtības 10 motivācijas blokos, kas aptver pamatvērtības: atbilstība, tradīcijas, labestība, universālisms, patstāvība, stimulācija, hedonisms, sasniegumi, vara, drošība.

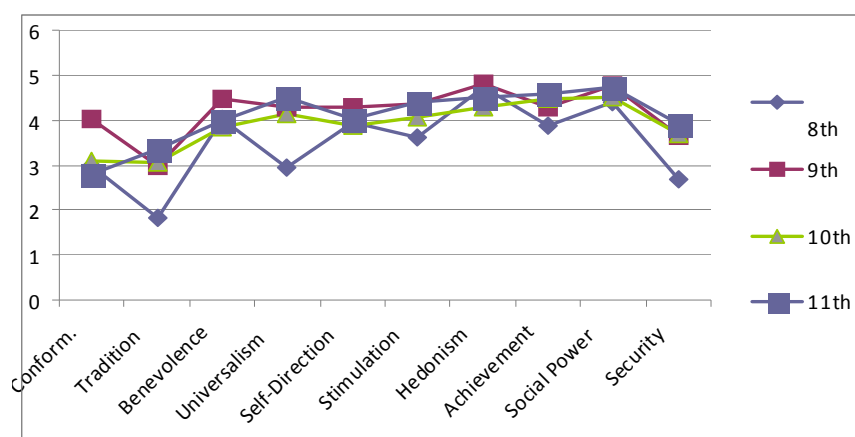
2. tabula. Vērtību īpašības un tipi (Schwartz, 1992)
Types and characteristics of values (Schwartz, 1992)

Vērtību tipi	Vērtību raksturojums
Atbilstība	Tādas rīcības un stimulu ierobežošana, kas var kaitēt citiem un neatbilst sociālajām cerībām
Tradīcijas	Cieņa un atbildība par kultūras un reliģiskajām ieražām un idejām
Labestība	Rūpes par tuvinieku labklājību
Universālisms	Sapratne, tolerance, visu cilvēku un dabas labklājības aizsardzība
Patstāvība	Domu un rīcības patstāvība
Stimulācija	Uztraukums un jauninājumi
Hedonisms	Baudas saņemšana
Sasniegumi	Personīgo panākumu atbilstība sociālajiem standartiem
Vara	Sociālais statuss, dominēšana pār cilvēkiem un resursiem
Drošība	Sabiedrības, attiecību un sevis drošība un stabilitāte

Anketa sastāv no divām daļām. Pirmā daļa „Pārskats par vērtībām” ir paredzēts, lai izpētītu normatīvos ideālus (personas vērtības pārlicības līmenī). Anketas otrā daļa „Personības profils” pēti vērtības uzvedības līmenī (individuālas prioritātes, kas visbiežāk izpaužas personas sociālajā uzvedībā).

**3. tabula. Vidējie vērtību nozīmīguma tipu rādītāji normatīvo ideālu līmenī
(Marčēnoka, 2014)**
Average indicators of significance of value types on the level of standard ideals

Vērtības	8. kl.	9. kl.	10. kl.	11. kl.	Vidējais indikators
Atbilstība	3.00	4.03	3.09	2.81	3.14
Tradīcijas	1.84	2.99	3.07	3.35	2.81
Labestība	4.03	4.49	3.83	3.98	4.00
Universālisms	2.93	4.28	4.15	4.52	3.75
Patstāvība	3.95	4.27	3.87	4.03	3.93
Stimulācija	3.60	4.36	4.08	4.38	4.09
Hedonisms	4.72	4.79	4.29	4.51	4.54
Sasniegumi	3.86	4.29	4.47	4.57	4.29
Vara	4.38	4.77	4.50	4.75	4.52
Drošība	2.69	3.64	3.69	3.90	3.40



**1. attēls. Vidējie vērtību nozīmīguma tipu rādītāji normatīvo ideālu līmenī
(Marčēnoka, 2014)**

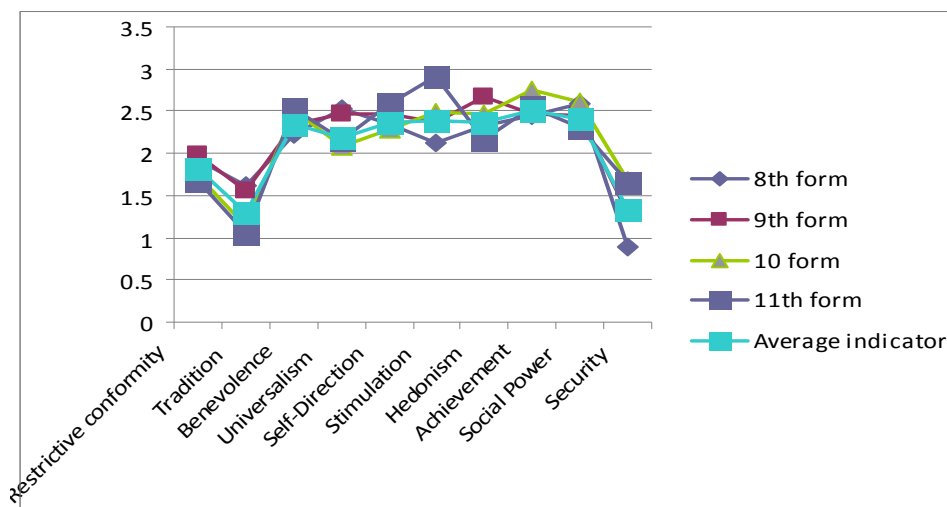
Figure 1. Average indicators of significance of value types on the level of standard ideals

**4. tabula. Vidējie vērtību nozīmīguma tipu rādītāji individuālo prioritāšu līmenī
(Marčēnoka, 2014)**

Average indicators of value types on the level of individual priorities

Vērtības	8. kl.	9. kl.	10. kl.	11. kl.	Vidējais indikators
Atbilstība	1.93	1.99	1.74	1.68	1.83
Tradīcijas	1.61	1.56	1.14	1.05	1.29
Labestība	2.23	2.35	2.50	2.52	2.35
Universālisms	2.53	2.46	2.09	2.16	2.19
Patstāvība	2.34	2.47	2.29	2.59	2.36
Stimulācija	2.13	2.36	2.49	2.91	2.39
Hedonisms	2.33	2.68	2.47	2.17	2.37
Sasniegumi	2.45	2.46	2.76	2.55	2.51
Vara	2.59	2.44	2.60	2.30	2.40
Drošība	0.90	1.30	1.68	1.65	1.33

Kā redzams pēc 5. tabulas, normatīvo ideālu līmenī, tas ir, uzskatu līmenī, pusaudžiem svarīgākās vērtības ir *Hedonisms*, *Vara*, *Sasniegumi* un *Stimulācija*.



2. attēls. Vidējie vērtību nozīmīguma tipu rādītāji individuālo prioritāšu līmenī (Marčēnoka, 2014)

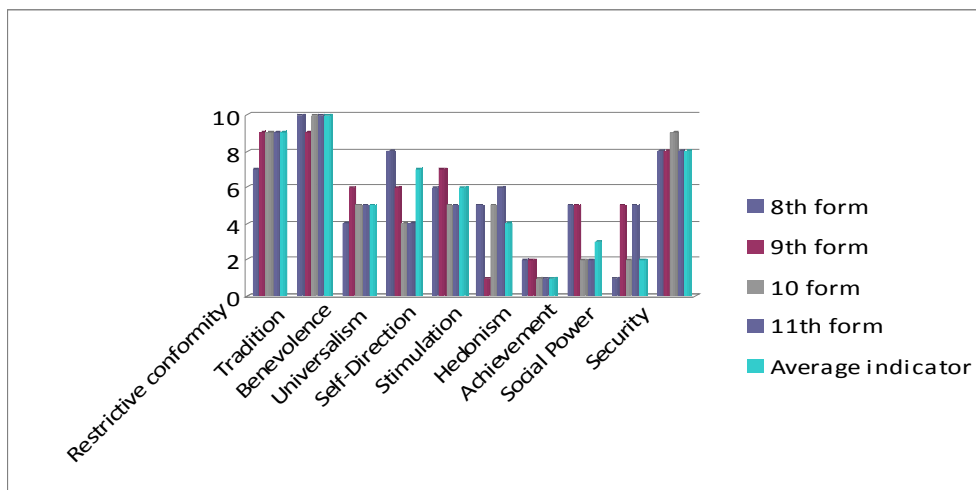
Figure 2. Average indicators of value types on the level of individual priorities

Kā redzams pēc 6. tabulas, individuālo prioritāšu līmenī, tas ir, konkrētās rīcības, visvairāk atklājas tādas vērtības kā *Sasniegumi*, *Vara*, *Stimulācija* un *Hedonisms*.

Saskaņā ar katra vērtību tipa vidējo rezultātu tiek noteikta to rangu korelācija. Katram vērtību tipam veida tiek piešķirts rangs no 1 līdz 10. Pirmais rangs tiek piešķirts vērtību tipam, kuram ir vislielākais vidējais rādītājs, desmito – pati zemākā vidējā balle. Rangs no 1 līdz 3 raksturo to lielo nozīmi attiecībā uz saņēmējiem. Rangs no 7 līdz 10 liecina par attiecīgo vērtību zemo nozīmi. Ranžēšanas rezultāti ir atspoguļoti 6. un 7. tabulā.

5. tabula. Vērtību tipa ranga nozīmes normatīvo ideālu līmenī (Marčēnoka, 2014)
Ranking of significance of values on the level of standard ideāls

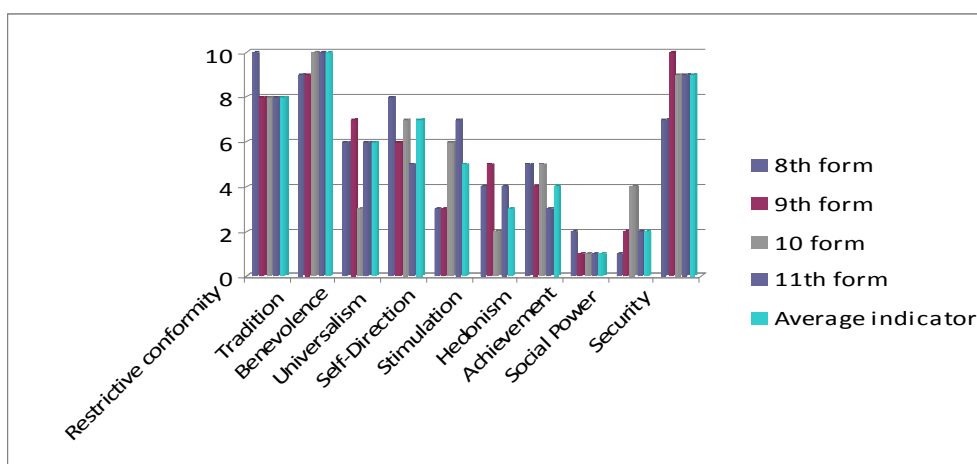
Vērtības	8. kl.	9. kl.	10. kl.	11. kl.	Vidējais indikators
Atbilstība	7	9	9	9	9
Tradīcijas	10	9	10	10	10
Labestība	4	6	5	5	5
Universālisms	8	6	4	4	7
Patstāvība	6	7	5	5	6
Stimulācija	5	1	5	6	4
Hedonisms	2	2	1	1	1
Sasniegumi	5	5	2	2	3
Vara	1	5	2	5	2
Drošība	8	8	9	8	8



3. attēls. Vērtību tipu ranga nozīmes normatīvo ideālu līmenī (Marčēnoka, 2014)
Figure 3. Ranking of significance of values on the level of standard ideals

6. tabula. Vērtību tipu rangu nozīmes individuālu prioritāšu līmenī (Marčēnoka, 2014)
Ranking of significance of values on the level of individual priorities

Vērtības	8. kl.	9. kl.	10. kl.	11. kl.	Vidējais indikators
Atbilstība	10	8	8	8	8
Tradīcijas	9	9	10	10	10
Labestība	6	7	3	6	6
Universālisms	8	6	7	5	7
Patstāvība	3	3	6	7	5
Stimulācija	4	5	2	4	3
Hedonisms	5	4	5	3	4
Sasniegumi	2	1	1	1	1
Vara	1	2	4	2	2
Drošība	7	10	9	9	9



4. attēls. Vērtību tipu rangu nozīmes individuālu prioritāšu līmenī (Marčēnoka, 2014)
Figure 4. Ranking of significance of values on the level of individual priorities

Var secināt, ka uzskatu līmenī un atsevišķu prioritāšu līmenī par būtiskām tika atzītas praktiski tās pašas vērtības. Zemākā vērtību nozīmība piešķirta tādām vērtībām kā *Drošība*, *Universālisms* un *Tradīcijas*, kas ir svarīgas personības iezīmes mūsdienu sabiedrībā.

Pētījuma rezultāti korelācijas analīzes rezultātā liecina par savstarpējo sakarību četriem no desmit vērtības indeksiem: *Hedonisms* ($r=0,48$), *Vara* ($r=0,55$) *Sasniegumi* ($r=0,70$), *Stimulācija* ($r=0,43$).

Secinājumi Conclusion

- Problēmas teorētiskā analīze ļāva noteikt, ka atbildība ir daudzšķautņains jēdziens, kas izpaužas visās sabiedrības dzīves jomās, kas paredz tādas lēmumus, personas rīcību, rezultātus un sekas, kuras atbilst interesēm un sabiedrības attīstības vērtībām.
- Atbildība kā indivīda kvalitāte ir viena no dzīves pozīcijas pusēm, kas atklāj personības attieksmi, pirmām kārtām, pret tās lomu un vietu sabiedrībā, un virza tās darbību saskaņā ar pieņemtajām sabiedrības normām un izvirzītajiem pienākumiem. Tādējādi atbildība ir atkarīga no vērtībām un ir personas īpašību vērtība, kurā integrētas tās garīgās, morālās, sociālās un psiholoģiskās funkcijas.
- Pēc socioloģiskās anketēšanas „*Pusaudžu personīgo īpašību vērtību sadales nozīmīgums*” rezultātiem var secināt, ka pusaudži ir orientēti uz personas sasniegumiem, tieksmi pēc sociālās un materiālās labklājības.
- Ir vērojama pragmatiska orientācija, vienlaikus samazinot civilās, ģimenes un profesionālās pozīcijas nozīmi.
- Par korelācijas analīzes rezultātiem kopumā var teikt, ka, neskatoties uz dažādām vērtību mērīšanas metodēm, rezultāti ir gandrīz identiski.
- Mūsdienu pusaudžu vērtību orientācija ir sarežģīta un pretrunīga sistēma, kurā „Personība, kas spēj uzņemties atbildību”, ir ļoti zemā ranga vērtību hierarhijā ar prevalējošu tendenci uz materiālā nodrošinājuma vērtību, kas transformējas no vērtībām-līdzekļiem uz vērtību-mērķi.

Summary

In the conditions of the social economic crisis, political conflicts and depreciation of traditional values in the European community, the rising generation with their changing outlook and system of values is experiencing the most difficulties. The system of values is the factor, which allows judging the state of the society, its potential and development perspectives. Lack of spirituality and its result – a selfish and egoistic attitude to life, orientation solely to obtaining and gaining material benefits as main life values – beget spiritual cynicism in teenagers, lacking faith in themselves and in the society, estrangement from moral values; as a result it entails the value vacuum.

The aim of the research is: to consider the problem of responsibility as a value quality of teenager's personality and to define the grade of 'responsibility' in the hierarchical system of value orientations of teenagers in Latvia.

The tasks of the research are: by means of the theoretical and empirical analysis to justify the urgency and significance of the problem of responsibility in the context of personality's value orientations in the modern society.

The methods of the research are:

The theoretical base of the research includes: philosophical ideas about the meaning of values, about the role of the person's spiritual value potential in his/her personal development (H. Jonas, E. Fromm, V. Tugarinov), the conception of the moral, spiritual value nature of the personality (K. Abulkhanova – Slavskaja, A. Maslow, V. Frankl), the theory of values (M. Rokeach).

The empirical research includes: the complex of psychodiagnostics methods: "Value survey" (S. Schwartz); the method of social inquiry "Distribution of significance of values in teenagers' personal characteristics", as the qualitative and quantitative analysis of the results using methods of mathematical statistics: correlational analysis.

The results of the research are as follows:

- The theoretical analysis of the given issue allows establishing that responsibility is a multisided concept, which is expressed in interrelation of all spheres of activity of the society supposing such individual's decisions, actions, results and sequences, which correspond to the interests and values of the society development;
- As a personal feature, responsibility is one of the parts of the life position, uncovering the individual's attitude, first, to his/her role and place in the society, and directs his/her actions in accordance with regulations of the society and his/her responsibilities, which are incumbent on him/her. Thus responsibility depends on values and is a value feature of an individual, integrating spiritual, moral and socially psychological functions;
- Analysing the results of the social inquiry "Distribution of significance of values in teenagers' personal characteristics", it is possible to conclude that teenagers are oriented to personal achievements, strive for social and material welfare, we can observe the pragmatic orientation in parallel with the decrease of significance of civil, professional and family positions, which are not priorities in teenagers' opinion. Such a feature as 'Person, which is able to take responsibility' ranks only 8.
- Analysing the results of the method "Value survey" we can conclude that both on the level of beliefs and on the level of individual priorities almost the same values remain the most significant (Achievement, Social Power, Stimulation and Hedonism). The least important are such values as Tradition, Restrictive conformity, Security and Universalism.
- In general, the results of the correlation analysis certify that results of the research are almost identical despite the difference in methods of value measurement;
- Nowadays teenagers' value orientations represent a complicated and contradictory system, where "Person, which is able to take responsibility" is ranked very low in the hierarchy of values with prevailing tendency towards value of material welfare transforming from values-means into values-goals.

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LATVIJAS SUPERVIZORU VĒRTĪBAS: PILTOPĒTĪJUMA REZULTĀTI

The Values of Supervisors in Latvia: the Results from the Pilot Study

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Abstract. *A new profession has been created and is developing in Latvia – a supervisor, and it is important to characterize how its professional basis is created, including the content of the value system. The goal of the pilot study is to characterize the values of the practicing supervisors. This study addresses the following research questions: (a) What are the values of the practicing supervisors? (b) Are there differences between supervisors who practice in different professional fields? and (c) What are the differences of evaluations of importance and attainability of personal values? The participants of this research were 28 supervisors who practice in different professional fields. They filled out an electronic demographic data form online and evaluated the importance and attainability of the offered values on a 5-point Likert scale. The results showed statistically significant differences in the importance of the transcendence value and in the attainability of expediency and practicality value, as well as many differences between the evaluations of importance and attainability of personal values.*

Keywords: *personal values, professional activity, professional environment, supervisor, supervision, conflict of values.*

Ievads

Introduction

Latvijā supervīzija ienākusi kopš šī gadsimta mijas, vairāku nozaru pārstāvjiem, īpaši t.s. palīdzošajās profesijās – psihologiem, sociālajiem darbiniekiem, psihoterapeitiem, mākslas terapeitiem u.c., nodrošinot mērķtiecīga profesionāla konsultatīva un izglītojoša atbalsta iespējas (tostarp arī studiju procesā), lai pilnveidotu profesionālo kompetenci un veicinātu profesionālās darbības kvalitāti. Ilgu laiku supervizoru darbībai bija raksturīga vāja koordinācija, neskaidra attieksme pret to no valsts puses (piemēram, atzīstot supervīziju par obligātu visiem sociālajiem darbiniekiem, bet nedefinējot supervizoru izglītības ietvaru un nenosakot prasības darba kvalitātei; minot to vairākos politikas plānošanas dokumentos, bet neparedzot finansējumu), tā bija segmentēta dažādās profesionālajās apvienībās, tostarp atšķīroties izpratnei par

supervīzijas jēdzienu, organizāciju, supervīzoram nepieciešamo kompetenci u.c. Lai arī aptuveni pirms četriem gadiem, pateicoties sadarbībā ar ārvalstu kolēģiem izglītību ieguvušo supervīzoru aktivitātēm, Latvijā uzsākts darbs pie supervīzijas reglamentācijas, supervīzoru saliedēšanas, izglītības un tālākizglītības sistēmas sakārtošanas, t.sk. ir apstiprināts profesijas standarts, ir izveidota profesionālā maģistra studiju programma „Supervīzija” Rīgas Stradiņa universitātē, biedrība „Latvijas Supervīzoru apvienība” ir uzsākusi supervīzoru sertifikāciju (Mārtinsons, Mihailovs, Mihailova, Мартинсоне, Михайлов, Михайлова, 2013), šobrīd praktizējošiem supervīzoriem būtiski atšķiras supervīzijas izglītība un pieredze, izpratne par profesionālās darbības standartiem, tādēļ aktuāls ir jautājums par supervīzoru profesionālajām kvalitātēm, t.sk. vērtībām (Mārtinsons, Mihailova, Mihailovs, 2014).

Vērtības ir izprotamas kā indivīda pārliecība, ko nosaka personiski vai sociāli vairāk pieņemams specifisks rīcības veids un eksistences stāvoklis (nozīmīgs mērķis) (Rokeach, 1968), kā ideāli, augstākie principi un kritēriji (Rozenblats, 1998), tās ir saistītas ar jēgas realizāciju. Vērtības ir valdošie priekšstati, kas izpaužas subjektīvajā jēgā, identitātē, dzīves stilā u.c. (Briška, 2011), tās raksturo komunikāciju, sadarbību ar citiem, prioritātes lēmumu pieņemšanas situācijā, ļaujot nošķirt būtisko no nebūtiskā un izvēlēties noteiktu mērķi un uzvedības modeli (Austruma, 2012). Dažādām vērtībām indivīdi piešķir atšķirīgu nozīmi, kas savukārt var palīdzēt izprast un skaidrot viņu attieksmes un uzvedību (Rokeach, 1968).

Nozīmīgs faktors, kas ietekmē profesionālo darbību, ir speciālistu personīgo vērtību sistēmas saturs (Nguyen & Nguyen, 2008, Kaya, et. all., 2012). Vienas profesijas pārstāvjiem mēdz būt kopīgas, atšķirīgas no citas profesijas pārstāvju, vērtības un attieksmes. No vienas puses vērtības ietekmē profesijas izvēli, no otras – tās tiek apgūtas profesionālās kompetences attīstības procesā un mainās dažādu notikumu un iegūtās pieredzes iespaidā (Kramer, 2010). To apliecina pētījumi, kas veltīti ar profesionālās darbības rezultātiem saistīto terminālo vērtību noteikšanai (Чернова, 2012) un dažādu profesionālo grupu pārstāvju un studentu instrumentālo vērtību izpētei (Snellman & Gedda, 2012, Aguilar, et.all., 2013), t.sk. specifiski ir pētītas supervīzoru profesionālās vērtības medmāsām (Agelli, et.all., 2000).

Līdztekus vērtību sistēmai profesionālo darbību var ietekmēt vērtību konflikti. Piemēram, konflikti starp personiskajām un profesionālajām vērtībām var ietekmēt ētisku lēmumu pieņemšanu (Ametrano, 2014; Basche, et. all., 2007, Handelsman, Gottlieb, & Knapp, 2005; Mintz, et all., 2009). Klīnisko supervīzoru vērtību konfliktu pētījumā (Veach, et.all. 2012) konstatēts, ka šajā grupā tos sekmē pasaules uzskata un varas pozīcijas atšķirības, pretrunas starp klīniskajām un administratīvajām lomām u.c.

Lai dziļāk izprastu vērtības un to konfliktus, Krievijas psiholoģe J. Fantalova iesaka izdalīt divus aspektus – esošo vērtību nozīmīguma vērtējumu un vērtējumu par to, kuras vērtības indivīds uztver kā sasniedzamas. Atšķirība

abos vērtējumos ir interpretējama kā iekšējais konflikts (vērtība ir nozīmīga, bet grūti sasniedzama) vai „iekšējais vakuums” (vērtība ir maznozīmīga un viegli sasniedzama) (Фанталова, 2001). Supervizoriem vērtību integrācijas un vērtību konfliktu risināšanas procesā uzdevums var būt trīskāršs: integrēt savas personiskās vērtības, profesionālās vērtības, kas ir saistītas ar pirmo izglītību un pirmo profesiju (t.i., visbiežāk saistīto ar supervīzijas praktizēšanas nozari), un profesionālās vērtības, kas ir svarīgas tieši supervizora profesionālajā darbībā.

Ņemot vērā, ka vērtības ir viens no nosacījumiem, lai sekmētu kopīgu profesionālo pamatu veidošanos, šī pilotpētījuma mērķis bija raksturot Latvijas supervizoru vērtības. Tika izvirzīti vairāki pētnieciskie jautājumi: kādas ir praktizējošo supervizoru vērtības; vai pastāv dažādās profesionālajās jomās praktizējošo supervizoru personisko vērtību atšķirības un, ja pastāv, tad kādas tās ir; vai pastāv praktizējošo supervizoru personisko vērtību nozīmīguma un sasniedzamības vērtējumu atšķirības, un ja pastāv, tad attiecībā uz kurām vērtībām, kādās jomās praktizējošo supervizoru personisko vērtību nozīmīguma un sasniedzamības vērtējumu atšķirība ir vislielākā?

Pētījumi par vērtībām aizsākās 20.gadsimta pirmajā pusē, sākotnēji aplūkojot tās kā filozofisku koncepciju saistībā ar tikumīgu dzīvi un morāli (piemēram, Perry, 1926), kā arī izdalot vērtību tipoloģiju. Vācu filozofs Eduards Šprangers aprakstīja sešus cilvēka tipus (Spranger, 1914/1928), atbilstoši viņu domāšanas un dzīvesveidam, svarīgākajām un vispārējām pārlicībām (vērtībām). Katrs no šiem tipi ir orientēts uz noteiktām pamatvērtībām: teorētiskais – uz patiesības atklāšanu un sistemātisku domāšanu; ekonomiskais – uz lietderību un praktiskumu, ieskaitot bagātības uzkrāšanu; estētiskais – uz skaistuma, formas un mākslas harmoniju; sociālais – uz attiecībām ar cilvēkiem; politiskais – uz varas iegūšanu un citu cilvēku ietekmēšanu; reliģiskais – uz vienotību un Visuma izpratni (Šprangers, 1929).

Šīs koncepcijas tālākā attīstība psiholoģijas kontekstā pazīstama kā Olporta–Vernona–Lindzeja vērtību teorija (Allport, Vernon, 1931, Allport, Vernon, Lindzey, 1951), un šajā pētījumā izvēlēto vērtību saraksts pamatojas uz šo koncepciju, savukārt vērtību konflikta izpratnes mehānisms – uz Fantalovas piedāvāto koncepciju (Фанталова, 2001).

Metodoloģija *Methodology*

Elektroniski tīmekļa vietnē www.visidati.lv tika ievietota autoru izveidota sociāli demogrāfisko datu anketa un 12 vērtību saraksti, kas bija jānovērtē Likerta skalā pēc to nozīmīguma (no 1 balles – *pilnīgi nenozīmīga*, līdz 5 ballēm – *ļoti nozīmīga*) un sasniedzamības (no 1 balles – *ļoti grūti sasniedzama*, līdz 5 ballēm – *ļoti viegli sasniedzama*).

Pilotpētījumā piedalījās 28 praktizējošie supervizori: 26 sievietes un 3 vīrieši, no dažādām profesionālās darbības vidēm (sociālā darba 7 jeb 25%;

mākslu terapijas 6 jeb 21,4%; psihoterapijas 4 jeb 14,3%; psiholoģijas 5 jeb 17,9%, uzņēmējdarbības 3 jeb 10,7%, izglītības – 3 jeb 10,7%). No 28 respondentiem 24 jeb 85,7 % ir ieguvuši vai turpina iegūt izglītību supervīzijā, t.sk. 17 jeb 70,8% respondentu supervīziju apgūst tālākizglītības programmā, 4 jeb 16,7% – profesionālās augstākās izglītības programmā, un 3 jeb 12,5% – kursus. Pētījuma dati liecina, ka lielākais īpatsvars (60%) supervīzoru no tiem, kuri praktizē bez supervīzora izglītības, ir nodarbināti psiholoģijas nozarē, kas pēc pētījuma datiem ir vienīgā profesionālās darbības vide, kurā praktizē lielākais skaits supervīzoru bez supervīzora izglītības. Visi respondenti profesionāli darbojas kā supervīzori, t.sk. 13 jeb 46,4% praktizē supervīziju vairāk kā 5 gadus, bet 5 jeb 17,9% – 3 līdz 4 gadus, neviens no respondentiem nav nodarbināts kā supervīzors uz pilnu darba slodzi. Lielākais respondentu skaits (14 jeb 50%) supervīzora profesionālo darbību veic savā privātp praksē, komercvidē ir nodarbināti 5 jeb 17,9%, valsts un pašvaldības sektoros – katrā sektorā ir nodarbināti 3 jeb 10,7% respondentu, 3 jeb 10,7% respondenti ir norādījuši citu supervīzora profesionālās darbības organizācijas formu.

Rezultāti

Results

Vispirms tika noteiktas, kādas ir supervīzoru personiskās vērtības, kuras ir nozīmīgas un kuras ir vieglāk sasniedzamas, tika aprēķināti aprakstošās statistikas rādītāji (M ; SD), un, lai noteiktu, vai dažādās profesionālajās vidēs praktizējošo supervīzoru personisko vērtību nozīmīgums un sasniedzamība atšķiras, tika veikta vienfaktora dispersiju analīze (one-way ANOVA) (skat. 1. un 2. tabulu).

Dispersiju analīzes rezultāti parāda, ka dažādās profesionālajās vidēs praktizējošiem supervīzoriem statistiski nozīmīgi atšķiras lietderības un praktiskuma vērtības sasniedzamības novērtēšanas rezultāti ($F(5, 22) = 2,77, \rho < 0,05$). Salīdzinot apakšgrupu vidējās vērtības ar Post-hoc testa (*Tukey HSD*) palīdzību, redzams, ka supervīzori, kuri praktizē mākslu terapijas profesionālajā vidē, lietderību un praktiskumu novērtē kā grūtāk sasniedzamu vērtību, salīdzinot ar supervīzoriem, kas praktizē sociālā darba vidē ($p < 0,05$).

1.tabula. Vērtību nozīmīguma novērtēšanas rezultātu aprakstošās un secinošās statistikas rādītāji dažādās profesionālajās vidēs praktizējošiem supervizoriem
Descriptive and inferential statistics for evaluations of importance of personal values for supervisors who practice in different professional fields

Vērtība	Supervizoru grupas												F(5,22)	η^2
	UD/TL		MT/VA		IZ		PS		SD		PT			
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD		
Attiecības ar cilvēkiem	4,67	0,58	4,83	0,41	5	0	4,4	0,55	4,86	0,38	4,75	0,5	0,96	0,18
Finanšu stabilitāte, materiāli nodrošināta dzīve	5	0	4,17	0,98	3,67	0,58	4	0,71	4	0	4,25	0,5	1,7	0,28
Ietekme	2,67	1,53	3,33	0,82	3,33	0,58	2,6	0,55	2,57	0,79	3	0,82	0,88	0,17
Interese par Visuma, augstākās kārtības izpratni	3	2	4,17	0,75	2,67	1,53	2,6	0,89	3,43	1,27	3,25	0,96	1,21	0,22
Izzināšana, patiesības atklāšana	4,33	1,15	4,33	0,52	3,33	1,53	3,4	0,55	4,29	0,76	4,25	0,5	1,54	0,26
Jaunrade un radošums	4,33	1,15	4,17	0,75	4	1	3,8	0,45	4,29	0,76	4,75	0,5	0,79	0,15
Lietderība un praktiskums	4,33	1,15	3,33	0,82	3,67	0,58	4,2	0,45	3,57	0,53	4,25	0,96	1,54	0,26
Mākslas skaistums	3,67	1,15	3,5	0,84	3	1	3,8	0,84	3,57	1,13	4,25	0,96	0,62	0,12
Palīdzības un atbalsta sniegšana citiem cilvēkiem	4,33	1,15	4,33	0,52	4,67	0,58	4	0,71	4,43	0,79	4,75	0,5	0,61	0,12
Pašizziņa	4	1	4,67	0,52	4,67	0,58	4,2	0,45	4,86	0,38	4,75	0,5	1,68	0,28
Transcendence	3,33	2,08	4,67 ^a	0,52	3	1,73	2,2 ^b	0,45	3	1,29	4	0,82	3,04*	0,41
Vara	3	1	2,33	0,52	2,33	0,58	2	0	2,29	0,49	2,5	0,58	1,37	0,24

*Piezīme. *p < 0,05*

^{a,b} Vidējie aritmētiskie vienā rindā nozīmīgi atšķiras, izmantojot *Tukey HSD* Post-hoc testus

Grupu apzīmējumi

UD/TL - Uzņēmējdarbība/ tieslietu	PS - Psiholoģija
MT/VA - Mākslas terapija/ veselības aprūpe	SD - Sociālais darbs
IZ - Izglītība	PT - Psihoterapija

2.tabula. Vērtību sasniedzamības novērtēšanas rezultātu aprakstošās un secinošās statistikas rādītāji dažādās profesionālajās vidēs praktizējošiem supervizoriem
Descriptive and inferential statistics for evaluations of attainability of personal values for supervisors who practice in different professional fields

Vērtība	Supervizoru grupas														F(5,22)	η^2
	UD/TL		MT/VA		IZ		PS		SD		PT					
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD				
Attiecības ar cilvēkiem	4,67	0,58	4,17	0,75	4,33	0,58	4,2	0,45	3,86	1,21	4	1,41	0,36	0,08		
Finanšu stabilitāte, materiāli nodrošināta dzīve	3,67	0,58	3	0,89	2,67	0,58	3,4	0,55	3,14	0,38	3	0,82	0,96	0,18		
Ietekme	3	1	3,33	0,82	3,33	0,58	3,4	0,55	3,71	0,49	3,5	0,58	0,56	0,11		
Interese par Visuma, augstākās kārtības izpratni	3,67	1,15	3,83	0,75	2,33	2,31	3,4	0,55	3,29	1,11	3,75	0,96	0,85	0,16		
Izzināšana, patiesības atklāšana	4	1	4	0	2,33	1,53	3,4	0,89	3,57	1,13	3	1,41	1,38	0,24		
Jaunrade un radošums	4	1	4	0	3,33	1,15	3,8	0,45	3,86	0,69	3,75	1,26	0,35	0,07		
Lietderība un praktiskums	4,33	0,58	3,17a	0,41	3,67	0,58	3,8	0,45	4,14b	0,69	3,75	0,5	2,77*	0,39		
Mākslas skaistums	3,67	1,53	4	0,63	3,33	1,15	3,6	0,55	4,14	1,07	4,25	0,5	0,62	0,12		
Palīdzības un atbalsta sniegšana citiem cilvēkiem	4	1,73	4,5	0,55	3,67	0,58	4	0,71	4,14	0,69	4,25	0,5	0,53	0,11		
Pašizziņa	4,67	0,58	4,5	0,55	3,33	0,58	3,6	0,55	4,14	1,07	4,5	1	1,75	0,29		
Transcendence	3	1,73	3,17	0,41	2,67	1,53	3	0	3,14	0,69	4	0,82	1,01	0,19		
Vara	3,33	0,58	2,67	0,52	3,33	1,15	3	0,71	3	0,82	3,75	0,96	1,07	0,2		

Piezīme. * $p < 0,05$

^{a,b} Vidējie aritmētiskie vienā rindā nozīmīgi atšķiras, izmantojot *Tukey HSD* Post-hoc testus

Grupu apzīmējumi

UD/TL - Uzņēmējdarbība/ tieslietu

PS - Psiholoģija

MT/VA - Mākslas terapija/ veselības aprūpe

SD - Sociālais darbs

IZ - Izglītība

PT - Psihoterapija

Lai noteiktu, vai pastāv praktizējošo supervizoru personisko vērtību nozīmīguma un sasniedzamības vērtējumu starpība un ja pastāv, tad attiecībā uz kādām vērtībām, tika pielietots *t* kritērijs. 3.tabulā ir atspoguļoti praktizējošo supervizoru personisko vērtību nozīmīguma un sasniedzamības vērtējumu atšķirību aprakstošās un secinošās statistikas rādītāji.

3.tabula. Supervizoru personisko vērtību nozīmīguma un sasniedzamības vērtējumu atšķirības aprakstošās un secinošās statistikas rādītāji
Descriptive and inferential statistics for differences in supervisors' evaluations of importance and attainability of personal values

Vērtība	nozīmīgums		sasniedzamība		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Attiecības ar cilvēkiem	4,75	0,44	4,14	0,89	3,51	0,00
Finanšu stabilitāte, materiāli nodrošināta dzīve	4,14	0,65	3,14	0,65	6,15	0,00
Ietekme	2,89	0,83	3,43	0,63	-2,95	0,01
Interese par Visuma, augstākās kārtības izpratni	3,29	1,21	3,43	1,10	-0,56	0,58
Izzināšana, patiesības atklāšana	4,04	0,84	3,46	1,07	2,66	0,01
Jaunrade un radošums	4,21	0,74	3,82	0,72	2,65	0,01
Lietderība un praktiskums	3,82	0,77	3,79	0,63	0,24	0,81
Mākslas skaistums	3,64	0,95	3,89	0,88	-1,66	0,11
Palīdzības un atbalsta sniegšana citiem cilvēkiem	4,39	0,69	4,14	0,76	1,76	0,09
Pašizziņa	4,57	0,57	4,14	0,85	2,47	0,02
Transcendence	3,39	1,34	3,18	0,86	1,00	0,33
Vara	2,36	0,56	3,11	0,79	-4,70	0,00

Rezultāti liecina, ka supervizoriem vērtību nozīmīguma vērtējumi ir augstāki nekā sasniedzamības vērtējumi attiecībā uz tādām vērtībām, kā attiecības ar cilvēkiem ($p = 0,00$), finanšu stabilitāte un materiāli nodrošināta dzīve ($p = 0,00$), izzināšana un patiesības atklāšana ($p = 0,01$), jaunrade un radošums ($p = 0,01$), pašizziņa ($p < 0,05$). Savukārt, vērtību sasniedzamības vērtējumi ir augstāki nekā nozīmīguma vērtējumi attiecībā uz tādām vērtībām, kā ietekme ($p = 0,01$) un vara ($p = 0,00$).

Lai atbildētu uz jautājumu: kurās profesionālajās vidēs praktizējošo supervizoru personisko vērtību nozīmīguma un sasniedzamības vērtējumu atšķirība ir lielākā, vispirms tika aprēķināta vērtību nozīmīguma un sasniedzamības vērtējumu starpība katram pētījuma dalībniekam. Pēc tam, lai pārbaudītu, vai pastāv vērtību nozīmīguma un sasniedzamības vērtējumu starpības atšķirības supervizoriem, kas praktizē dažādās profesionālajās vidēs, tika pielietota vienfaktoru dispersiju analīze (one-way ANOVA). Dispersiju analīzes rezultāti tiek atspoguļoti 4.tabulā.

4.tabula. Dažādās profesionālajās vidēs praktizējošo supervizoru personisko vērtību nozīmīguma un sasniedzamības vērtējumu starpības rezultātu aprakstošās un secinošās statistikas rādītāji

Descriptive and inferential statistics for discrepancy between evaluations of importance and evaluations of attainability of personal values for supervisors who practice in different professional fields

Vērtība	Supervizoru grupas												F(5,22)	η^2
	UD/TL		MT/VA		IZ		PS		SD		PT			
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD		
Attiecības ar cilvēkiem	0	1	0,67	0,82	0,67	0,58	0,2	0,84	1	1,15	0,75	0,96	0,7	0,14
Finanšu stabilitāte, materiāli nodrošināta dzīve	1,33	0,58	1,17	1,47	1	1	0,6	0,55	0,86	0,38	1,25	0,96	0,41	0,09
Ietekme	-0,3	0,58	0	1,26	0	1	-0,8	0,84	-1,1	0,9	-0,5	0,58	1,28	0,23
Interese par Visuma, augstākās kārtības izpratni	-0,7	1,15	0,33	0,82	0,33	2,52	-0,8	0,84	0,14	1,86	-0,5	0,58	0,62	0,12
Izzināšana, patiesības atklāšana	0,33	0,58	0,33	0,52	1	2	0	1,22	0,71	1,38	1,25	0,96	0,68	0,13
Jaunrade un radošums	0,33	0,58	0,17	0,75	0,67	0,58	0	0	0,43	0,79	1	1,41	0,89	0,17
Lietderība un praktiskums	0	1	0,17	0,75	0	0	0,4	0,55	-0,6	0,98	0,5	0,58	1,46	0,25
Mākslas skaistums	0	1	-0,5	0,55	-0,3	0,58	0,2	0,44	-0,6	1,13	0	0,82	0,77	0,15
Palīdzības un atbalsta sniegšana citiem cilvēkiem	0,33	0,58	-0,2	0,41	1	0	0	0,71	0,29	1,11	0,5	0,58	1,23	0,22
Pašizziņa	-0,7	1,15	1,17	0,75	1,33	0,58	0,6	0,55	0,71	1,11	0,25	0,5	2,07	0,32
Transcendence	0,33	1,53	1,5a	0,84	0,33	0,58	-0,8b	0,45	-0,1b	1,07	0	0,82	3,86*	0,47
Vara	-0,3	0,58	-0,3	0,52	-1	1	-1	0,71	-0,7	0,95	-1,3	1,26	0,84	0,16

Piezīme. * $p < 0,05$

^{a,b} Vidējie aritmētiskie vienā rindā nozīmīgi atšķiras, izmantojot Tukey HSD Post-hoc testus

Grupu apzīmējumi

UD/TL - Uzņēmējdarbība/ tieslietu

PS - Psiholoģija

MT/VA - Mākslas terapija/ veselības aprūpe

SD - Sociālais darbs

IZ - Izglītība

PT - Psihoterapija

Dispersiju analīzes rezultāti parāda, ka dažādās profesionālajās vidēs praktizējošiem supervizoriem statistiski nozīmīgi atšķiras transcendences nozīmīguma un sasniedzamības vērtējumu starpība ($F(5, 22) = 3,86, \rho < 0,05$). Mākslu terapijas profesionālajā vidē praktizējošiem supervizoriem transcendences nozīmīguma vidējais rādītājs $M = 4,67$ un transcendences sasniedzamības vidējais rādītājs $M = 3,17$. Vidējo vērtību starpība ir 1,50. Psiholoģijas profesionālajā vidē praktizējošiem supervizoriem transcendences nozīmīguma vidējais rādītājs $M = 2,20$ un transcendences sasniedzamības vidējais rādītājs $M = 3,00$. Vidējo starpība ir -0,80. Supervizoriem, kas praktizē sociālā darba vidē, transcendences nozīmīguma vidējais rādītājs $M = 3,00$ un transcendences sasniedzamības vidējais rādītājs $M = 3,14$. Vidējo starpība ir -0,14.

Salīdzinot apakšgrupu vidējās vērtības ar Post-hoc testu (*Tukey HSD*), atklājās, ka supervizoriem, kuri praktizē mākslu terapijas vidē, transcendences nozīmīguma un sasniedzamības vērtējumu starpība ir augstāka, nekā supervizoriem, kuri praktizē psiholoģijas vidē ($p < 0,01$) un nekā supervizoriem, kuri praktizē sociālā darba vidē ($p < 0,05$).

Secinājumi **Conclusions**

Pilotpētījuma rezultāti parādīja, ka dažādās profesionālajās vidēs strādājošiem supervizoriem vērtību nozīmīguma novērtējums ir līdzīgs, izņemot transcendenci, kas ir nozīmīgāka tiem supervizoriem, kuri praktizē supervīziju mākslu terapijas profesionālajā vidē, salīdzinot ar tiem, kuri praktizē psiholoģijas vidē. Attiecībā uz vērtību sasniedzamības novērtējumu, dotajā izlasē atšķirības ir konstatētas starp supervizoriem, kuri praktizē mākslu terapijas un sociālā darba profesionālajā vidē. Dažādās profesionālajās vidēs praktizējošiem supervizoriem atšķiras transcendences nozīmīguma un sasniedzamības vērtējumu starpība, supervizoriem, kuri praktizē mākslu terapijas profesionālajā vidē, transcendences nozīmīguma un sasniedzamības vērtējumu starpība ir augstāka, nekā supervizoriem, kuri praktizē psiholoģijas profesionālajā vidē un nekā supervizoriem, kuri praktizē sociālā darba profesionālajā vidē.

Attiecībā uz vērtību nozīmīguma un sasniedzamības vērtējumu supervizoriem ir konstatēta statistiski nozīmīga atšķirība vairākās vērtībās: attiecības ar cilvēkiem, finanšu stabilitāte un materiāli nodrošināta dzīve, izzināšana un patiesības atklāšana, jaunrade un radošums, pašizziņa, kas iezīmē potenciālo iekšējo konfliktu, bet ietekme un vara varētu būt iemesls iekšējā vakuuma stāvoklim.

Izvērtējot pētījuma rezultātus, jāņem vērā, ka šis ir pilotpētījums, un tajā tika iesaistīts salīdzinoši neliels respondentu skaits – 28 praktizējoši supervizori, kā arī pētījumā nav aptvertas visas profesionālās darbības vides, kurās notiek supervīzijas, piemēram, karjeras konsultanti, jogas u.c. speciālisti. Tāpēc nākotnē jāaptver plašāks respondentu loks. Vienlaikus šis pētījums ir vērtējams kā sākums Latvijas supervizora portretējumam, kas ir būtisks, veicinot kopējo supervizora profesionālās identitātes veidošanos un sekmējot supervīzijas pakalpojumu kvalitāti.

Summary

The topicality of the study was set by the necessity to promote for supervisors a common basis for professional fundamentals, while continuing the work that has already been started on the consolidation of supervisors as well as putting the educational and further-education system in order. An important role in this process has been reserved especially for the question on supervisor professional qualities, including values, which is one of the main

conditions to develop the creation of professional fundamentals (Martinsons, Mihailova, Mihailovs, 2014).

The goal of this pilot study was to characterize the values of the supervisors who practice in Latvia. To reach the goal of the study, research questions were raised: what are the values of the practicing supervisors; are there differences in the values of supervisors who practice in different professional fields, and, if so, then what are those differences; are there differences in supervisors' evaluations of importance and attainability of personal values, and if so, then in regards to which values; in which professional fields practice supervisors who have the most significant discrepancy between evaluations of importance and attainability of personal values?

A special socially demographic data form created by the authors as well as 12 value lists, that needed to be evaluated using the Likert scale based on their importance (from 1 point – completely unimportant, to 5 points – very important) and attainability (from 1 point – very difficultly attainable, to 5 points – very easily attainable) were uploaded electronically to the website www.visidati.lv. They were filled out by 28 respondents – supervisors who practice in different professional fields (the professional field of arts therapies – 6, psychotherapy – 4, psychology – 5, business field – 3, social work – 7, education – 3).

The results show statistically significant differences in the importance of the transcendence value ($F(5,22) = 3,04, p < .05$) and the attainability of the expediency and practicality value ($F(5, 22) = 2,77, p < .05$); results show that there are differences between the respondents' evaluations of their personal values' importance and attainability, where the evaluations of the value importance are higher than the attainability evaluations regarding to financial stability and materially secure life ($p = .00$), relationships with people ($p = .00$), cognition and discovering the truth ($p = .01$), innovation and creativity ($p = .01$) and self-discovery (metacognition) ($p < .05$), however the attainability evaluations are higher than the importance evaluations in regards to influence ($p = .01$) and power ($p = .00$); the results confirm for supervisors practicing in different professional fields a statistically significant difference in the discrepancy between evaluations of importance and attainability of transcendence value ($F(5, 22) = 3,86, p < .05$); the results show that the most significant difference in the discrepancy between evaluations of importance and attainability of transcendence value is visible between the supervisors practicing in arts therapies/ health care and psychology ($p < .01$), and social work ($p < .05$) professional fields. The study results give answers to the questions raised throughout the study and can be valued as the beginning of the creation process of a united professional identity for Latvian supervisors.

Key words: personal values, professional activity, professional environment, supervisor, supervision, value conflict.

Pētījumu atbalsta Valsts Pētījumu programma 5.2. «Tautsaimniecības transformācija, gudra izaugsme, pārvaldība un tiesiskais ietvars valsts un sabiedrības ilgtspējīgai attīstībai – jaunas pieejas ilgtspējīgas zināšanu sabiedrības veidošanai (EKOSOC-LV)»

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REPRESENTATIONS AND MEANINGS OF ADULT EDUCATION STAFF EVALUATION. A PEDAGOGICAL REFLECTION ON SIX CASE STUDIES

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Abstract. *This paper deals with six case studies of evaluation, which were discussed at the Mobility Workshop organized in the context of the EduEval Project (Evaluation for the Professional Development of Adult Education Staff, LLP Grundtvig). This paper depicts the different representations of evaluation explicitly and implicitly present. The aim of the article is twofold. First, it explores the meanings associated with the evaluation practices described, and it identifies both transversal and specific components. Second, it critically reflects on how evaluation may sustain and/or develop the competences of Adult Education Staff, in the light of the current pedagogical debate on the theme.*

Keywords: *Adult Education, Evaluation, Evaluation of Adult Education Staff, Evaluation Meanings, Individual Learning, Organizational Learning, Learning through Experience.*

Introduction

Ensuring good quality adult education services, with a special regard for socially, economically or culturally disadvantaged citizens, has been a key objective for the European Union since 2000. The economic and social crisis has made this objective an even more strategic one, thus prompting a tan even sharper focus on the conditions required to facilitate the adult education services in the promotion of lifelong learning and social inclusion (CEU, 2000; 2008; 2011; Striano, 2010). The evaluation of adult education staff is one of these conditions; indeed, evaluation plays a crucial role in guiding changes in institutions, educational, and healthcare services (Vestman & Conner, 2006; Ciucci, 2008; Ferrario, 2013).

Within this framework, the EduEval project⁴ focuses on the evaluation of adult education staff. It promotes exchanges among researchers and practitioners from the European countries involved, in order to gain better knowledge of the evaluation practices, procedures, and models of adult education staff. The aims of the project are, first, to identify both transversal and specific features of current evaluation practices in the countries involved; then, based on this analysis, to draw up guidelines to facilitate evaluators in carrying out their work;

⁴«Evaluation for the Professional Development of Adult Education Staff». Project Number: 538743-LLP-1-2013-IT-GRUNDTVIG-GMP; Grant Agreement Number: 2013-3800/001/003. This project has been funded with support of the European Commission. This document reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. More information is available at: <http://edueval.eu>.

and, finally, to define ideal training programmes for evaluators of adult education staff.

This paper discusses the first phase of the EduEval project, and, in particular, the outcomes of the Mobility Workshop, organized with the idea of developing the partners' mutual knowledge of the most representative evaluation practices currently used in European adult education staff. The six case studies are presented from a pedagogical perspective, in order to identify the transversal meanings and specific features that emerge from them. In the light of this analysis, the article explores how evaluation may sustain the work of adult education staff. Within the international pedagogical debate, it is crucial to identify the conditions that make evaluation an opportunity to learn from experience with the aim of enhancing the professional competence of adult education staff and of transforming their practices into "good practices" that go beyond accountability (Shaw & Lishman, 1999; Rossi, Lipsey & Freeman, 2004; Moss, 2005; Bezzi, 2007; Savignat, 2009).

EduEval Mobility Workshop: the case studies

The Mobility Workshop was held in Crete, Greece, in July 2014. Each partner was represented by a team of researchers and practitioners. In the months preceding the meeting, each team chose and prepared its own case study: the case selection criteria, salient features and framework for analysis and discussion were defined a priori and shared among the partners. During the meeting, each case was presented to the other partners at a plenary session. Then, it was analysed on the basis of the predefined criteria and discussed, first, in transnational discussion group sand, eventually, at another plenary session. The outcomes of the group discussions were recorded and shared among all partners.

The case studies described evaluation scenarios that the partners had chosen as representative of their evaluative practices, and that they considered significant in terms of type, modes, criteria, tools, potential, and limitations of evaluation put into practice. According to Panteia (2013) and Research voor Beleid (2010), the cases presented situations in which the evaluation of adult education staff was conducted by an "unofficial" evaluator: the work of this professional figure involved carrying out other functions alongside or together with evaluation. In addition it, there also were situations in which the evaluation of adult education staff was formally conducted by an "official evaluator," whose primary role was to carry out appraisals. The contexts in which the cases were set were highly diverse: a residential community for persons with disability (Milan, Italy); a prison (Bari, Italy); a training course for the staff of the Cretan Immigration Office (Greece); a training course for social workers on the dangers of cyberspace (Poland); the introduction of VALIDPACK in a series of

European contexts as a tool for evaluating educator training (Latvia); the implementation of ISO 9001 in an educational centre (Spain).

This diversity immediately cast a light on two key pedagogical issues. First, it shows that evaluation practices are both widespread and pervasive in education and training contexts: evaluation does not seem to be confined to specifically planned and dedicated spaces and times, but it is intertwined with educational practices in a way that is often implicit. Thus, according to A. Rezzara, it is possible to state that evaluation is a key pedagogical dimension, which is an intrinsic part of all phases of the educational process, though it has traditionally been confined to specific times, such as the end of that process (Rezzara, 2000). Second, this diversity also reflects the variety of meanings and strategies that may be associated with evaluation in adult education contexts. Such variety, on the one hand, points out that evaluation is rooted in the specific context in which it takes place, and it is, therefore, closely related to particular work and thought traditions (Bisio, 2002). On the other hand, there is the risk that this variety causes fragmentation, which, as its most critical consequence, will not facilitate the development of pedagogical thinking about the evaluation practices, so that evaluation is relegated to habitual actions and procedures that are unrelated to the professional and training needs of the persons undergoing it (Shaw & Lishman, 1999).

The Case Studies: Representations and Meanings

Without denying the many differences and specific features of the evaluation practices, it is of great interest to identify the main representations of adult education staff evaluation, and, in particular, the transversal meanings that were shared by the different contexts presented in the case studies. Our aim is not to come up with a univocal view of evaluation or a single “right” model to be approved by all. Conversely, as stated above, our goal is to develop an in-depth reflection on evaluation practices, in order to identify its components and to reconstruct the meaning that it bears in the contexts in which it takes place. We expect that this analysis will advance our understanding of the impact of evaluation practices on educational contexts, and of how they may be deployed to strengthen these contexts.

Thus, a key transversal feature emerging from the case studies and our preliminary analysis of them at the Mobility Workshop is related to knowledge: *evaluation is always conducted in relation to an “issue of knowing”*. In each case, one starts out from a condition of ignorance, while evaluation serves to develop knowledge. What is not known, that is to say, the objects or the situations to be evaluated, may be extremely different to one another. In the Bari case study, evaluation meant acquiring knowledge about the work of various figures who are involved in the re-education of prison inmates. In the Milanese case study, evaluation served to develop knowledge of how the community’s

educators worked with people with disabilities, while in the Latvian case study, evaluation enabled and delivered a process of getting to know the individual professional competences and skills of each member of the adult education staff. In the Polish case study, evaluation consisted in finding out how a particular training course for adult educators worked on the basis of the participants' feedback. In the Spanish case study, evaluation was focused on knowing and recognising the conditions that made a production process more efficient, while in the Cretan case study, evaluation implied a gradual gathering of knowledge that was built up within the educational situation itself, and was focused on *how* adult learners participated in the course, as well as on their "educational gains".

This need for knowledge, and the diversity of its objects, points up the question of the *evaluative perspective and the quality of the knowledge produced in the process of evaluation*. What is it that makes an evaluation, and therefore a knowledge-gathering, process valid and reliable? As it is well known, this is a longstanding and fundamental epistemological issue (Lichtner, 1999; Reggio, 2002). While it is beyond the scope of this paper to address it in depth, our set of case studies highlights a number of relevant aspects, which may contribute to stimulating reflection on the topic. If we consider evaluation as a process of knowledge acquisition, the question of validity seems to be related, in the first instance, to the possibility of making explicit the conditions, assumptions, methodologies, strategies, and instruments adopted by the evaluators, which may characterize the contexts in which the evaluation takes place. This essentially means to view evaluation as a practice that is situated within broader epistemological, cultural, and socio-material frameworks. As emphasized by the ecological paradigm and constructivist epistemology, the validity of a knowledge-gathering process may only be assessed by making explicit the assumptions (ontological, epistemological, methodological, ethical and pragmatic) underpinning it (Guba & Lincoln, 1985; 1989; Denzin & Lincoln, 2005; Mortari, 2007).

In relation to our own case studies, therefore, what characteristics of evaluation as a knowledge-acquisition process may we identify?

In the first place, the knowledge-gathering process usually means to introduce an *external perspective* on the situations or people to be evaluated. It seems that this perspective may be situated along a continuum that ranges from *extraneousness* to *proximity*. In the Latvian and, partially, in the Polish case studies the evaluator did not know the educators being evaluated and was not familiar with (nor sought to become familiar with) their professional contexts. In other cases, the evaluator belonged to the same institutional context as the educators, whose work was to be evaluated (the Milanese case study, for example) or as the figures in relation to whom he/she must activate processes of recognition and mutual familiarization (the Bari case study). In other contexts, the evaluator gradually got to know the educators themselves or their work, by sharing specific educational experiences with them (the Cretan case study).

In addition, evaluators adopt *particular methods and instruments* to acquire knowledge about the objects or subjects of their evaluation. In this regard, the situations reported in the case studies featured a broad range of strategies, methods and instruments. They were codified and officially recognised, as in the Latvian case study; instruments and methods are well-established within social or educational research, as in the Polish and Greek cases, or they have been formalized into specific quality assurance procedures, as in the Spanish case. Relational strategies and instruments are strongly related to the specific features of the context in which the evaluation is being conducted and to the peculiar characteristics of the situations being evaluated, as in the Milan and Bari cases. In all the cases, evaluators' professionalism and expertise, as well as their educational/training and cultural backgrounds, along with the degree of recognition accorded to their role (official or unofficial), appeared to be closely related to the choice of the evaluation methods and instruments to be used.

A further aspect that emerges from the case studies is that knowledge derived from evaluation in adult education contexts is required to be *useful*. As observed by Bisio, usefulness is a key criterion to establish the value of a given evaluation (Bisio, 2002, p. 31). Therefore, the perspective from which the evaluator enters, or interacts with, the various situations is influenced by the reasons depending on which the evaluation is being undertaken, which are not only theoretical, but also practical ones. The case studies show that evaluation may be conducted, first, in order to address critical situations in which there is a clear or hidden dissatisfaction, or to address inefficiencies the service (Milan, Bari, Crete, Spain). Second, it is conducted to enhance professional performance of individuals (Latvia, Poland), teams (Bari, Crete, Milan) or, third, at the institutional level (Spain), in relation to standards to be attained or objectives to be reached. The individual or team awareness typically fostered by evaluation across all the contexts had always had *pragmatic consequences*: it could lead to some change in subjects' attitudes, in how they exercise their role and functions, in how they carry out their daily professional activities, and in the ways of designing and delivering educational, training or evaluative interventions.

To sum up, the position of the evaluator in relation to the object of the evaluation (role, perspective, training, expertise), the chosen methods and instruments, the motivations – either institutional, political, educational, or economic – driving the implementation of an evaluation process, the expected outcomes, as well as the usefulness of the process at stake appear to have great impact, in different ways, on the quality of the knowledge that evaluation produces.

However, this is not the whole picture. There is another dimension of evaluation that strongly emerges from the case studies. Particularly, as a consequence of what we have observed so far, evaluation is not only a matter of knowledge, but also of *power*. Power is here understood as having the double meaning highlighted by Foucault in his works. On the one hand, there is the

“power that produces”, which makes someone else do something, which brings about change, which organizes persons, objects, times and spaces, and which includes or excludes (Foucault, 1975). On the other hand, there is the power that is closely connected to knowledge: a power that is exercised to obtain knowledge and which, in turn, generates knowledge in its various forms (awareness, but also classification, for example) (Foucault, 1969; 1971; 2003). The knowledge produced by evaluation has power. As it has been outlined, it has pragmatic consequences: it can have impact either on the professional life, or on the existence of the person involved in the evaluation process, thus causing effects such as individual empowerment (Gheno, 2002; Righetti, 2002) and/or irreversible organizational and institutional changes (Amietta, 2002). Evaluation “makes something be done”, and at the same time it augments forms of knowledge that may change the behaviour, function, or the position of individuals within a work context.

In the case studies in analysis, different aspects of the dimension of power were represented. Power was inscribed in the role of the evaluator. In the Milanese case study, the responsible for the functioning of the service and the wellbeing of its users exercised his power via an evaluation, whose outcomes would modify the composition of the educational team, as well as the team members’ modes of daily work. In the Latvian, Spanish or Polish cases, power was inscribed in the role of official evaluator and as such those detaining it were authorized to engage in a defined course of action, which involved asking questions and activating specific procedures. In the Greek case, the power exercised by the trainer allowed her to involve people in a given training activity in order to observe dynamics, produce reflection, and promote learning. In any case, the exercise of evaluation is never neutral, unless, of course, it fulfils a purely celebratory function, aimed at confirming the status quo in the evaluated situation.

The fact that evaluation generally has an impact, however, is borne out by the *affective dynamics* that it sets in motion. Especially, though not exclusively, when evaluation is imposed, it can give rise to dynamics of resistance or refusal. Evaluation forces us to come to terms with the existing context; to accept comparison with analogous situations that are more effective or efficient than our own, or with prescribed standards; to address/impact with our limitations and challenges in carrying out a professional duty; to recognise training needs at the individual and team levels. Evaluation poses questions and challenges, and, for this reason, it may be defined as a hot and complex experience (Bellotto, 2002). Our case studies show that the need for the evaluator to take into account relational dynamics, feelings and emotional reactions set off by the evaluation, is more explicit when the evaluation involves teams of professionals, and when it leads to key changes at the professional and existential levels. The Milanese case study is emblematic in this sense. Conversely, when the evaluation is focused on the professional development of the individual educator (Latvian

case study), or is experienced as the implementation of individual and team efforts aimed at enhancing the quality of production processes (Spanish case study), the emotional dimension is either not made explicit or is not viewed as requiring particular attention.

With regard to affective dynamics, the case studies present situations in which the level of involvement on the part of the evaluator, individuals, and team was highly variable. It seemed to depend on the person's belonging in the situation under evaluation (greater or lesser extraneousness), on the object of the evaluation (the professional competences of individuals, as in the Latvian case study, or the team working, as in the Milanese case), on the subjects being evaluated (individual professionals or the work group as a whole), or on the motivations for and objectives of the evaluation process itself (enhancing personal development and training, introducing changes at the organizational level or in the working methods of a team, compliance with particular standards of production or performance). In any case, emotional reactions and affective dynamics, when made explicit, may be either amplified or mitigated by the atmosphere that the evaluator contributes to creating or modifying during the evaluation process.

Hence, the cases in question represent evaluation as a process that is closely related to *training* at the levels of individual, group, and overall education/ training context. This is not only because evaluation is a phase of the training process, as is evident in the Greek and Polish case studies, but also because *it displays considerable training potential in its own right* by eliciting knowledge and change. This is clear in all the case studies, when the evaluation process concerned individual educators (Latvian and Polish cases) and when it concerned a group, work context, or institution (the Greek, Milanese, Bari, Spanish and Polish case studies). Evaluation is thus represented as a practice that *can activate complex learning processes*, at the individual, group or institutional levels (Beeby, 1977; Wolf, 1987; Bisio, 2002); processes that, as discussed above, can affect the behaviour of individuals and groups in their work contexts. Such processes are seen, in most of the cases reported, as processes of *awareness raising*, which at times can be painful and conflictual (as in the Milan and Bari cases), that is as processes which imply to *learn from experience* (Boud, Keogh & Walker, 2000; Schon, 1991; Mortari, 2003). Thus, albeit in different ways, in some cases more explicitly and in others more implicitly, evaluation appears to be represented as *learning* (Hadji, 1992; Bertolini, 1999; Pandolfi, 2012). However, evaluation is not always guaranteed to yield a learning effect: in the case studies, in particular the Milanese, Bari, Greek, and Polish scenarios, learning was a problematic aspect, which *could* be developed but which could also be avoided. The fact that both evaluators and evaluated experienced the evaluation process as challenging (in the Milanese, Bari, Greek and Polish cases) stand witness to this theory.

This leads us to ask what conditions are required to ensure that the evaluation process will be a *learning* process. Based on the case studies, it would seem that there are two conditions that influence the learning effect of evaluation. On the one hand, we have conditions that are *external* to the evaluation process per se; these include the reasons why the evaluation should be conducted, the institutional context in which it is taking place, the range of instruments and procedures available to the evaluator, and accepted in the context, the official or unofficial status of the evaluator. On the other hand, there are conditions that are *internal* to the process. These include the openness of the participants to the process, the particular instruments and procedures that the evaluator has chosen, the evaluator's modes of communication, his/her capacity to create a positive setting and atmosphere, and his/her ability to stimulate reflective processes, but also the capacity of both evaluator and institution to maintain any changes activated.

The final outcome of the evaluation process in terms of educational or self-educational opportunities (Righetti, 2002) depends on the combination of all these factors. This combination seems difficult to *plana priori*: in fact, it delineates during the evaluation process itself, and, therefore, it requires the evaluator's attention, in terms of looking for ways to provide the conditions most favourable to educational outcomes, especially if the aim of the evaluation process is also, if not primarily, educational. Thus, the evaluator is required particular awareness, a particular focus, and particular competences that have a distinct pedagogical character. However, as the case studies have illustrated, both the evaluators and the adult education service as a whole may not be fully aware of the need for, or fully in possession of, these pedagogical resources.

Conclusions

The pedagogical reflection on the representations of evaluation in our case studies suggests that evaluation is a multi-faceted phenomenon. In accordance with pedagogical literature, the reported practices reflect multiple meanings of evaluation, some of which are contradictory and ambivalent. In the case studies, these means dynamically relate to one another in a peculiar way that was partly determined by the unique and original situation in which the evaluation was taking place.

Our reflection has shown that the key dimensions of evaluation are *knowledge* and *power*: evaluation stimulates knowledge processes, because it has the authority to do so and this knowledge, in turn, produces effects in the people and contexts involved. Knowledge and power may – the outcome is never a given – combine to generate educational and self-educational effects: in this sense, we may say that evaluation processes have implicit educational potential. This raises the issue of awareness of this potential, both on the part of the organizational contexts in which the evaluation processes take place, and on

the part of the evaluators who conduct these processes. It also prompts us to explore the conditions required to make evaluation processes become learning processes for individual staff members, teams, and the overall adult education context.

To address these questions is crucial if we are to answer the research question from which the EduEval project stems: can evaluation be a way to enhance the work and professional competence of adult education staff? The current reflection on six case studies, though far from providing definitive solutions, allows us to hone in on certain conditions, which may be the object of further pedagogical enquiry, and which are key to making evaluation a valuable resource for adult education staff.

In the light of the contexts in which adult educators work, it seems critical to ensure that the outcomes of evaluation processes may be reflected on together with the participants, in order to identify practical ways for the individual, team, or institutional to support the changes prompted by the evaluation outcomes. This action is important whatever the aims of the evaluation are: implementing standard organizational procedures, making staff performance more competitive, complying with quality standards, sustaining or enhancing the educational and even evaluative competences of individual staff members, etc. If the knowledge, reflection, affirmation of current abilities or experimentation with new skills elicited by evaluation is not followed up in the everyday working lives of those who have experienced or tested them in the course of the evaluation process, there is a danger that evaluation will only be self-serving and will fail to make any significant contribution to supporting educators in their daily work. One of the conditions on which to work, from a pedagogical perspective, is the promotion of pedagogical and educational awareness in the institutional contexts in which evaluation is conducted, in order to implement processes of critical reflection.

Concerning the figure of the evaluator, reflection on the current case studies suggests that he/she must possess pedagogical competence relative to both the organization and the conduction of evaluation processes, in particular, the general and specific competences previously recommended for evaluators by Research Von Beiled. Thus, it is crucial for the evaluator to be able to: chose modes of communication and instruments that are appropriate for specific persons and situations; identify, monitor and manage the relational and emotional dynamics of work groups, as well as the relationship between the team, individual staff members and the evaluator him/herself; stimulate processes of critical reflection on professional experience; mediate between the work context and individual staff members, so as to activate or reinforce the pervasive pedagogical awareness required to transform the outcomes of evaluation into effective change.

Taken all round, our reflection so far suggests that a pedagogical culture, which views evaluation in the light of the complexity of meanings attributed to

it and the complex variety of practices in which it is implemented, represents a goal to be pursued, at a general level, in order to sustain the work of adult education staff. A valid starting point could well be to develop pedagogical thinking around the figure and role of the evaluator, mapping out the meanings and practices of evaluation, pointing out its problematic aspects and, in the end, identifying the professional competences that characterise evaluators of adult educators, including designing ad hoc training programmes for them. A task that the EduEval project is in the course of accomplishing.

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HOW TO TRAIN EVALUATORS OF ADULT EDUCATION STAFF AT A EUROPEAN LEVEL? TOWARDS THE DESIGN OF A PILOT CURRICULUM IN EDUEVAL PROJECT

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Abstract. *The evaluation of professionals involved in Adult Education staff has a crucial role in order to guarantee the quality of Adult Education (AE). EduEval is a project of the LLP Grundtvig Programme, coordinated by University of Milano-Bicocca, Italy (<http://www.edueval.eu/>), established with the main objective of redefining the professional profile of the evaluator of Adult Education staff. In this framework, six partners from five European countries work with a collaborative approach. The project offers a new methodology in the field of AE that arises from the importance of a cooperation between practitioners of the AE staff and academic researchers. The paper focuses on the pilot course designed by University of Bari to create a curriculum for the initial training of the professionals involved in the evaluation of AE staff.*

Keywords: *Adult Education, Collaborative approach, EduEval, Evaluation, Grundtvig, Lifelong Learning, Training.*

Introduction

The evaluation process is strictly connected with the professional development of all professionals involved in the Adult Education staff. EduEval - *Evaluation for the Professional Development of Adult Education Staff* is an EU project part of the Lifelong Learning Programme Grundtvig Multilateral Project, coordinated by Prof. M.G. Riva, University of Milano-Bicocca, Italy (see: <http://www.edueval.eu/>). The project involves six partners from five different European countries: 1) University of Milano-Bicocca, Italy; 2) Rezeknes Augstskola, Latvia; 3) Wyzsza Szkola Pedagogiczna TWP w Warszawie, Poland; 4) Technological Educational Institute Of Crete, Greece; 5) Universitat Jaume I, Spain; 6) University of Bari „Aldo Moro”, Italy.

EduEval is focused on the evaluation of professionals involved in Adult Education staff (e.g. educators, social workers, trainers) and aims at redefining the professional profile of the evaluator of Adult Education staff within an European framework, in order to guarantee the quality of Adult Education.

EduEval contributes to the promotion of a European culture of evaluation in the Adult Education system and offers a new methodology in the field of AE, based on a collaborative approach that arises from the importance of a cooperation between practitioners of the AE staff and academic researchers.

An important milestone of the project is represented by a mobility workshop, since it proves to be an occasion to share theories and practices about the evaluation of AE staff, including practitioners and researchers, in order to build up collaborative knowledge (see also a Wiki platform: http://wiki.edueval.eu/index.php/Main_Page).

At the same time, EduEval will draft some Guidelines that can be helpful to both professionals and policy makers of the Adult Education system and a Handbook that will summarize the theoretical background and its practical implications in providing evaluation methods for AE staff.

A curriculum for the initial training of the professionals involved in the evaluation of AE staff is the main output of the project, in order to promote the quality and productivity of those who work in the AE field, preventing and coping with their risk of burn-out and occupational-related diseases.

State of art

Evaluation is a critical issue for Adult Education policies; in this sense, important investments at an European level ensured high quality of the Adult Education system (*Making a European Area of Lifelong Learning a Reality*, EC, 2001; *Adult learning: It is never too late to learn*, 2006, EC). Adult education may intervene in many fields, involving different categories of people. Several professional profiles working in the Adult Education field are: teachers, trainers, coaches, mentors, tutors, administrative personnel, human resource managers, quality managers, directors, coordinators, consultants, certification organization personnel, psychologists, sociologists, cultural mediators, anthropologists, educationalists, volunteers. Adult Education represents an interdisciplinary field of education. In recent years, in the light of a growing political and scientific interest for the education of employed adults, there is an emerging research area that can be included into the field of *Curriculum studies* with a particular focus on the training of *Eda Staff evaluators*. The aim is to standardise gradually the varied set of monitoring and evaluation activities (not always endorsed by scientific communities) of professionals involved in social education. These activities need both a theoretical design and a practical implementation. In this framework. ECETIS project - *European Competencies Evaluation Training Integrated Scheme* (2011-1-FR1-LEO05-24457) distinguishes two types of skills in the evaluator's professional profile: core competencies and specific competencies. Core competencies (or transverse) include a set of transferable competencies evaluators should possess to implement the assessment.

Specific competencies are additional skills, knowledge and attitudes that may be required to perform specific tasks. They are strictly connected with the work environment and a specific function within a professional area or role.

Table 1. Core competencies and specific to the generic role of evaluator

Core Competencies	
<i>Competencies</i>	<i>Units of Competency</i>
Professional development and improvement	Demonstrate awareness of him/her own capacity and limitations To be engaged for the continuous improvement of its own knowledge and skills and of the service Integrate theory into practice in evaluation process
Information management	Knowledge of updated information on evaluation procedure and accreditation schemes Use ICT (tic) for evaluation purposes
Interaction effectiveness	Establish appropriate working relationships with all the persons involved in the evaluation process, internal and external of the organization Ability to communicate effectively with colleagues or clients, using the appropriate level of language
Coordination teams	Skills to cooperate and coordinate effectively in a team of professionals Networking and leadership development
Comply with ethical guidelines	Demonstrate appropriate ethical behavior and professional conduct in the fulfillment of roles and responsibilities Demonstrate sensitiveness and awareness of clients' cultural differences to interact effectively with all populations

Table 2. Core competencies and specific to the generic role of evaluator

Specific competencies			
<i>Functions</i>	<i>Competencies</i>	<i>Units of Competency</i>	<i>Contents</i>
1. Planning the process of professional performance, skills and evidence of skills that will receive recognition and accreditation	Identification of the professional profile to evaluate Planning the assessment process according to the professional field or workplace of candidate Advising the candidate for the evaluation process of professional competence to which he is observing Participation in coordinated evaluation of professional skills	Designing the assessment of professional competence in a particular professional profile Collect and determine the regulations that determine the adequacy of the profile Set the units of competency for which to obtain evidence Concrete assessment activities according to the method suitable for obtaining of new evidence Identify and organize the activity to be performed by the candidate in accordance with the provisions of proposed evidence. Organize initial briefings with candidates according to the established evaluation plan.	1. Context of the assessment process and accreditation of professional competence 2. The procedure of evaluation and accreditation of competencies

CAPIVAL project - *Capitalizing on Validpack: going Europe wide* (511883-LLP-1-2010-RO-KA4-KA4MP) is a KA4 - Dissemination and Exploitation of Results project of the EU Lifelong Learning Programme. It aims to exploit the results of VINEPAC project - *Validation of informal and non-formal psycho-pedagogical competencies of adult educators* (www.vinepac.eu), especially the use of the *Validpack* instrument that facilitates the documentation and evaluation of trainer's competences acquired in formal, non-formal or informal learning contexts. *Validpack* consists of a set of validation instruments: mind maps, reflection on biography, reflection on competences, attachments, observation checklists, interview grids, validation sheets. *Validpack* is organised around three main validation steps: self-evaluation, external evaluation and consolidation.

Table 3. Validpack model (Adapted from: Duvekot R., & Geerts J., 2012; IREA 2008)

1) SELF EVALUATION	2) EXTERNAL EVALUATION	3) CONSOLIDATION
First step (reflection of biography) Second step (reflection of learning processes/learning outcomes) Third step (reflection of competences) Attachment (for example qualifications papers; documents)	First step (observation) Second step (evaluation with help of a competency based observation checklist)	The results have to be consolidated and taken into a portfolio/ validation sheet

Key Competences for Adult Learning Professionals are also described by Research voor Beleid (2010). These are: assessment of learning needs, preparation of courses, facilitation of learning, monitoring and evaluation, counselling and guidance, programme development, financial management, human resource management, overall management, marketing and PR, administrative support, ICT-support, overarching activities.

Pilot training course design

University of Bari “Aldo Moro” (UNIBA) has developed a curriculum for the early training of all the practitioners involved in the Adult Education staff evaluation. The EduEval pilot training course has two main objectives: defining an Adult Education staff evaluator profile, with adequate specific multi-functional characteristics to operate in different contexts; and promoting the well-being, quality and productivity of all the practitioners involved in the Adult Education staff evaluation to prevent and cope with the risk of burn-out and/or other professional diseases. The training process will be focused on the main activities that are commonly required in the educational-related evaluation

procedures. It has been designed with a combined structure and divided into didactic unities. The 30-hour course is divided in two modules: a 20-hour “in presence” module and a 10-hour “e-learning” module. The expected result is the development of *knowledge* (basic, specialized, and context-based ones), *abilities* (both general and referred to specific evaluation work processes), *competences* to be achieved to strengthen the professional role of Adult Education staff evaluators.

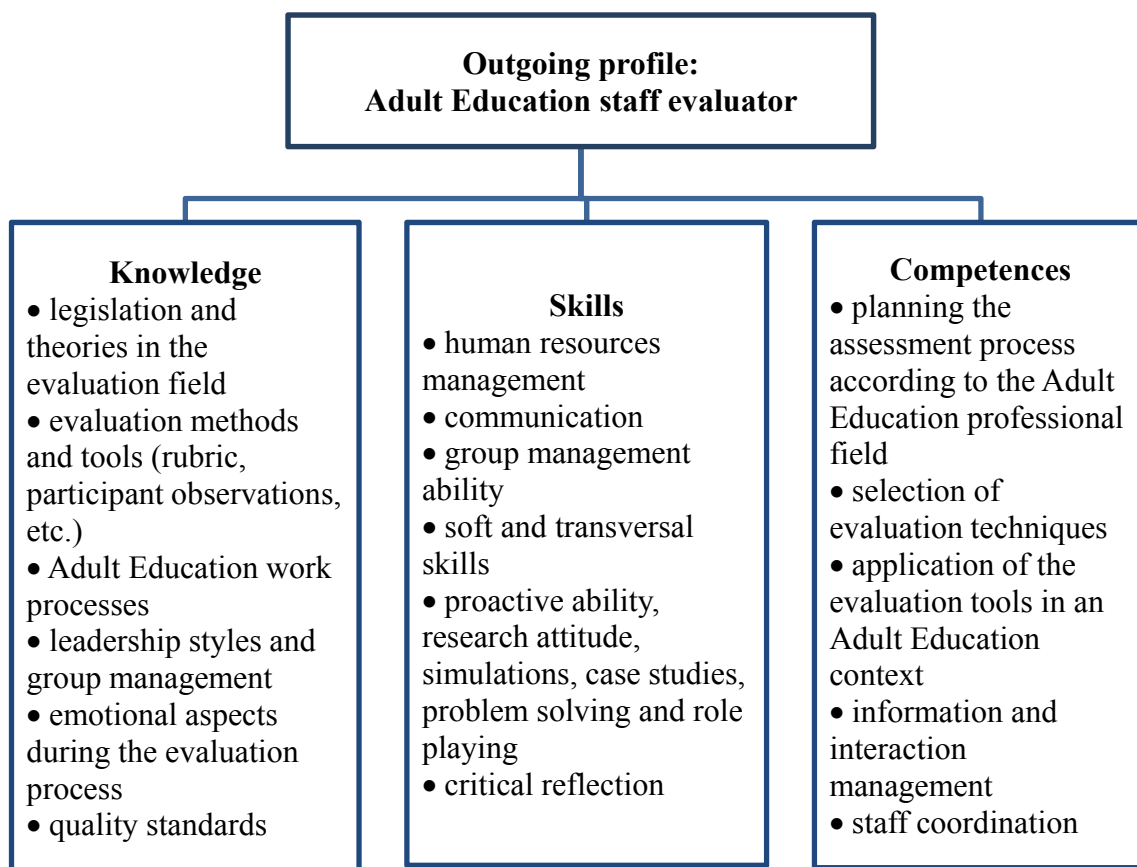


Figure 1. Outgoing profile: Adult Education staff evaluator

The course is addressed to 15 participants (25 to 65 years), selected by each project partner in order to guarantee the *heterogeneity* of the professional profiles and the *exchange* of expertise and acquired competences within an Adult Education Organization. The course participants work as evaluators within different educational services: rehabilitation services, services for disabled people, mental health services, services for old people, intercultural integration services, inmates custody services, services for homeless people, extracurricular educational organizations (cooperatives, recreation and social-educational centers), community centers, cultural services (libraries, cultural centers), local health corporations. Two tutorship forms are also foreseen: 1) “in presence” *accompanying tutorship* to be carried out by one or more reference-point members, previously selected inside all partner teams in the different countries. The accompanying tutors should interface with the training course

practitioners/participants. 2) *e-learning online tutorship* managed by UNIBA. The online tutor should interface with the accompanying tutors of the project partners. Three main instruments will be used for the course validation: a final questionnaire; assessment form to be filled at the end of each didactic unity; external judgement. The 10-hour online training activities (in the form of Learning Objects – video-lessons) are provided via a specific platform, with 2 final hours dedicated to a reflective writing module. Each video-lesson (didactic unit), except for the Introduction one, has a common structure: definition of general and specific objectives; contents; bibliographic references and links; additional documentation and wrap-up conceptual maps.

Table 4. Didactic unity 1: EduEval evaluation model

Didactic Unity 1	EduEval evaluation model
General objectives	Understanding the theoretical framework which EduEval training refers to
Specific objectives	Understanding the evaluation, educational role aimed to the organizational enhancement trough: internal processes analysis, actions, information documentation Understanding the importance of self-assessment activities for a professional growth and to foster correct organizational schemes;
Content	EduEval evaluation model: between self-assessment, external evaluation and context evaluation
References, link, lecture notes, follow up materials, conceptual map	

Table 5. Educational work in the Adult Education field: indicators and competence areas

INDICATORS	<i>Personal development</i>	<i>Community development</i>	<i>Professional development</i>
COMPETENCE AREAS	Self-image and self-perception; empowerment; personal life plan, personal skills and competences, counseling or orientation competences; self-knowledge; mental and emotional well-being; responsibility, empathy, motivation	Democracy-based culture, consideration and observance of differences and equal opportunities; impact of individual actions on the community; active participation in the community; social relations, inclusion	Soft skills and crosswise competences; work performances; leadership styles, group management, attractiveness in the eyes of the employees; effective communication, successful conflict management ability, strategic identity, planning abilities, systemic vision, ICT skills, resource management, planning procedures, working process documentation

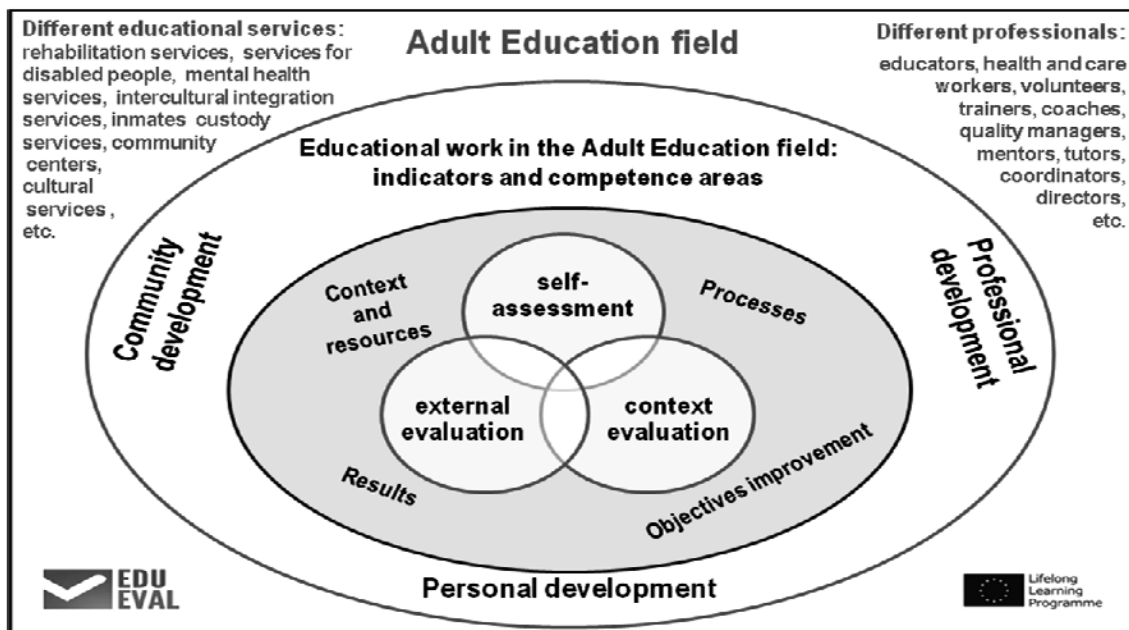


Figure 2. EduEval evaluation model

Table 6. Didactic unity 2: Evaluation methods and tools: external evaluation

Didactic Unity 2	Evaluation methods and tools: <i>external</i> evaluation
General objectives	Basic knowledge development about the main quantitative and qualitative evaluation methods
Specific objectives	Understanding how data collection tools can be used, according to EduEval evaluation purpose
Content	1. External evaluation: features and practical recommendations 2. Audit: advantages and disadvantages; methodological suggestions
References, link, lecture notes, follow up materials, conceptual map	

Table 7. Didactic unity 3: Evaluation methods and tools: context evaluation

Didactic Unity 3	Evaluation methods and tools: <i>context</i> evaluation
General objectives	Basic knowledge development about the main quantitative and qualitative evaluation methods
Specific objectives	Understanding how data collection tools can be used, according to EduEval evaluation purpose
Content	1. Context evaluation: features and practical recommendations 2. Evaluation Rubric: advantages and disadvantages; methodological suggestions
References, link, lecture notes, follow up materials, conceptual map	

Table 8. Didactic unity 4: Evaluation methods and tools: self-assessment

Didactic Unity 4	Evaluation methods and tools: <i>self-assessment</i>
General objectives	Basic knowledge development about self-evaluation procedures
Specific objectives	Understanding how data collection tools can be used to promote the professional and self-reflection, own practice documentation and self-evaluation
Content	1. Self-assessment: features and practical recommendations 2. Portfolio: advantages and disadvantages; methodological suggestions
References, link, lecture notes, follow up materials, conceptual map	

Table 9. Didactic unity 5: Context-based evaluation: steps to be taken for an evaluation visit + Self-evaluation report

Didactic Unity 5	Context-based evaluation: steps to be taken for an evaluation visit + Self-evaluation report
General objectives	Increasing awareness of the needed procedures to assess an Adult Education context
Specific objectives	Developing specific steps to be taken to arrange the visit-days Understanding the difference between individual and staff evaluation
Content	Instructions to define an evaluation rubric as the main instrument for the observation inside training and educational processes, and for the analysis both of professional educational styles and organizational and structural context
References, link, lecture notes, follow up materials, conceptual map	
Self-evaluation report	Reflective writing mandatory + self-evaluation portfolio to be created on the project wiki page (estimated time: 2 hours) + a assessment form of the achieved contents

“In presence” training activities will result in two different experiences (to be chosen): workshops and internship.

Workshops: “in presence” training activities could be organised in 5 workshops (4 hour each). During each workshop, trainers will use different group running methods and strategies to promote careful reflection about one’s own professional experience; case studying; professional practices’ enhancement and empowerment; working context simulations. Workshops will be provided to investigate and analyse the main topics about evaluation, after each online training unit. They will be autonomously managed by the members of each partner country staff, to enhance staff competences (at this stage, no external consultants are allowed). The amount of 20 hours will be divided in no. 5 laboratories, 4 hours each.

Internship: internships will be carried out in Adult Education Organizations, to implement and try out what participants have learned during online training sessions. The amount of 20 hours will be divided in no. 2 evaluation visit-days in selected Adult Education Organizations, (8 hours each);

no. 4 hours to share achieved experiences and for discussion between each country staff and the practitioners' group, in order to share useful notes to realize a wrap-up document. During the evaluation visits, practitioners will be followed and supported by an accompanying tutor (who will keep in contact with the online tutor). *Composition of evaluation teams*: 15 participants will be divided into 5 groups, (3 persons per group). Teams will carry out the internship in an Adult Education Organization. The external evaluation activities should be done in the selected organizations as follows: public service charter reading (or other relevant identifying documents), to have an early idea of the host organization and to write preliminary information; organizational structure observation and analysis, to fill in an evaluation rubric or a check-list; discussion and comparison among team evaluators about the acquired information and the collected data. After the 2 visit-days, evaluation and research teams will be involved in a 4-hour meeting, for a job-sharing of the achieved experiences and for discussion between each country staff and the practitioners. A wrap-up document will be drafted. In presence training activities aim to the following formative expected results:

- to start a change process inside and among the territorial organizations;
- to consider evaluation skills not only as acquired competences for a "lonely" professional, but also as a useful instrument for the organization itself;
- to experiment theoretical knowledge directly on one's profession;
- to guarantee the reciprocal exchange between theory and practice;
- to evaluate the online training quality and to check the full course sustainability to transfer it in other contexts;
- to support and integrate the individual training in a staff, introducing innovative and experimental team building procedures.

The planning of the pilot-course model, which can be confirmed through feedbacks provided by users of the Edueval project, is only the first step towards the creation of a universal curriculum that can be used in any educational & training context with some minor change according to the specific context of use. This field has been affected by political and legislative delays involving different roles and functions which, at now, are being set right. The project and the related outcomes mean to add a contribution within the ongoing definition of the Eda staff evaluator profile.

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(IN-)VISIBLE LIVING SPACE AS THE EDUCATIONAL SPACE DREAMS-SELF-NARRATION IN BIOGRAPHIES OF ELDERLY PEOPLE

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***Abstract.** The objective of the paper is providing an answer to the question about educational and causative dimensions of dreams-self-narrations in biography of senior individuals. In the theoretical part, the authoress focuses on analyses concerning respectively: (in-)visible living space, trajectory of individual biographies and characteristics of dreams as self-narrations in structuring one's own biography. In the methodological part, the authoress presents the assumptions of a research project based on the biographical method by applying narrative interviews. In the empirical part, results of vertical and horizontal analyses are presented in the form of the worked out biographical profiles in the context of highlighted areas of study.*

***Keywords:** biography, education, (in-)visible living space, dreams-self-narration, third age.*

Introduction

Dreams must be narrated. They must stop being kept silent and they must be added to discourses which creatively create the (in-)visible space. It is a reflection creating circumstances for studying educational and causative dimensions of dreaming in the course of biography of an individual, particularly in relation to the elderly people. This is the objective of this paper. The methodology of qualitative studies and the biographical method have been applied as the basic research strategy. From the point of view of modern humanistic metaformation, there is a noticeable need for narrative studies with reference to the issue discussed in this paper. The ideas of the authoress concerning the issue are organised by the following meta - level questions:

Firstly – What should be done, in order to sustain dreams, which as the signs of spiritual (symbolic) life create the (in-)visible living space of each human individual? In this dimension, the fundamental reference is the idea of aesthetisation of the world (Foucault, 2000), i.e. one's concern with oneself, and with other individuals, existential awakening making one sensitive to the quality of one's own and other people's biography, creating oneself and the world as a work of art through self-observation, reflections, creation of new ideas when dreaming about oneself and the world, treating oneself and the world as a kind of research laboratory of human existence (Kundera, 1991).

Secondly – How should it be done? Are there any definite tools and methods of their use, which would allow effective struggle for oneself and others, for a possible and desired world? In this dimension, the most important element is language as the most important tool used to build oneself, and other

individuals. Self-narrations are stories about series of temporal events – I tell stories, therefore I am. It is necessary to teach the ability to express oneself as an active element in the background of nature and culture; it is necessary to teach meditation on the texts of culture and putting words into action (Janion, 1996).

(In-)Visible Living Space

Living space of an individual is fully determined by many different factors. The first factor covers a set of mutual relations among coexisting objects, in which occurrences and processes on which everyday activities of individual people are based. Another factor covers the individuals' close social milieu, in which they function daily. i.e. their world consisting of other people (family, professional, neighbourhood, friend settings). The third factor covers matters and objects of physical nature, which determine specificity and attractiveness of the space. Finally, the fourth factor of an individual's living space, which covers the world of his or her spirituality (not only in the sphere of religion), the world of their internal experiences, emotions, desires, dreams, and aesthetic impressions (Semków, 2000).

This paper treats about the living space of the elderly people, who are at present the largest proportions of European nations. The deteriorating status of this social group and the processes of exclusion provoke reflection and attempts to show possible educational paths facilitating their further self-development. One should assume that full experiencing of their living space by the third age people is an indicator of their well-being and, consequently, of their better status. The dimensions of well-being are: self-acceptance, control of one's environment, autonomy, positive relations with other people, personal development (Czapiński, 2005, p. 153). Personal development, the key element of well-being, is an ability to make continuous use of one's potential, which is necessary to implement of the purpose of one's life, i.e. searching for and finding the sense of life in confrontation with adversities of fate during one's own biography (ibid., pp. 153-156).

The concept of the (in-)visible living space introduced here by the authoress as the key concept requires an explanation. Taking into account the dimensions of space mentioned above, there is no escaping simple dichotomic division into: material (physical), or visible space and the spiritual (symbolic), or invisible space. In the holistic approach to the space - man relation, negation of the nature – culture dualism is negated. The negation gives rise to the phenomenon known as *“culturization of nature and naturalization of culture”* (Burszta & Kuligowski, 1998, p. 165). A similar idea is expressed by Florian Znaniecki when he stresses that *“hundreds of thousands of cultural life accumulated such an enormous number of customs and traditions, that a human being is absolutely unable to perceive or imagine their other nature than the one that he or she views through of culture”* (Hałas, 1991, p.16). Peter L. Berger and

Thomas Luckmann present evidence how important the subjective meanings resulting from the internal nature of everyday reality are for individual people. *“It is a world which is created in their thoughts and actions and due to those thoughts and activities remains as their real world”* (Berger, Luckmann, 2010, p. 50). What, in fact, is the (in)visible space then? Divisions into the external (visible) and internal (invisible) have always been of symbolic nature, because each work had been created in the inventor’s mind before it assumed its physical form). S. Covey (1998) calls the process building with a vision of the end, which is based on the assumption that everything is created twice, first mentally in an individual’s mind and then physically in reality. *“A world created by an individual is always a world in which a creative idea interweaves with a material in which it was materialized, and it is a continuous world, i.e. the world in which there are no fundamental gaps between the most abstract ideas and everyday objects”* (Sroczyński, 2006, p. 35). The concept of an “open universe” (Popper, 1996, p. 25), entangled in relationships of “three worlds” (ibid., p. 20), is a corresponding perspective. What worlds are they? World 1 – is the physical world, whereas World 2 – is the world of all conscious, and probably unconscious, experiences and, finally, World 3 – the world of objective figments of human mind (Ibid., p.21). And the relations between them? We cannot understand World 2, i.e. the world inhabited by our mental states if we do not realize that its basic function is to create objects in the World 3 and be subject to their influence. World 2 interacts not only with World 1, as Descartes assumed, but also with World 3; and the objects of World 3 can only interact with World 1 through World 2, which acts as an intermediary link between the two (ibid., p. 17).

From this point of view, the (in-)visible space, which introduces social pedagogues into the circle of a subjective world of an individual, becomes an interesting research area. Cognition of this world is a humanistic cognition, which requires insight, intuition, empathy, imagination of an explorer in deciphering, understanding and interpreting symbols. The (in-)visible space is *“a personal, intimate world of individuals, which to a considerable degree determines their attitude towards their environment and themselves, their role and lifestyle, creates trends and content of their activities”* (Sroczyński, 2006, p.37). Individuals, like cartographers, first create maps in their minds and then form their living space according to the maps. The space is always “educational”. “Life is going on within that space”, decisions are taken, meanings are revealed, dreams are realized. The space is characterized by changes and, corresponding to each life activity of an individual, create him or her in the same way that he or she creates the space as a result of his or her incessant interferences and more or less spectacular transformations. It is safe to say that our spaces treat us with mutuality (Mendel, 2006). Spaces educate us.

Trajectory of an individual's biography

Individuals always set off from a place where they are rooted and wander around the world building their biographies. In traditional communities, individual settling habits have always been accompanied by the rites of passage marking the sense of human existence from the moment of birth, through social maturing, marriage, labour, until the inevitable death, excluding him or her for ever from the community he/she had been a member of. In our times, qualitative changes in a biography are marked mainly with the moments determined by the logic of the labour market and thus – the level of possibly high consumption. Then comes degradation of the spiritual (symbolic) living space. Instead of classical biographies, always individualized in one way or another, in spite of the fact that they were contained in a general pattern of place and time, there appears a phenomenon which is characteristic for modern liberal capitalist economy. Ulrich Beck calls them institutionalized biographies connected with a performed profession and place of work. The pattern of such biography is set by three major elements – education, labour and retirement pension (Beck, 2004). According to an institutionalized biography “people are as replaceable as objects and serve us as long as they seem to be useful, [...], there is no need to “fix” them or be overfamiliar with them” (Burszta, 2008).

In the case of elderly people, their retirement is traditionally understood as the moment of passing into another qualitative dimension. Regrettably, it is often connected with the pessimistic image of old age. *“Pensioning people off makes them old not only socially, but it may make them feel old physically, psychologically and generally unwanted”* (Semków, 2000, p. 29). Moreover, in the situation of the binding institutionalized biography each individual path of life is accompanied by growing uncertainty and risk. After losing the sense of security, individuals face crisis and find themselves floating. The theoretical concept of floating formulated by Agnieszka Bron (2000) is understood as a state of anguish and dislocation, and it is connected with the difficulty of taking vital decisions. Can retired people be in the state of floating? The conclusion indicates that they can, because in many cases it is accompanied by a sense of social, emotional, and/or intellectual crisis. Then, people lose the sense of secure intimacy, which was provided by being in traditional relationships. As a result, *“the trajectory of an individual's life depends more and more often on his/her individual plans, choices”* (Nowak-Dziemianowicz, 2011, p. 43). Therefore, *“the situation of floating should be treated as a process of learning, as open doors of experience, not as static rites of passage”* (ibid., p. 44). Losing their security, individuals re-analyse their motivational objectives, modify their plans, as well as set their strategies of learning. Self-education becomes a task, an imperative, an obligation. At the beginning, they chaotically take their first steps, learning to diagnose the experienced events (Słowik, 2012). They become more and more aware of their “out of the ordinary everyday life” (Siarkiewicz,

2010, p. 273) and do everything in their power to create, put together, “conjure up”, dream up “their own „familiar” everyday routine. Peter Jarvis (2006) calls this type of acquiring knowledge existential learning. In his opinion, “being” and taking action by individuals should occupy the central place in human learning. At the same time, they notice that learning is a process and it is not important “what” the learner has learnt, but “what has been started” as an effect of human action, thinking and one’s own experience of “being present in the world”. Such nature of educational activity can be described as provocative education, in which one does not only “pass” through experiences, but also arouses, provokes, kindles, seeks their educational sense (Łukaszewicz, 2012). Hence, an elderly individual, who is in the situation of floating is expected to provoke biographical learning, which is independent and self-creative, and which is meant to result in an intentional, prospective planning of the course of one’s own life and creative implementation of such plans. “Soul biography” (Lani-Bayle, 2014), which is an educational path of looking for the way to oneself, to recognition and experiencing one’s own fortune should be set as an existential obligation of each individual, in contrast to the institutionalized biography, which often results in floating and helplessness. We should learn to be ourselves, and unlearn to like other people, unlearn to be nothing, unlearn to imitate other people’s voices, unlearn to recognise other people’s faces to be our own. We should learn to live our own lives, recognise our own destination, implement our desires, dreams and leave their creative marks in our biography (ibid., p. 21).

Dreams as self-narrations in formation of one’s biography

One of the most important transformations of the modern liberal arts was called narrativistic turnabout, which means that stories started to be attributed a fundamental role in human culture and mentality. Narration was recognised to the basic structure organizing experience and understanding. One can repeat after M. Bakhtin that “novelizing of almost all areas of spiritual life of man has become an obvious process since then” (Burzyńska & Markowski, 2006, p. 160). In philosophy, ontological basis for the narrativistic theory of identity were defined by M. Heidegger. Understanding that had a narrative structure was a condition for human existence, which means that narration and human living can be treated as equivalent processes. Owing to the ideal of narration philosophical thought created conditions for transition from substantialist to dynamic perspective of the subject, “from the Cartesian I think, therefore I am to the narrative I narrate, therefore I am” (ibid., p. 33).

The essential fact for the reasoning conducted here is that narrative properties are also attributed to the mental processes in which we plan our future actions. Such reasoning is a consequence of assuming the theses of the narrativistic turnabout, which in its most radical conceptions stated that “*even*

human mind functions in a narrative way”(ibid., p. 28). Dreams as manifestations of the spiritual life of an individual are self-narrations. They should not be treated as an aesthetic invention, but as a primary act of mind transferred from art to life, because “*in order to live, we create stories about ourselves and others referring to both, our personal as well as social past and future*” (ibid., p. 32). Thus, in the narrativistic perspective, life together with dreams is understood as a field for constructive action, and narration as a creative process of formation of our biography. “Telling stories is ageless, widely cultural, it is always present, like life (Barthes, 1968, p. 328). When accepting the thesis that dreams are of auto-narrative nature, we emphasize at the very beginning the fact that an individual tries to understand reality here and now and also tries to build cognitive-interpretative patterns. “*Thus, they help him/her organize experiences in the spheres of life that are important for him/her, make the world possible to live, describe objects within one’s arm’s reach, build a world parallel to the existing one in one’s imagination, only better, more complete, possible*” (Pilch, 2004, p.83)

From the point of view of the narrative psychology, the structure of a dream results from adjunction of the four basic components of narration, namely the storyline, characters, a problem to be solved, dramatic tension of events. It facilitates determination of certain space, in which individual stories told by the main character of the self-narration take place (Bruner, 2006). Whereas the stories initiate experiences in the process of understanding the world, they build up personal knowledge. “*They are practice sessions on a simulator of events, as Singer states, and because they always contain meaning positive for an individual, they also build a positive image of tomorrow [...]*” (Pilch, 2004, p. 83). Dreams – self-narrations perform a special function, i.e. they release two motivational mechanisms. The first one resembles task motivation, which is present even after the action has been interrupted by some external circumstances and has a tendency to continual activation. The second mechanism results from auto-narrative interpretation of facts. Its cognitive premises are components of the self-narrative pattern concerning their own intentions, attitudes and feelings (Trzebiński, 2002, p. 38). Which means that an individual, when experiencing a dream understood as self-narration, first of all understands himself or herself as a subject of definite motives and feelings. This induces him or her to take appropriate actions. On the other hand, developing self-narration contributes the content of experiences of an individual in such a way that he or she really feels appropriate motives and emotions, which drive them to take up the said actions. Such a “synergic operation of both mechanisms guarantees stability of an individual’s behaviour and their high resistance to external obstacles” (ibid., p. 41). Dreams-self-narrations are connected with tasks. Dreams, like tasks, contain descriptions of aspirations, plans of their implementation, description of difficulties and methods of their reduction. Dreams are lined with imagination, emotions and fantasy, whereas tasks are also

lined with imagination, but also with reason and reality. The more an individual dreams when building up plans for fictional actions, the easier he or she draws up plans for task actions (Zimbardo, 2002).

From a cultural point of view, Homo Narrans creates his or her biography poetically occupying space. I took the term “poetic co-habitation” from an interpretation of Hölderlin’s verse, “*full of merits, yet poetically, man inhabits the Earth*” (Heidegger, 2002, p. 168). This poetic mood refers to existence, which escapes the modern logic of order, appropriateness, common sense (Dziuban, 2012). Poetically occupy space means to dwell with sensitivity to the phenomena which are characterised by impossibility in the sense of an impossibility of defining clear boundaries between reality and imagination (Vattimo, 2012), between something and nothing, between the visible and the invisible.

Dreams-self-narrations in biography of an individual – methodological frames

A “silent methodological revolution”, which involves blurring disciplinary divisions, has been going on in social sciences for the last quarter of a century. Social sciences and the liberal arts become more and more connected with one another, which is expressed by their joint concentration on interpretative, qualitative approach to research (Kubinowski, 2011, p.48). The abovementioned revolution is nothing more than a return to integral attitude towards an individual man.

Dreaming is the least investigated phenomenon in human biography, although it is a multidimensional and hence interdisciplinary phenomenon. Defining dreams by the authoress as self-narration places them in the domain of narrative-biographical studies. Narrative studies of the descriptive-interpretative type (phenomenological and hermeneutical), concerning widely understood spiritual life have a lot of *raison d'être*s. Firstly, they concern unique, or extreme phenomena, such as other cultures, unusual behaviours or unusual states of mind, such as dreaming for example. Secondly, the acquired knowledge helps to develop individual and group identity. Thirdly, descriptions of positive, desired phenomena can serve as a model setting role, provide examples of coping with difficult situations (e.g. in the situation of *floating* – M.P.’s note), correct forms of individual and community life. Fourthly, narrations can contribute to building a social climate of tolerance and interpersonal bonds. And fifthly, they are a perfect form of psychotherapy (ibid., p. 71-72). Hence, they are particularly important for educational support provided to the elderly people, because they concern full scale of their living space. The studies are part of a wider trend, the so called studies of becoming, where as long as an individual is alive, he/she is still an unfinished biographical project (Kędzierska, 2012).

The presented theoretical perspective determined using the methodology of qualitative research and applying the biographical method as a basic research strategy. A study of biography makes it possible not only to analyse the process structures, i.e. biographical plans of action, patterns of institutional courses of life, trajectories, biographical transformations, but also allows reconstruction of a social process. On the one hand, self-narrations hide extraordinary experiences of each individual and on the other supra-individual experiences – “*patterns, socio-cultural issues and concepts can be found, which a researcher can discover and identify*” (Kędzierska, 2012, p. 20).

In order to make a preliminary diagnosis of the research area, I indicated the factors which can play a significant role in the process of learning from one’s biography (listed by B. Cocklin and supplemented by myself as a result of reflective consideration). As for the project discussed in this paper, the most important are dreams as self-narrations described/interpreted in a wide socio-cultural context (Table 1).

Table 1. Factors affecting learning from biography

Learning from biography		
Biographic factors	Contextual factors	Interactive factors
<ul style="list-style-type: none"> - Dreams-self-narrations - One’s aims in life - Outlook on life - Social background - Household situation - Social activity - Employment - Old age pension - Financial status - - Emotional status 	<ul style="list-style-type: none"> - Cultural capital - Cultural code - Educational practice - Educational opportunities 	<ul style="list-style-type: none"> - Interpersonal relations (family, neighbourhood) - Interactions resulting from roles player in adult life - Expectations resulting from the status of an adult - Expectations resulting from the status of an old age pensioner
<ul style="list-style-type: none"> - Critical events, Or situations which turned out to be turning points providing qualitative change in one’s life, such as e.g. <i>floating</i> 	<ul style="list-style-type: none"> - Political factors - Development of science - Intercultural experience - Experience in Inter-generation communication 	<ul style="list-style-type: none"> - - Experiences related to sexuality - - Interactions with individuals of importance/ others - - subjective and individual perception of the world

Source: B. Cocklin, 1996, [after] M. Malewski, 1998, *Teorie andragogiczne. Metodologia teoretyczności dyscypliny naukowej*, p. 84; as well as self-reflection

Analysis of data from narration-biographical interview “is a complicated interpretative process requiring reconstruction and (re)interpretation of the experience examined in such a way as to give the author of the narration the final right to provide sense and meaning to his or her own fate (Ligus, 2009, p. 98). All the experiences in our life, as well as dreams, as I have proved in the theoretical part, are organised in the form of stories. “Autobiographical narration shows how continuity of our “being ourselves” is created. Regardless of the fact in which point of the continuum of the biography (present-past-future) an individual places himself/herself, there are always the imaginary “now” and the imaginary “one day” present; each experience contains elements of the past, the present and the future” (Domecka, 2005, p. 235). Components of the content of autobiographical memories must be considered to obtain a detailed account (Table 2).

Table 2. Components of the content of autobiographical memories

Semantic memory	Episodic memory	Declarative memory	Non-declarative memory
<p>„I know”</p> <p>Memory of facts and relations among facts. They have no direct reference to the Narrator, who knows them.</p>	<p>„I remember”</p> <p>Memory of facts along with their temporary and spatial contexts (i.e. when, where and in what circumstances they took place). The Narrator is an actor and a watcher of events.</p>	<p>Conscious access</p> <p>„Explicit memory” or „Conscious memory”</p>	<p>Its content does not appear in consciousness (but it is very important for dreaming – M.P.’s note)</p>

Source: T. Maruszewski, 2005, Pamięć autobiograficzna, pp. 21-31

General idea of “becoming” has become the basis of constructing a research project. Its objective was to acquire knowledge about implementation of dreams in biographies of the elderly individuals and learning from one’s own biography. The Narrators were 20 students of the Third Age University at the J. Długosz University in Czestochowa. They were selected on the principle of snowball sampling. I used the method of qualitative interview with elements of narrative interview developed by S. Kvale (2004). I prepared the companion suggested by the author of the interview. The companion to the interview consisted of 3 parts and contained a set of 4 questions: question one – introductory, concerned a definition of the concept of dream, question two – narrative, was meant to trigger spontaneous narration concerning the subject of the study, and two successive questions – supplementary, which emphasized motives that were important for me as a researcher (their number is the question

of the interviewer's choice). All the questions concerned directly the designated areas of research. The fundamental part of the interview was spontaneous narration which took about 1 hour. Before starting the interview, I explained the idea of the project to the Narrators. Each interview was recorded (with the Narrators' consent) and I started the analytical procedure by doing the transcription. Then, after completing the transcription, I encoded the material in compliance with the pattern of analysis of narrative interviews developed by F. Schütze (1997). Such a strategy allowed repeated analysis, which was an important element of an emerging (in-)visible world. The following interview questions proved to be very helpful: What is the sense of the word Dream do Narrators ? What dreams had they implemented until the time of the interview? What were they driven by? What were their motives? Were they influenced by circumstances, important events, people, places? Do they still think about implementing their dreams now when they are old age pensioners? What conclusions have they drawn from their biography? The questions were treated as basis for answering the main question concerning educational and causative dimension of dream-self-narration in biographies of elderly individuals.

Analysis of interview data – fragment

At the very beginning, it should be emphasized that in spite of the fact that the analysis described here concerns the elderly individuals, they are in compliance with the general principle of autobiographical narration, which shows how the continuity of our “being oneself” is created. Therefore, no matter in which place of his/her biography an individual is, his/her narrations always concern to the past-present-future continuum. Components of the contents of autobiographical memories (semantic, episodic, declarative and non-declarative memory) will be essential for the complete interpretation. The analyses presented below are examples of two biographical profiles in the context of the subject that I study and they are selected fragments of the conducted study. Due to formal limitation of the text, it is impossible to present here an in-depth source material, but it will be continued in a separate paper.

The strategy of description and interpretation is based on the principle of pragmatic breakdown (Golonka, 2011, p. 174). It involves compiling individual threads, looking for contexts and attempts at contrastive comparison of different text fragments within the research areas that are of interest to the researcher.

1/ General presentation of a Narrator

Narrator 1 (N1): Anna, aged 70, a retired teacher, higher education, children live abroad

Narrator 2 (N2): Helena, aged 73, a retired engineer, higher education, married, lives with her children

2/ Introductory question, concerning semantic memory

Researcher (R): What are dreams for you?

N1: *“Dreams are a form of escape from the dullness of everyday life, its problems. They take me to another better “reality”. They let me look forward to the future. Life without dreams is bland and very mundane. In my opinion, it is not enough just to have dreams. Indeed, this subconscious desires gives meaning to our existence, but it is important to talk about them. I love to mix with people, talk to them, plan, help them implement their dreams if I can. One should boast about one’s dreams to one’s family, acquaintances, friends, to anyone who is willing to listen. An elderly person must confide her dreams to someone, it makes him feel better. Advice given by friendly people is sometimes very helpful. I found company for a journey in this way. Besides, by talking about them people strive to make their dreams come true, it does not matter what age they are. It is very important in life”.*

N2: *“For me, dreams are tasks and goals for the future, certain potential for achieving an intended goal. They do not have to come true every time. I am a realist and I don’t have unrealistic dreams. I approach dreams as assignments at school or at work. I have a definite task, I do not bite more than I can chew. Dreams are important for me. Unfortunately, I cannot afford too much, my pension is small. It’s a big problem. One should not talk about one’s dreams. They’re only mine. Other people do not understand them, or understand them wrongly, or they can jinx them. I have never talked to anyone about my dreams. There are few people who would like to listen, others would treat them as whims, still other could treat me as an incurable kid. People are very critical. They will judge me, or even make fun of the old lady.*

Narrator 1 is aware of complexity of the issue. Her statement personifies dreams as self-narrations, which have causative and educational advantages. I tell stories, therefore I am and create a better real world, woven with my dreams. There are also two dimensions revealed in her statement: the conscious and the unconscious layer of dreams. The Narrator emphasizes that becoming aware of constant desires is entering the unconscious areas, which often become impulses for action. Narrator 2 defines dreams in the category of tasks and avoids talking about her dreams. Yet, dreams do have a strong relation to tasks. Both, dreams as well as tasks contain description of aspirations, plans of their implementation, description of difficulties and methods for reducing them. Narrator 2 does not notice the value of unconscious processes in creating dreams. Instead, she unconsciously operates with a code in the form of irrational superstition – dreams cannot be revealed, because they may be jinxed. This may be a permanent restraint for dreams understood as self-narrations.

3/ The question initiating free narration, concerning episodic memory.

B: How do you perceive the presence and implementation of dreams in your life, particularly now that you are retired?

N1: *I try to make my dreams come true and until now I have realized some of them. Each age has its pleasant moment and the sense of fulfilment instils*

optimism in me. Dreams of my childhood and early youth more than met my expectations. I have fond memories of the time. My parents protected me against the hardships of life. I remember that when I was a child, I spent hours on my tree in the garden looking at the clouds, which arranged themselves into different shapes. I gave them names and thought up different stories. I have always been a heroine of my imagined stories, e.g. I sailed on a ship, I glided on wings and travelled on an elephant. They were worlds of my dreams and well-being. When I recall the memory now, I miss Nature. I would gladly get rid of contacts with the civilised world and live in primitive conditions, but in according to the primitive instinct. This is why I travel a lot to different exotic countries, but my true love is Africa. Generally, getting to know the world, people, cultures is making my dreams come true. There is still one more which I want to come true, a journey around the world. Nowadays, when I'm retired, I have a lot of free time, fewer duties, I can go anywhere I want to go. Of course, I attend the UTA. It is the place where I want to catch up with the world. I learn foreign languages, information technologies, I read a lot, listen to interesting lectures, I make my dreams come true”.

N2: Most of my dreams are difficult to realize, of course due to financial reasons. Yet, I think it is a wonderful thing to make your dreams come true, but unfortunately, after 32 years of work, I can only afford to have them. They are also difficult to realize due to my age as many things are unbecoming of an elderly person. One can be ridiculed. Basically, I have no unreasonable dreams. During the Nazi occupation, I had very traumatic experiences when I was a child. My father died in the war, in 1944, and I was brought up by my mother. I dreamed about full, large, happy family. This issue became my priority in my adult life. I do have a large, happy family. I don't want to recall the times of my youth either. I was a half-orphan and an only child. I had to work hard. I remember that in my youth I dreamt about a claret-coloured coat, but I never had enough money to buy one. Now, I just hate the colour. To be quite frank, dreams of my childhood are unreal for me, and those from my youth..., I just lack the strength and inspiration. Now that I am retired, my dreams have partly come true. I can take Sunday sightseeing trips to the country with my husband, I can spend time with my grandchildren, I love it. I am also a student of the UTA. It's my second home, my second, grand family. I can relax here.

Both Narrators retrace the chronological courses of their lives. In their narrations about dreaming, each period was and still is of great importance. However, for each of them experiences of the said periods have a completely different educational overtone. To Narrator 1 childhood appears as a carefree, safe, self-centred time. Hence her cultural code for being free, crossing worlds in her dreams and now in reality when travelling. Transitory nature of a moment has become the driving force to finding her life very fulfilling. Apart from that, the educational dimension of contacts with nature during her childhood was transformed into ecological awareness and manifested longing for the lost

paradise. The childhood of Narrator 2, full of suffering, anxiety about her family was transformed into her dream of her mission to be the prop of a family. The key model-creating symbol here was the image of her mother as the person maintaining the household after her father's death. The Narrator dreamed about her vocation to be a good wife and mother. The important aspect here is her attachment to place where she was deeply-rooted, the need to establish a home. In both cases, the Narrators talk about their vocation, though the first one talks about her vocation to be herself, and the other about her vocation to perform her social role. Their present family situation is not insignificant for realization of their dreams. Narrator 1 is a free person, whose children live abroad, whereas Narrator 2 is married, with a large multi-generation family living in close vicinity. Their financial situation is an interesting motive in realization of their dreams. An unattached retired teacher never mentions any difficulties, whereas the other Narrator also has dreams, but their realization is impossible, because she can only afford to have dreams. The motives of carefree childhood of Narrator 1 and poverty that Narrator 2 experienced are certainly very important. In my opinion, talking about her dreams by Narrator 1 gives basis for crossing the stages of life and heading towards constructing "biography of one's soul" (Lani-Bayle, 2014). In the case of Narrator 2, who refrains from talking about her dreams, her lifeline is strongly institutionalized, full of suffering, minimalism and acceptance of what the fate brings (Beck, 2004). In the case of the first person, old age is not an obstruction in thinking about dreams, in the case of the other person there is a barrier in the form of a cultural standard – at this age it is unbecoming. Still, they are both students of the UTA, though their motives are different. Narrator 1 personifies the model of the "flexible youth" (T. Buliński, 2002), where the stage of retirement is still an educational challenge for realization of one's dreams – the Narrator wants to catch up with the world by acquiring new skills. For Narrator 2, the UTA is a second home. She does not want to catch up, but she wants to relax in accordance with the archetype of quiet old age of a retired person, but does not want to be alone.

3/ Supplementary questions

B: What are particular personal experiences (events, places) in your biography, which influenced realization of your dreams in personal life and career?

N1: *As for my career, it started when I was very young, [...], I made my younger brothers and sister sit on chairs, stools, I created a small class in the room, which transformed into an idea of becoming a teacher. I wanted very much to be a teacher. I remember that I dreamt about having glasses and a pointer, just like my own teacher. I kept talking about it. I pilfered glasses from my mother. She was a teacher, too, and my father whittled a pointer for me from a piece of wood. As for my personal experience, I remember that one day, when I was a teenager, I felt very badly. It turned out that I had serious pneumonia. I*

had a fever and I raved. I suffered from hallucinations. One of them I remember even today. I was walking in the fields pushing aside ears of grain when suddenly a bee landed on a palm of my hand. I was frightened, but when I turned my hand I saw the bee transfer into a beautiful ring with a piece of amber on one of my fingers. Then I realized (in my sleep) that everything is possible, that the impossible becomes possible. When I recovered, I returned to this thought every day.

N2: *I come from a family with a craft tradition. My grandparents had a small locksmith's shop. My parents also owned it for a short time. After my father's death everything collapsed. My grandfather did not miss a single opportunity to tell me, and I was his only grandchild, that I have to take everything over. I was a girl and I was interested in other things. I liked drawing. My grandfather used to say, you have to be an engineer. Engineers also draw. I loved my granddad very much, he was a father substitute for me. When I grew up, I started to study engineering, although this type of drawing is completely different. I think that a significant event that set the course of my personal life was my father's death. It changed me very much. I was a small girl and I thought that I have to be tough, like a boy, and I have to help my mother like a man. And then I kept growing up with such manliness. I approached my life as a set of tasks. I met my husband when I was a student. He is also an engineer. We ran the small workshop together. I was the manager. My grandfather's dream came true. Then, transformation came and everything collapsed again.*

The environment of primary socialization is the basic source of cultural capital of individuals, their habitus, "through which social reality is internalized and treated individually, providing compliance between objectively existing opportunities and subjectively displayed aspirations" (Szlachcicowa, 2005, p. 274). Habitus, which is a socially acquired and consolidated system of thinking and acting differentiates chances of making dreams come true and the selection of style of constructing one's biography. The Narrators come from different social environments. If it is assumed that the criterion of social status is the level of education, as well as the practised profession – then the first one comes from a family of pre-war teaching tradition, which was considered to be of high social status, and the other from a family of pre-war craft tradition, which meant lower social status. Significant personalities for the first Narrator were, in the first case, her mother – a teacher, in the second case, her father – a craftsman. Significant events were the critical moments which consolidated different imperatives for her future life. The serious illness of the first Narrator, aided by a magic space (dreaming), created an internal belief that the impossible can become possible and it is determined by herself. In the case of the second Narrator, her experience connected with her father's death determined her fate and her conviction that she cannot influence anything. Places from which they both started embodied, to a large extent, their long-lasting bodily and mental

predispositions (Demetrio, 2009). These different starting points determined their different understanding of the presence and realization of dreams in their biographies.

B: What emotions and feelings well up within you when you talk about your dreams? What have you learnt from your biography?

N1: *I strongly believe that dreams have created my world, many worlds. I am always accompanied by the sense of happiness and satisfaction, when I return from a dream trip of mine. I don't abide in the world of dreaming, but I choose a specific strategy of acting, which means that I learn how to make my dream come true.*

N2: *I am convinced that talking about dreams is naive. This is why I approach it with a tongue in my cheek. I am ashamed to talk about my dreams for fear that someone might laugh at me. In my life, I set realistic goals for myself, according to the opportunities created by the external circumstances.*

Both Narrators are accompanied by emotions, but they are completely different. Narrator 1 displays an intense feeling of happiness, joy, self-fulfilment, whereas Narrator 2 is dominated by the feeling of apprehension and embarrassment. In the case of Narrator 1, positive experiences act as accelerators in her aspirations to make her dreams come true, whereas for Narrator 2 they act as restraining factors, inhibitors. Narrator 1 approaches realization of her dreams as something that happens in two stages, first in her mind and then in reality. Still, what happens on the mental level is developing educational strategy of learning. She is the architect of her fortune, which is exactly what a reflection on her own biography has taught her. In the case of Narrator 2, imagination gives in to rational calculation, intellectual speculation about goals than are possible to be implemented. Narrator 2 has learnt from her biography that her assessment of plans is often externally motivated.

Conclusion

The data obtained from interviews were analysed on two planes – vertical and horizontal. The vertical analysis was a thematic analysis and served isolating of the main motives as the narrations were constructed around issues concerning vital areas of life of the Narrators, i.e. family home, education, career, retirement. Identification of the thematic groups provided important information about biographical factors (conscious and unconscious), which influenced the process of constructing dreams. However, vertical analysis is not a sufficient analysis as it reduces biographical narrations to a set of statements of standard tinge. It becomes a story about vocation. The horizontal analysis concerned determining theoretical codes and involved constant comparison. Each hypothesis generated from the thematic analysis and code integration was consolidated in reference to the entire narration of each interviewed person and compared to narrations of the others. It was, therefore, examined in a wide

socio-cultural perspective (of contextual, interactive factors), which allowed to describe successive patterns of reasoning and conscious acting, as well as unconscious one.

The analyses of study fragments quoted above make it possible to put forward a cautious final conclusion. The Narrators are aware of the educational and causative dimensions of dreams in their biographies. Yet those who tell about their dreams and those who remain silent on this point emphasize different elements of their stories. In the first case, it is an experience directed more towards existential learning, whereas in the other case it is an experience directed more towards institutionalized learning. The elderly people, who have reached the last stage of their institutionalized biography – the stage of retirement – should not abandon an important part of their living space. Those who have, or those who have insufficiently made use of the space, should be provided support in revealing the (in-)visible space, encourage them to talk about their dreams and to construct “biography of the soul”.

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CASE OF LATVIA IN THE EVALUATION OF ADULT EDUCATORS: ISSUES AND SOLUTIONS

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Abstract. *In the context of research the evaluation of adult education is analyzed as a process and outcome, emphasizing the evaluation of performance; goals are related to the assurance of quality and sustainability according to learners' needs; competence indicators are methodology, motivation, communication and management; evaluation involves self-evaluation, external evaluation and consolidation.*

The goal of the article is to analyze the experience of adult educators in the field of evaluation. Methods - analysis of literature and interviews with Latvia's education policy makers and implementers in AQUAD environment.

The authors of the article offer the model for evaluation of competence of adult educators' assessors and analyze the real situation of adult educators' evaluation in Latvia.

Keywords: *adult education, quality of education, evaluation of adult education, competence, self-evaluation, performance evaluation.*

Introduction

In European education space in the context of adult education the issue of the evaluation of the quality of education services has become increasingly topical, as well as evaluators of adult educators are regarded as an important evaluation resource. Although within the framework of different projects (VAL-NET, 2013) implemented in Latvia the best solutions for the evaluation of adult education have been searched for and the tools for evaluation of adult educators' competences have been developed (CAPIVAL, 2012), there is still no united evaluation system.

The project „*Evaluation for the Professional Development of Adult Education Staff*” (EDUEVAL), involving researchers and volunteers from Italy, Spain, Greece, Poland, and Latvia, focuses on adult educators' evaluation, which is viewed as an important educational system, as well as the part of the training process, which ensures a sustainable quality of education.

Theoretical background

The topical issue in the context of the study is the understanding of the quality of education as the transformation. Basing on this approach, the quality of adult education is defined as a set of characteristics and properties, which characterizes education as a process and education as an outcome of continuous

improvement that comply with the changing requirements and needs of individuals and all other interested parties (Fernāte, 2014: 12). The need is an essential tool for achieving success; it is the basis for motivation (Deci & Ryan, 2008; Zepeda, 2011).

There can be observed differences in the understanding and evaluation of the quality of adult education of Latvia among the persons involved in the educational process and employers (educators and learners): educators and learners relate educational awareness, as well as the evaluation, to individual interests, needs and abilities, while employers emphasize compliance with the needs of labour market and socio-economic development of the country (Fernāte, 2014).

In today's context in the adult education and educators' evaluation system there should be viewed both visions. In pedagogical aspect the evaluation is a person's targeted activity, which reveals personal, intellectual and social development (Ксендзова, 2001). Basing on the acknowledgment that one of the key indicators of education quality, alongside the quality of learners (learning motivation, certain abilities and skills) and education as a process of quality, is the quality of the educator (Paņina, 2007), there raises the issue on how and what should be evaluated in order to have an objective adult educators' evaluation and to contribute to the improvement of quality in the long run. Searching for answers, there have been implemented several significant projects in Europe over the last decade.

Within the framework of the project „*AGADE - A Good Adult Educator in Europe*” (2006) there was developed a minimum of criteria and competencies for adult educators. There was put an emphasis on personal development/ethical dimension and professional development dimension, which were divided into three stages: organization (knowledge), performance (skills), evaluation (*organization*) (Carlsen & Irons, 2003; Jääger & Irons, 2006). In the following years within the framework of the project „*Qualified to Teach*” (2009) there was developed international qualification system for promoters of adult education in adult initial training and continuing education in Europe, structuring qualification descriptions in 3 domain areas, where pedagogical triangle as an analytical category reflects 3 key pedagogical elements that must be combined in pedagogical activities:

- content and didactics (basic competencies connected with the goal);
- personal development and professional identity (basic competencies related to the promotion of learning);
- learners' support (basic competencies related to the learner).

There have been developed (*Research voor Belied*, 2010) indicators for self evaluation of adult educator's basic competencies (see. Figure 1).

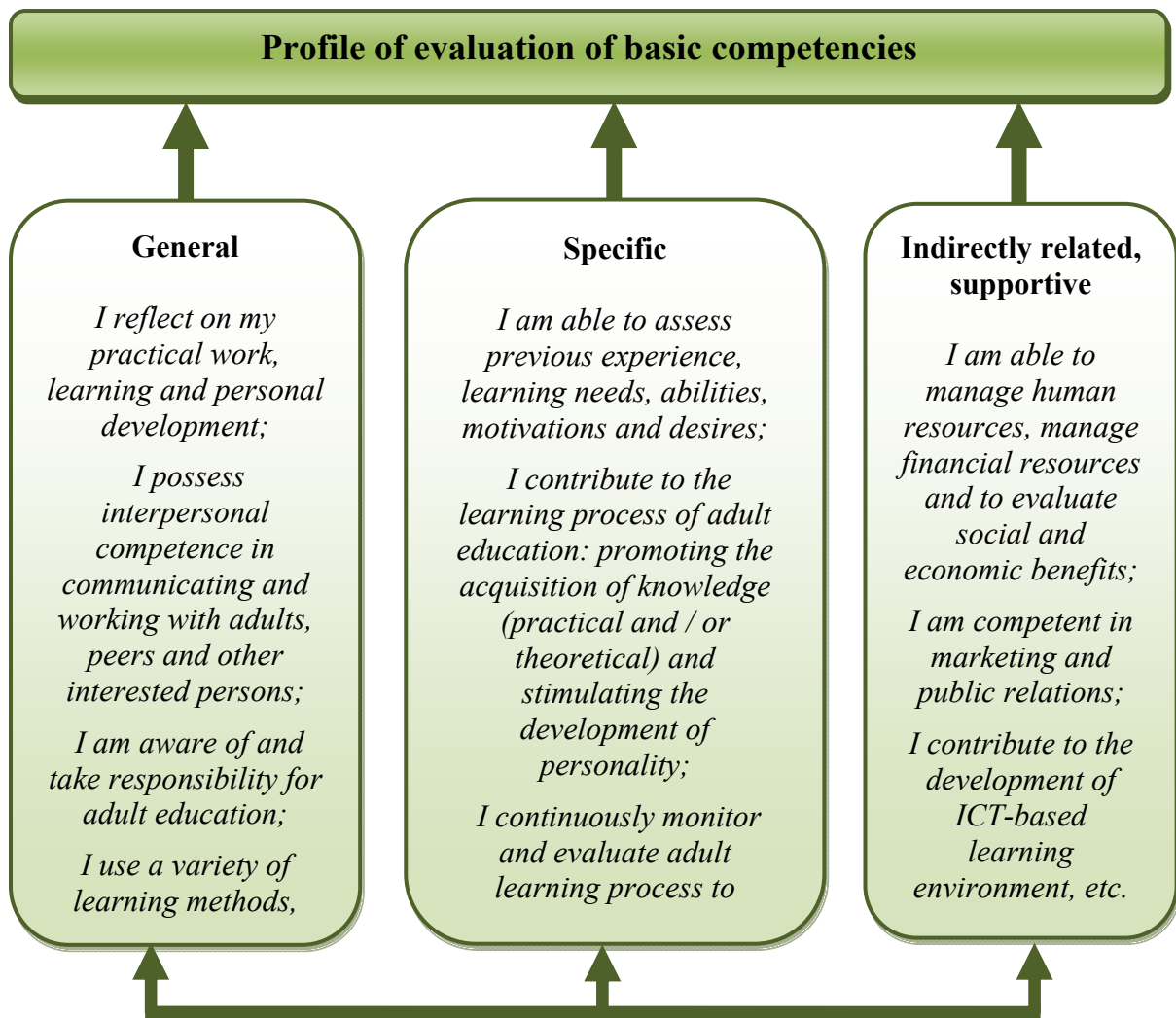


Figure 1. Profile of evaluation of basic competencies
(according to Research voor Belied, 2010)

The components of adult educators' competence model elaborated by L. Garrido, G. Levi, A. Medina and E. Mendeza (Garrido, Levi, Medina & Méndez, 2014) are institutional affiliation, innovation, research, evaluation, motivation, planning, professional identity, media integration, methodology, communication, tutoring and intercultural communication. It is emphasized that adult educators' competence is an important factor in evaluating the quality of adult education (EAEA, 2006).

In order to assess the competence-based learning environment, testing methods are based on the model created by M. Jaspers and I. Heijmen-Versteegen (Jaspers & Heijmen-Versteegen, 2004) that is based on the testing functions (monitoring and evaluation, the role of feedback) and focuses on testing (process and results). In order to provide supervisory functions when developing digital *portfolio* it is recommended to use coaching, personal development and action plan, reflexive report, the test on progress, learning style, personality and practice, while for the provision of evaluation functions

there is used the feedback, evaluating discussion, using criteria based interview method, an essay, a knowledge test, case studies, simulations, qualification test, presentations, the final project / thesis. Self-evaluation, peer evaluation and joint evaluation are the basis for monitoring testing methods that are oriented to both the process and the result.

There are three main phases in the adult educators' evaluation process:

- *self-evaluation* (consists of „reflectivity” biography, learning process/ learning outcome competences);
- *external evaluation* (monitoring and evaluation with the help of the checklist of the observation of basic competences);
- *consolidation* (portfolio of consolidated outcomes) (Lupou, 2010; Vinepac, 2008a, 2008b).

Evaluation criteria is an essential condition for qualitative self-evaluation (Santos & Pinto, 2014), which, in authors' opinion, is one of the main forms of adult education evaluation. Quantitative or criterial evaluation is determination of quality using criteria; its alternative is the determination of quality through subjective experience, using a description, analysing success/merits and shortcomings/failures (Stake, 2004).

A process and a result are important components of adult educators' evaluation (Jaspers & Schade, 2002). Under the influence of modern pedagogical paradigms the focus is put on the process-oriented evaluation. It helps to see the relationship between causes and consequences, evidence that supports the results or impact of the supportive intervention (Nagao, 2003; Jaspers, 2003; Jääger & Irons, 2006), provides a more active participation of the interested parties in the evaluation, decision-making and implementation process (Smith, 2005), as well as ensures sustainability (Hashimoto, Pillay & Hudson, 2011).

Process oriented evaluation is related to the assessment of the performance, which is defined as the assessment of integrated action and behaviour in the definite situation, which is relevant to the profession (Van Brakel & Heijmen-Versteegen, 2003). In order to assess the competencies that are specific to the profession or have a key role there is used a testing method. Standardized observation is also used in evaluation process. It is done by qualified assessors who are specially trained to observe, record and evaluate. This will guarantee possibly the highest reliability. It is a problem in Latvia because of regulatory documents, which do not clearly define competences of adult educators' evaluators. Assessors are specially trained for successful implementation of the evaluation process, but the relevance and quality of the process is still a controversial issue.

Research methodology

In order to find out how the persons involved in the process understand adult educators' evaluation, the project volunteers in Latvia, using structured interviews, carried out interviews with 5 adult education policy-makers and 11 adult education policy implementers. Basing on the theoretical statement there was developed a code system, which consists of respondents' codes and content (conceptual) codes (see Table 1.). Structured interviews were coded according to the code system and the obtained data was processed in the program AQUAD 6, forming frequency tables for determining the frequency of codes and regularities of conditions. To determine the relationship between the groups of respondents there was used *Chi-Square test*, but to determine correlation there was applied Kendall's tau-b correlation analysis.

Table 1. Code structure

Profile codes	Content (conceptual) codes	
	Meta-codes	Multiple codes
<ul style="list-style-type: none"> ▪ adult education policy makers ▪ adult education policy implementers 	▪ understanding	▪ process
		▪ result
	▪ goal	▪ process result
		▪ quality
		▪ sustainability
		▪ needs
	▪ evaluation	▪ self-evaluation
		▪ external
		▪ consolidation
	▪ competence	▪ methodology
		▪ communication
		▪ management
▪ motivation		

Research Results and Discussion

Most of the adult education policy-makers (4) and education policy implementers (10) believe that external evaluation is a dominant component in adult educators' evaluation process, which is carried out by the administration, colleagues and learners within the institution, but at the national level it is done by educational program licensing and accreditation commission in accordance with the criteria developed and approved by education policy implementers. Only one adult education policy maker and one adult education policy implementer mentioned consolidation of self-evaluation and external evaluation. Adult education policy-makers pointed out the compliance of adult educators' evaluation quality control and situation monitoring with both national and international standards, as well as its continuity, emphasizing that it is an

integral part of everyday life in Latvia. In structured interviews adult educators suggested that learners, who understand and are aware of their needs, are the best evaluators, indicating that the assessment is the measurement of the added value obtained by students.

By analyzing the positive experience of evaluation, respondents emphasized the need for objectivity provided by the diversity of methods, the use of criteria, balance of the types of assessment, orientation to the process, performance assessment and positive experience, dynamics of growth, cooperation between all parties involved in the evaluation process providing professional growth and emotional well-being:

Multivariate assessment, where is the balance between self-evaluation and the evaluation of administration and colleagues; where have been developed specific criteria, such as portfolio, where the applicant has the opportunity to practically demonstrate his achievements, examples of good practice and positive experience.

Dynamics is taken into account - personal growth and each person's contribution in the growth in collaboration with the teacher, as well as his attitude; not only the result but also the process is evaluated - how productive it was.

Most often, it is the learner's satisfaction with the benefits gained from the educational process and practical application in the situations of life and work.

Evaluating people by performed activities and viewing their professional and personal qualities of cooperation.

It is also important to evaluate the teacher's growth. Not only to document the current situation, but to compare it with the previous one.

When the participants and the teacher feel pleased with the accomplished work and know what else could be done better and apply the acquired knowledge in their work.

Respondents expressed the idea that in adult educators' evaluation the focus should be put on self-evaluation, *where the person, who is assessed, is the most professional and best evaluator, because only he and not anyone else can evaluate appropriately all aspects, contexts and situations.*

By contrast, respondents consider that a negative evaluation of adult educators is:

- *formal, subjective, biased, uniform (only documentation is evaluated, knowledge rather than its practical application is tested; it does not give a positive solution to the identified problem);*
- *there are no specific criteria, it is done by the administration and functionaries (by the people, who are not familiar with the context and situation)*
- *when adult educators are evaluated through the process and the result, they feel emotional discomfort (there are errors in*

communication or there are violated ethical principles; blaming or admonishment appears in evaluation);

- *growth and dynamics are not taken into account (when the obtained evaluation is not compared with the situation that the recipient had before – whether he has developed his skills, or has remained unchangeable).*

Most of the adult education policy-makers (3) and education policy implementers (8) consider adult educators' evaluation as the result concerning the evaluation of knowledge, skills and competences and in determining adult educators' quality and they believe that (2 adult education policy-makers and 6 adult education policy implementers) the goal of adult educators' assessment is sustainability. Adult education policy-makers mentioned quality as one of the main goals of adult educators' evaluation (2).

The analysis of interviews points to the need to prepare evaluators of adult educators for evaluation process so that it would not be formal, but the evaluator would be able to go into the real situation, to assess not only the quality of the definite moment, but to view its dynamics, carrying out a comparative analysis of previous results and prospects for development. Respondents' answers demonstrate the same conclusion with the emphasis on sustainability as the goal of adult educators' evaluation: *further cooperation, students wish to return, image of the institution, long term application of acquired knowledge and skills, improvement of the process, gathering information, like it is currently being implemented and on its base carrying out improvement, development or creation of something new.*

Respondents, who associate the goal of adult educators' evaluation with learners' needs, are of the opinion that the most important is the service recipients' point of view, satisfying participants' demand (*whether and to what extent they are satisfied with the benefits of a learning process and to what extent it is necessary for their professional development*), which, in their opinion, makes the service providers change so that they would be required; offer should be topical, qualitative and available to the recipient.

Chi-Square test results show that there is a statistically significant relationship between the evaluation of respondents' status and aspects of adult educators' competence ($\chi^2 = 9.270$; $p < 0.05$): the respondents' status influence the understanding of competence.

Education policy-makers consider that when evaluating adult educators' competence the focus is put on management (3) and communications (2). However, the majority of adult education policy makers (5) believe that in the assessment of adult educators' competence the emphasis is put on methodology. 3 adult educators responded that the criterion for adult educators' competence is management, 2 – motivation, but 1 person mentioned communication as a criterion for adult educators' competence.

Management evaluation highlights:

- professional aspect (*it is important to have the ability to perform the tasks necessary for professional work; or those who teach others, have increasingly high results*);
- aspect of human resources (*the ability to work with the audience, activities and participants' responsiveness and participation in workshops, finding balance, when all students feel equally involved in the process*);
- environmental aspects (*availability of education to society*).

In assessment methodologies there have been identified indicators such as:

- integrative approach (*lesson structure, content, teaching methods, unified content, themes complement each other*), emphasizing the principle of the unity of form and content;
- compliance (*ability to use appropriate methods for adult education, a balanced proportion of theory and practice*);
- innovations (*essential topicality of the course program theme, technical equipment appropriate to the requirements of contemporary requirements and the ability to use it; applied creative solutions*).

In the communication there is emphasized the ability to interact and „unleash” the audience, teamwork, organizing exciting teaching and learning process, flexibility, adapting to different situations, as well as attitude towards colleagues.

Respondents' most often mentioned answer was an external motivation, where the most important is recipient's point of view and the ability to use acquired skills and competences. In the result of the analysis of research data when processing qualitative data in the program AQUAD environment there were identified the evaluation implicants– evaluation is affected by its purpose and understanding (2 cases).

There were found the implicants of consolidation of self-evaluation and external evaluation that is influenced by the evaluation goals, such as quality and needs, understanding of the evaluation as the process and as the result, as well as indicators of adult educators' competences such as management and communication (3 cases).

The evaluation process has also been considered as the understanding of the implicants of the process and the result – they are influenced by the consolidation of self-evaluation and external evaluation, the goals of evaluation like quality and needs, as well as indicators of adult educators' competence like management and communication (3 cases).

The results of Kendall's tau-b correlation analysis show that there is a medium positive correlation between the needs as the evaluation goal and motivation as the indicator of adult educators' competence ($p = 0.022$; $r = 0.59$) - adult educators' needs affect motivation.

Still a topical issue is connected with appropriate evaluation methods. Respondents' point of view is that the most commonly used methods for assessing the competence of adult educators are observations and interviews (see Figure 3). Observations were mentioned by all education policy-makers (100%) and 82% of education policy implementers, but discussions were mentioned by 80% of adult education policy-makers and 73% of adult education policy implementers. Adult education policy implementers are of the opinion that tests (64%) and other methods (55%) are frequently used in adult educators' assessment.

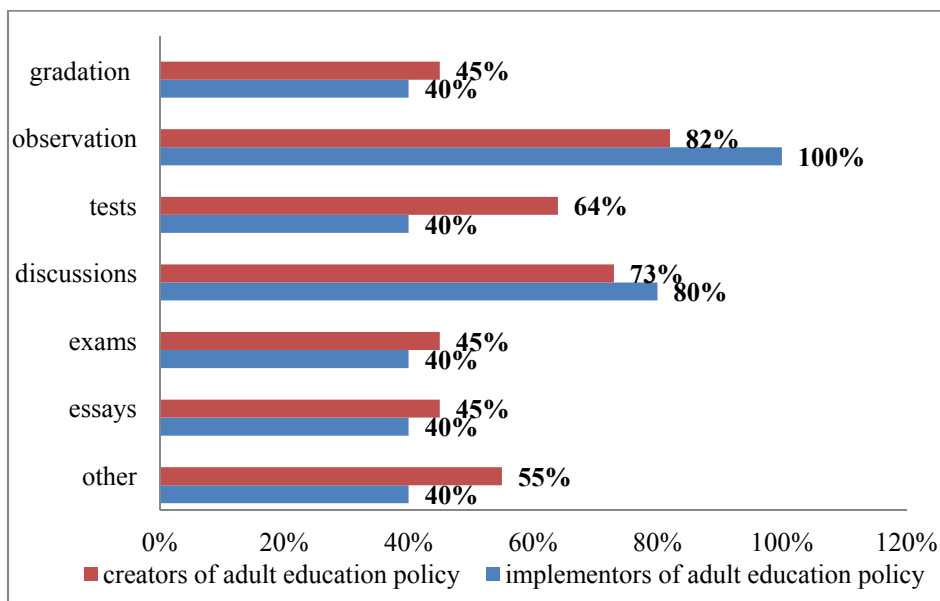


Figure 2. Application of evaluation methods in the assessment of adult educators' competence

The results of Kendall's tau-b correlation analysis show that there is a high positive correlation between the evaluation methods of adult educators' competence such as exams and tests ($p = 0.003$; $r = 0.78$), as well as exams and essays ($p = 0.004$; $r = 0.74$) – adult educators more frequently use tests and essays in exams.

The results of Kendall's tau-b correlation analysis show that there is a medium positive correlation between external evaluation and discussion ($p = 0.011$; $r = 0.65$) as well as external evaluation and methodology as the indicator of competence - external evaluation in negotiations more often is evaluated as the methodology.

The results of adult educators' assessment are used, firstly, in the context of personality – improvement and increase of working quality, as well as for adult educators' motivation and growth; secondly, in micro (educational institutions) context - the identification of the actual situation, growth of the institution, based on the learners' needs, development of the strategy.

Problems identified in the adult educators' evaluation:

- lack of information (*although there is a very broad offer for assessment procedures, it is hard to find what is necessary, effective and gives benefits*);
- lack of evaluation system and criteria (*a lack of a clear assessment concept; it would be good if there were some kind of holistic approach or a single model to eliminate or reduce subjectivity and to have adequate assessment and to have clear criteria or parameters*) and the lack of methodology (*it must be learned how to assess*);
- contradictions between educational standards and recipients' wishes, needs and requirements (*provision of feedback, searches for correlation between learners' preferences and professional aptitude, where standards of education are high, but the recipients of the service have sometimes a desire to lower standards*);
- communication problems (it is necessary to improve personal attitude to seek solutions to new situations, which will never come to an end. These are the signs of the processes of life and tolerance during the evaluation);
- formal approach (questionnaires are given to a small group, and they are not anonymous and out of respect of some teachers they are filled out formally).

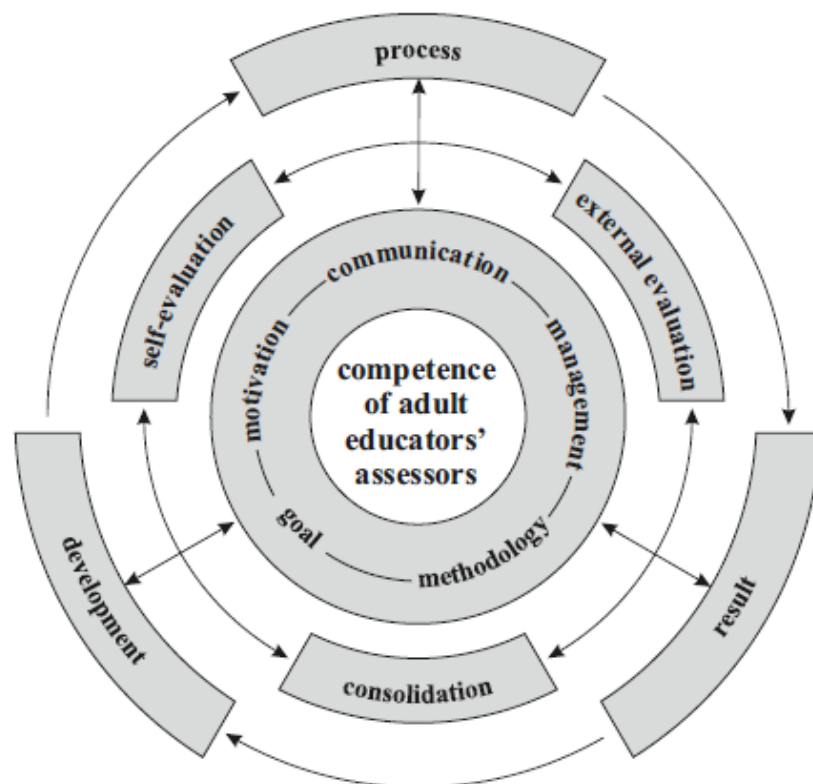


Figure 3. Model for evaluation of competence of adult educators' assessors

Basing on the theoretical statements and results of empirical research, the authors offer the model for evaluation of competence of adult educators' assessors, which could be the basis for the evaluation of competence of adult educators' assessors (see Figure 2), and which analyzes the assessment as a process and a result, emphasizing the assessment of performance; goals are related to the provision of quality and sustainability according to learners' needs; competence indicators is methodology, motivation, communication and management; evaluation includes consolidation of self-evaluation and external evaluation. Basing on the analysed literature and the proposed model, the authors define the competence of assessors of adult educators as a meta-competence, where general and professional competences closely synergize with the evaluator's personal qualities and objectivity and focus on the evaluation of educator's actions and behaviour in the definite educational context, as well as facilitate sustainable improvement of the existing process (activities).

The authors are of the opinion that it is necessary to carry out further studies to understand in-depth the situation of adult education in Latvia. The research would be the basis for the development of the regulatory base and there would be specified competence of assessors of adult educators and organized their training.

Conclusions

1. Evaluation of competence of adult educators' assessors is the process and the result, where it is important to assess performance, goals related to the assurance of quality and sustainability according to learners' needs, as well as competence indicators: methodology, management, communication and motivation. Evaluation involves consolidation of self-evaluation and external evaluation.
2. Competence of adult educators' assessors is meta-competence, where general and professional competences closely synergize with the evaluator's personal qualities and objectivity and focus on the evaluation of educator's actions and behaviour in the definite educational context, as well as facilitate sustainable improvement of the existing process (activities).
3. In Latvia it is necessary to improve the regulatory documents, defining the competences of adult educators and their assessors. On this basis, it is necessary to develop an evaluation system and to elaborate evaluation criteria corresponding to the education sector.
4. The compliance of evaluation criteria with the field of education and training of assessors of adult educators could provide objective and qualitative evaluation, contributing to the increase in quality of adult education.

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SUPERVISION AS A KIND OF QUALITATIVE EVALUATION

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Abstract: *The contribution presents a reflection on supervision as one of the possible forms of qualitative evaluation, in the field of work with adult educators. Supervision structures a context where theory and practice, emotions and cognitions, values, representations and fears, anxieties and conflicts can be made to dialogue in continuation. The supervisor continuously offers feedback and interpretations to the educators, thanks to attentive listening and decodes what they express. The constructivist approach to Evaluation, on the one hand, gives full value to the subjectivity of the actors involved in the evaluation process and aims to interpret and understand. So, we can call it hermeneutic evaluation (Perla, 2004). Hermeneutic evaluation sets the problem of finding the meaning of the points of view of the participants. This is where the meeting point with the supervision activity, which consists precisely of a practice guided by a leader who helps the educators to better understand their theoretical frameworks of reference and their basic educational models, lies. Supervision and Evaluation therefore represent two important tools for developing the professionalism of the operators, as shown by the case-study analyzed. The practice of supervision is part of a path of lifelong learning and education (Oggionni, 2013; Zannini, 2005), which passes through experimentation, evaluation and redesigning, in the face of constant monitoring of the needs and learning of the individual and of the team.*

Keywords: *Supervision, Evaluation, Education, Training, Quality.*

Introduction

The contribution presents a reflection on one of the possible forms of qualitative evaluation, in the field of work with adult educators. This analysis has been triggered by the research activity and exchange of reflections between researchers and practitioners – on the educational practices concretely performed in everyday work in the field -, in the European EduEval – Evaluation for Adult Evaluation Staff - project⁵. From the research carried out in the first year of life of the project in the different countries involved, the presence emerged of multiple models and types of evaluation of educational work, both quantitative and qualitative. On the one hand, the desk research highlighted indicators and guidelines, prepared by various European and national bodies, aimed at orienting the evaluation activities towards the best

⁵ Evaluation for the Professional Development of Adult Education Staff. Project Number: 538743-LLP-1-2013-IT-GRUNDTVIG-GMP. Grant Agreement Number: 2013-3800/001/003. This project has been funded with support from the European Commission. This document reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein. <http://www.edueval.eu/>

practices whereas; on the other hand, the interviews both with the management staff of providers of socio-educational services - with official and unofficial evaluators – have highlighted what happens at the level of concrete daily practices. During the activities, a great challenge, ambivalence and lack of linearity in the behaviour of the various players at stake is always encountered. They project different representations of educational work, of variegated guiding values in their actions with users, as well as of different interpretations of the dynamics present in the events they have to cope with. From the research carried out, we have been able to note a considerable gap between the major European studies, which define guidelines on evaluation in general terms, and the complexity of the problems encountered by evaluators and educators in their evaluation activity in the field⁶.

For this reason, the part of the project devoted to the exchange of practices – concretized both in the workshop in Crete⁷ in July 2014, which brought together researchers and practitioners from all the partner countries, and in the subsequent phase of writing, using the wiki system⁸ on an online platform – has been very useful to allow all those involved to acknowledge the need for dialogue between the indispensable guidelines and the lists of indicators – necessary for orientation at macro-level – and the claims, the doubts and the problems, brought by the representatives of the educational professions. During these fertile moments of exchange of experiences and practices, some partners brought attention to the role played by supervision as one of the possible forms of evaluation. The reflections that follow intend to resume and develop this part of the results, reached during the first year of life of the EduEval Project.

Supervision of the educational work

In its strictest meaning, supervision (Oggioni, 2013; Belardi, Wallnofer, 2007) can be dated back to the end of the 19th century in England, when the first forms of social work began to develop. These arose to meet the great increase in poverty and social deterioration, following the chaotic processes of industrialization and the consequent influx to the cities of huge masses of people in search of work. For example, the Barnetts, pastors who worked in Whitechapel, London, began to criticize the policies of assistance offered to the poor, promoting the development of self-help activities on the one hand and, on the other hand, offering socio-educational support to the operators. They suggested weekly interviews, in order to facilitate processes of reflection and re-elaboration on the practices, useful for identifying new strategies of action. Other similar activities, anticipating modern supervision, were also developed in

⁶ http://www.edueval.eu/download/pdf/2.2_Public_Research_Report.pdf

⁷ <http://www.edueval.eu/recent-events/>

⁸ http://wiki.edueval.eu/index.php/Main_Page

the United States. In 1871, the Charity Organization Society was founded in New York City, where Mary Richmond, the founder of “social casework” (Richmond, 1917) operated. Ms. Richmond emphasized the importance of the activities of surveying and investigation, necessary to better understand the nature of the users’ needs. Volunteers collected information to give to the social workers, in order to have preliminary orientative diagnoses and analyses of the socio-economic processes in course. Expert social workers, called supervisors, used a method of dialogue and consultation to offer help and support to the younger social workers. The model of teaching-learning was based on the master-apprentice relationship, from the medieval and then Renaissance tradition. In this model, considered as equivalent to the father-son relationship, there was the presence of an older and more expert professional, who was accompanied by a younger worker. The latter also interviewed some clients under the supervision of the older worker. This is, moreover, a model of training which is still very present in education, including at university level, for care professions. Supervision plays a leading role in university training for the professional figures (Zannini, 2005; Palmieri, Pozzoli, Rossetti, Tognetti, 2009) of educators, social workers, psychologists, tutors, teachers and nurses, precisely because it tries to connect the theoretical dimension with the practical dimension. The supervisors are figures of experts with a university training but also with great experience in the field.

In Europe, the debate on casework and on supervision developed after World War II, strongly influenced by psychoanalysis (Frabboni, Wallnofer, Belardi, Wiater, 2007; Aichorn, 1978; Bernfeld, 1971; Balint, 1964; Horder, 2001), which had studied the transference between operators and users, for the purpose of freeing the professional field from excessive emotional interference. An intense debate grew up, especially in countries where the welfare state was already structured, like Great Britain, the Netherlands, Scandinavia, Germany, Austria and Switzerland. In particular, in Germany, from the 1950s onwards, there developed a movement of attention to supervision enlightened by psychoanalytical principles, aimed at activating processes of reinterpreting professional practices, listening to the emotional dynamics of transference and counter-transference between operators and users (Dozza, in Contini, 2000). It is, therefore, very easy to understand the historical-social roots of the activity of supervision, connected with important socio-economic movements – such as the full development of the industrial revolution with the consequences on the condition of the population –, as well as its use as a tool of training for young people aspiring to work in the social and educational fields. The practice of interviewing clients, to collect information and better orient the socio-educational action, therefore started to be established from the very beginning. In this way, the centrality of the work on the individual case, of the interpretation of the concrete situations for diagnostic purposes, of listening to the relational dynamics that involved operators and users, “in the way that today

we know by the name of hermeneutic method or case study” (Belardi, Wallnofer, 2007; Oggionni, 2013; Castellucci, Saiani, Sarchielli, Marletta, 2007), was understood immediately. Supervision gradually became professionalized, thanks also to numerous occasions of national and international discussion and the ever-increasing use of supervision in different fields, in work with individuals, with couples, with groups, with mono-professional and multi-professional teams (Cellentani, 2004). This allowed a reciprocal contamination between psychological and sociological approaches, reaching the present-day situation in which “multidisciplinary, integrative or meta-theoretical approaches dominate, as a single point of view is not sufficient for the numerous tasks of supervision” (Belardi, in Frabboni, Wallnofer, Belardi, Wiater, 2007).

Evaluation

There are different approaches to the study of evaluation, such as the positivist-experimental, the pragmatist and the constructivist (Perla, 2004; Hadji, 1995; Scriven, 1991; Palumbo, 2001). The *positivist-experimental* approach considers evaluation as analysis and verification of objectives, which have been defined a priori. According to this approach, the coherence, pertinence and neutrality of the evaluator are important. The validity and the reliability are based on methodological rigour. Particular emphasis is placed on *measurement*, that is the quantitative dimension. This approach has been criticized because of its methodological rigidity, that has not always succeeded in adapting variables of the complexity of the education processes. The *pragmatist* approach, on the other hand, draws attention to the dimension of comparison and of the definition of standards and criteria. In this approach, particular importance is placed on the judgement (and therefore to the “voice” of the different players involved in the evaluation process). These models can be said to be self-referential and linked to indicators, decided only within the system where the evaluation takes place (Perla, 2004). The *constructivist* approach, on the other hand, gives full value to the subjectivity of the participants involved in the evaluation process, aiming to interpret and understand. Such an approach can also be called hermeneutic evaluation (Perla, 2004), because paying attention to the meanings is given more consideration than measuring the phenomena and the actions, which are the object of the evaluation. Here, attention is paid to the qualitative dimension of the evaluation.

Stufflebeam (2003) thinks that it is important to study no longer only the outcomes of a training path but especially the context, the processes and the changes stimulated during the activities, based on a mature reflection on decision-making. An important formative function of the evaluation is emphasized, because the evaluation has the task of giving the decision-makers information, useful not only for a final purpose but also for improving and

orienting the whole of the educational activities. In this model, you can find a high degree of flexibility and dynamism. The focus is placed on the global design of the evaluation system, whilst there is less interest in fixing indicators and procedures. An eclectic use of the methods is made, more than sticking to the procedural criteria and rigid grids, because the key activity is the interpretation of the object being evaluated. It is observed and monitored in its evolution in order to mature decisions. Indeed, the objective of the evaluation is that of decision-making (Stufflebeam, 2003). It is the “philosophy” of a phenomenological and hermeneutic approach to the evaluation of the quality of educational work, whose aims are the improvement and orientation of the path and the analysis of the subject being evaluated in its context, in the middle of the process of change, in order to take decisions. Applied to evaluation, it allows grasping hidden and less formalized dimensions of the educational work. The fundamental characteristics of the proposal are expressed as follows: “not to prove but to improve” (Stufflebeam, Shinkfield, 1985). Evaluation must not test but above all improve the processes and focus on the hermeneutic dimension of the evaluators. A responsive evaluation is considered that one which is developed answering to the needs and questions raised by the stakeholders (Perla, 2004; Patton, 1990), by the context, by the players involved, according to a bottom-up logic (cf. CIRCE site, University of Illinois; <http://education-illinois.edu/circe/>). This is an idiographic model, focused on the individual concrete activities and on the opinions and personal interpretations of the situation considered from those operating in it, which accepts the diversity of the perspectives. Responsive evaluation - also called sensitive evaluation - is based “on what people do naturally to evaluate things, i.e. observe and react, and it uses a type of spontaneous communication of the outcomes of the evaluation and aims at the usefulness of the results for the people who take part in the programme evaluated” (Pandolfi, 2000, p. 52). Stake (1988), stressing the concept of a phenomenological, hermeneutic and reflective evaluation, states that the value of the activity or of a performance cannot be expressed by a score of a test, but by the best “description” and “interpretation” directly by the participants. He suggests abandoning precise measuring, in favour of the meanings attributed to the evaluating actions by the people involved. The task of the evaluation concerns acquiring information, that is really useful for understanding the complexity of the educational situation. The meanings emerge through the analysis of the points of view and opinions of the participants.

Stake’s responsive evaluation criticizes the rational patterns, typical of the previous modelizations, because they reduce the process of evaluation in the educational context to mere measuring techniques, assigning to it purposes of an exclusively pragmatic nature. He focused on the singularity of the evaluating action and on the holistic, systemic and hermeneutic dimension of each process of evaluation (Perla, 2004). For Stake, the protagonists of the evaluation - the evaluator and the person being evaluated, the educator and the person being

educated - are included in the same system of relations. Both of them are observers and both take part in the same process. Evaluation can be used to make them grow together and in the direction of permanent reflectivity and self-reflectivity. The theory of complexity emphasizes the need to represent all the points of view in the judgement. Evaluation should gather the diversity of perspectives, promoting the qualitative growth of all, although in reciprocally distant positions. This is, for Stake (1988), a formative and qualitative way to innovation through evaluation. The main references of the process of evaluation are the judgements and interpretations of the people. Each stakeholder makes his contribution to the evaluating action, that develops according to the argumentative and critical competence that each person implements. The evaluator is the coordinator of this evaluation dynamic, not looking for generalization. The hermeneutic approach considers what has value for the different stakeholders, stimulates deep awareness, gathers knowledge as a product of listening to everyone's experiences, expectations, fears and anxieties (Perla, 2004). The evaluator reveals the meanings which each person attributes to the reality assessed (Widdershoven, 2001; Guba, Lincoln, 1989). According to Stake (1988), any educational project should be based on the issues of those directly concerned, involving all - designers, participants, evaluators - in the same action. The responsive evaluation gives great importance to the person, reflexivity and thinking, trusting in the sense of responsibility of those involved in the evaluation, in their critical skills, their authentic interest in changing for the better (Guasti, 1996). Evaluating becomes, then, the equivalent of thinking (Dewey, 1939). The evaluator has the task to facilitate this activity, especially in those involved in projects of education and training.

Supervision and Evaluation

Supervision can be used in all the multiple educational contexts, as it is a transversal practice. Supervision is an important context of training, which brings together a group of professional educators coordinated by a supervisor, who helps them reflect. Evaluation is the “nucleus of clinical supervision” (Bernard & Goodyear, 1998, p. 152). Some of the practitioners – who exchanged practices between different nationalities during the EduEval Project workshop in Crete and, then, used the wiki system to continue online the discussion on the various approaches and methods of evaluation – presented their use of supervision as a form of evaluation. They understood supervision as a privileged place of thinking, as opposed to the emergency and haste of doing, in which it becomes possible to rethink the professional action, deconstructing its meanings and the frames of reference. Supervision structures a context where theory and practice, emotions and cognitions, values, representations and fears, anxieties and conflicts can be made to dialogue in continuation. The supervisor continuously offers feedback and interpretations to the educators, on their

considerations and subjects. In this way, the supervisor continuously evaluates the resistance of the theoretical structure (Oggionni, 2013, p. 74; Bisio, 2002) and its connections with practical behaviour, performing the function of reorientation of the educational action. Supervision is aimed at developing reflective competences, capable of investigating the fundamentals of one's professionalism. Reflective thought on experience (Schon, 1987; Dewey, 1938) has a strong heuristic, investigative and transformative value of the educational practices, being identified as an important resource both on the practical and on the theoretical side. Supervision has the task of increasing the production of knowledge and developing the competences of the educators: therefore it is a tool of professional growth. Supervision can therefore be a tool for the evaluation of strengths and criticalities of the educational work. Supervision must bring about changes in the depth of the understanding of events, in recovering overlooked variables, in better mastering the different types of languages, in managing relational dynamics and in establishing a new climate and method of work (Barone, Bruschetta, Giunta, 2010).

Both the processes and the path of the participants can be evaluated. In turn, supervision can be evaluated by educators and clients, with respect to its capacity of having generated learning about the self, the team and group dynamics as well as with respect to the analysis of the educational contexts and processes. Different methods of evaluation can be used with different levels of depth and involvement. "The process of evaluation can be carried out at an ad hoc meeting of the team or of supervision, in the presence/absence of the coordinator and/or supervisor; in a dimension of dialogue or adopting the more technical method of certification" (Oggionni, p. 79). In this case, forms to be filled in at the end of the supervision sessions are used, indicating opinions – mostly quantitative considering the type of methodologies adopted -, learning and outcomes of the supervision. The organizations also implement quality through the establishment of regular paths of supervision, which then raise the question of evaluating the efficacy of the processes of supervision. In this case, the organizations check supervision through evaluation. However, this is certainly a risk because the educators could feel that they are not safe or not in a protected place, where they can express themselves calmly and freely, without any dimensions of judgement which block the development of thought. The practice of supervision is part of a path of lifelong education (Regoliosi, Scaratti, 2002; Raineri, 2003; Lichtner, 2003), going through stages of experimentation, evaluation and redesigning, facing constant monitoring of the needs and learning of the individual or of the team. Above all, supervision must be included in a continuous process of professional learning and rethinking of one's own experience and placed in the concrete organization of work. It must be understood as one of the fundamental tools to offer and to ask for in order to carry out one's work well in help relations.

A case-study

It is here described how supervision, though is not primarily dedicated to evaluation at a formal level, however can become a kind of evaluation, at a not formal level. In this context, we refer to the hermeneutic and clinical approach to evaluation (Widdershoven, 2001; Bernard & Goodyear, 1998). One of the central problems the supervisor has to deal with is the question of the so-called resistances or defences of the educators taking part in the supervision, that the supervisor has the task of bringing out, naming and re-elaborating (Oggionni, 2013, p. 82). During the discussion in the Crete workshop, one Italian practitioner reported the case of a path of supervision with a group of about 13 educators, mainly male, with the presence of only three women. The age varied from 30 to 45. The context was that one of a big Provider of socio-educational services for disabled people, located in a medium size town in the north of Italy. The supervision here described follows a psycho-pedagogical and narrative approach, looking for the meanings and the emotions that are always conditioning the educational processes (Oggionni, 2013; Regoliosi, Scaratti, 2002). The practitioner had followed in supervision for about a year and a half this team of a day socio-educational centre for disabled adults. From the very beginning, the female supervisor had found very high levels of defence in the educators, in particular the male group. The supervisor began the session asking how they were and how the week had been. The recurring answer was that everything was fine and that there were no problems or conflicts, the work was tiring but everything was going well. Of course, they stated, they did not clearly understand the need for supervision and they were proud of having made a previous supervisor leave. After a phase in which the supervisor tried to negotiate with the educators the direction that they wanted to give to the supervision, so that the objectives declared by the supervisor and by the client – to work on the group dynamics, on the conflicts, on the anxieties caused by the work, by contact with difficult users etc. – did not seem to have been imposed from above, the supervisor dealt, for a certain period of time, with their discontent and complaints about the bosses, placed at various hierarchical levels. For a long time, all the blame for the malaise of the group was shifted on the authoritarian, imposing, insensitive and inattentive behaviour of the management. The group unleashed all their anger on those in positions of authority, but without assuming the power of membership more than to a certain extent. The supervisor continuously referred to them the infantile need to always blame the parents, without ever allowing herself take that part of power which, nevertheless, is due to those who enter into professional relations: for example, the power to ask for explanations, to be informed, to challenge what they were ordered to do. They naturally complained a great deal about the commitment and the effort that continuously being in contact with the disabled required, where there were not many possibilities of reaching consistent progress, where

the daily encounter with frustration for the efforts made, without seeing significant results, was a constant.

In particular, the element that tired them most and caused the aggressiveness of the educators, was in the sense of unexpected inclusions of new users and in changes of environment, as in the case of a move. The supervisor, continuously observing, monitoring, weighing up and evaluating the words and behaviour of the educators, referred several times that the group seemed not to have negative capacities, i.e. that capacity of being able to stay in uncertainty that generates insecurity (Bion, 1970). Therefore, every order that was not prepared at length, was perceived by the educators as something that was not tolerable, something that abruptly broke their fragile equilibrium. The point is that however— the supervisor evaluated— the educators were fragile also because – in a vicious circle – they never accepted subjecting themselves to thinking about the great malaise that was hidden behind their artificial equilibrium. In order not to be in emotive contact with the efforts and the malaise caused by their concrete professional activity, they always refused to proceed with reflective work, continuously annulling the potential wealth of a freer way of expressing themselves. Finally, after a long period of time, the group began to abandon the focus on complaining about their bosses. The discourse in supervision began, although with great effort and digressive actions, to concern the opinions and the behaviour of the educators themselves. At times, the compactness of the group cracked, either because of some rare divergent feminine voice or because one of the males allied with the supervisor, pointing out to his other colleagues the fact that they were laughing, making jokes, talked about other things all the time, or for some unexpected event, such as, for example, the entrance of a new educator in the group. At those rare moments of breaking down the usual barriers to the possibility of thinking (Bion, 1970), the supervisor proposed reflective questions, to try and lead the group to becoming aware of the opportunity for the group to grow, at the time when the compact wall was breaking down.

At a certain point, a new female educator arrived, who stayed slightly on the sidelines of the group of male educators. The supervisor invited her to speak, asking her how she had felt being included in a group that was already formed, and then went on to ask the rest of the group of educators what type of group they thought they were, if they thought they were a welcoming, open group, capable of opening up to a newcomer. This question by the supervisor caused a certain bewilderment amongst the educators, who were not expecting it and were floored by being forced to observe themselves, interrogating themselves on the group itself. However, the walls soon closed up again, as if the question they had been asked had hit the mark, i.e. the hidden point of the nature of the group: a basic hostility that they tried never to have discovered. The supervisor then had personal problems in the following months and, for some time, she could not return to the team. From a certain point onwards, however, she realized that

she did not want to go back and continue as before. She submitted to in-depth evaluation both the behaviour of the educators and the very process of supervision and decided that, for a little while, she should not return, to allow all the time necessary to bring out the need and also, the desire, for supervision. The supervisor evaluated at length the hostility of the group: in the face of such a thick wall of fear and resistance to think and perceive the emotions in the field, the only path was to be absent, making the group feel what they were missing. She also evaluated that she would not have continued the supervision, as the price to pay to make the educators return to perceiving their needs was that of interrupting a serious, deep and sensitive commitment but taken for granted by the group of educators, especially by its male members. In fact, she returned after several months only once, leading the group to express their anger and their regret – at last - for the loss of the supervision. In this way, the supervisor opened up the path for a new supervision, but with another leader.

Conclusions

When we raise the problem of evaluating educational processes and events, we find ourselves in the face of a great complexity and an intricate series of theoretical-methodological-practical questions to disentangle. In particular, evaluation understood as certification of competences, of adaptation to procedures, of confirmation of alignment with certain synthetic indicators, although very important for the paradigmatic value contained in it, nevertheless does not fully seize on the variety of problems, conscious and subconscious, visible and hidden, that are an essential part of educational actions. Hermeneutic evaluation poses the problem of finding the meanings of the points of view of the participants and, with the help of disciplinary knowledge which has studied emotions – such as psychoanalysis –, also which are the affective and group dynamics. This is where the meeting point with the activity of supervision, which consists precisely of a practice guided by a leader who helps the educators better understand their theoretical frames of reference, their basic educational models, their involvements and emotional projections on the users and colleagues, lies. If reference is made to the general concept of reflective practice, thoughts go to Dewey, who theorized the heuristic, investigative and transformative capacity of reflective thought. Reflection becomes the means through which to bring out the quality that intrinsically connotes experience. He maintains that “the world in which we immediately live, that in which we strive, succeed, and are defeated is pre-eminently a qualitative world”. From this, it can be deducted that “the immediate existence of quality, and of dominant and pervasive quality, is the background, the point of departure, and the regulative principle of all thinking”. Reflective thinking, therefore, allows upturning the usual logic that saw recourse to an expert knowledge, from the outside, to privilege knowledge from the grassroots. It is knowledge faithful to the

situations, which, by their nature, are presented as unique and cannot be traced back to standard generalizations. Supervision and Evaluation are two important tools for developing the professionalism of operators and, in certain cases and according to certain types of approaches, can flow into a single great educational power.

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EDUCATION AND WORK IN THE TIME OF FLEXIBILITY. RECONSIDER THE PEDAGOGICAL POTENTIAL IN THE EXISTENTIALIST PLANNING

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***Abstract.** Nowadays European Union support many training projects reserved to “young adults”, that should sustain the creation of skills and competences that will enable them to move in the business world. The liquid-times scenario is leading young adults to the loss of the capacity of thinking about long-term project.*

Using the Educational Clinic approach –which legitimate the opportunity of a crossed and inter-disciplinary reading of the educational fact – we try to reason on the conditions that made the pedagogical setting an alcove for the existential planning of the individual, transcending the simple transferred knowledge.

The purpose is to go back and ask ourselves about the contemporary context with a look that is enriched by the experienced elements, in order to show a possible niche of the education device, in which the disclosure of the idea of education as a space of potential development for the existential design can be possible.

Keywords: Education, Existential Planning, Pedagogical Setting, Pedagogy, Work.

Introduction

“Forget about it, your job now is to learn!” there is nothing that contains more truth than figures of speech, idiomatic sentences or all-purpose answers. A simple truth and somehow all too cruel that cages and closes the matter, so forcing the average interlocutor to glance down and go back to his work. How many kids and young adults have been addressed in this way? And how many of them, after having completed their duty just like good little soldiers, have ended with the feeling of having nothing in their hands?

“Waste paper”, “By now everybody’s got it”, “If everything goes well you’re ending up working for a McDonald!”, these are words that often arise, just mentioned whispers by those who no longer believe, that echo and crawl among the walls of the Educational Institutions. In what do they no longer believe? The first answer that comes to light appears to be: in the abundance and in the potential of the education received. In the text “*Conversazione sull’Educazione*” (Bauman, 2012), Mazzaro informs us about the fact that in Italy, while it is registered almost a 100% success up to the end of the lower secondary school, the scenario radically and suddenly changes if we look at the secondary school, where the drop-out rate before the diploma is above 30%. According to the data every year more than one hundred and twenty thousand kids between fifteen and nineteen years old enter the ranks of the *neet* (*not in education, employment or*

training). These data seem to match perfectly with the statement that Bauman shortly after proposes, where he says that “The liquid-modern culture is no longer a culture of learning and of accumulation, same as the cultures reported by historians and ethnographers. It is more likely a culture of *disengagement, of discontinuity and of forgetfulness*.” (Bauman, 2012p. 44)

So we find ourselves observing without any specific commitment, the myth of the contemporary hero: a young adult, without any specific education, but equipped with that knowledge that has allowed him to conceive an innovative idea – is there today a word more overrated and deprived of sense? – and to develop it in its garage. A young person who, supported also by the right amount of luck – conveniently quoted to justify the failure for anybody else – all of a sudden becomes a billionaire. Here too, we think that what has been lost is once again that part of the individual that believed in the potential of the investment and of the choice made for his own educational path, together with the rejection that this responsibility implies. Everything, in the chaotic scenario of the liquid modernity, looks like happening by chance, in a simply uncontrolled manner, engulfed in the whirlwind of the momentary pleasure that only proceeds by accumulation, prey of the loss of sense and ratio (Recalcati, 2003). Limits and rules look like existing only to be crossed, to be proven useless, rejections of a dream for growth that looks like having become impossible even only to be “*thought of*”.

And what about all those who, equipped with abundance and will, move forward unperturbed until they reach the last degree of formal education, that is the university degree?

Also for them it is possible to find a category, they are the “*as if*” ones. Warriors of the as if they believe in it. Ranks of youngsters – as Bauman observes – that have got no other choice than to behave as if they really believe in the fact that the top is unlimited, that there is always further room to climb to the top and reach a higher place, where every effort they and their families have done up to that point will be repaid by a prestigious job and an amazing salary that will raise them to a higher degree in the social ranking, letting them become the family pride and salvation. All they need is a university degree. As if they believe in it and forget about the perspective of being forced to “draw up countless job applications that are almost never answered, accept an infinitely long unemployment and be obliged to undergo uncertain and unstable jobs, two thousands leagues beneath the power rooms, as only alternative”. (Bauman, 2012, p. 52)

Consequently the social and international policies are starting to get their gears into action. All of a sudden European notices show up that support training projects reserved to young adults, to the creation of skills and competences that will finally enable them to move in the business world, attractive resources for a market that would like them to be liquid and without any link, commitment and border, same as the society that surrounds them. Without any long-term project,

if not the desire to keep on carrying out that climbing, to then stick out with increasing greed and with both hands reaching out looking for pleasure. A climbing that, when lucky enough to start, wants to be refunded by a single currency: flexibility. Another key word of this liquid time, where the incorrect, manipulative and unscrupulous use looks like having jeopardized its meaning, so that it loses that positive feature that referred to resilience and to the right ability of adjustment to the external environment to turn it into the supposed capability to withstand the neurotic changes of the contemporary society.

Simultaneously also the academic world is advancing. Constantly busy in coping with the restrictions fixed by the superior politics – actually insurmountable – and the needs of a generation, although hoarse, that craves for help. In particular during international conventions, people start asking: what can education do in front of all this? Once again the request looks like assuming the need to obtain a concrete answer, almost a counter-recipe book including a solution in ten small pills to be swallowed one after the other, but this is not the direction our research demand has taken.

What we are asking ourselves right now and that, from our side, we aim to propose, is: what can pedagogy and education do in front of this scenario? In education, do there exist potential development areas that, if controlled, could work as alcove for the growth and the existential planning of the individual that transcend the technical data of the transferred knowledge? And, if yes, which are they and under what conditions can they be recognized and activated?

Some of these questions contain an implicit answer, others maybe an impossible one. The purpose of the present work will therefore be to present a first re-crossing of literature that aims to bring back to light and to argument at least part of that implicit, so as to let it become a new starting point.

The pedagogic school from which we would like to draw in order to define education as we mean it, specifying the shape we would like her to take in the reader's mind in order to immediately disconnect from a culture that tends to program and contain it within the terms of a business-like education, mostly focused on training, is the one of the "ClinicadellaFormazione"⁹ by Riccardo Massa (1994). Although almost thirty years have passed since the first publication of the masterful text *Educare o Istruire?* (Massa, 1987) the context is still valid and it is worthy of a continuous examination. In particular the writer believes that nowadays, in order to define the steps forward done by those who as follower practise the Education Clinic, becoming in turn its constructor and theorist, it is possible to match our proposed idea of training with the idea of education that Massa himself proposes in the above mentioned book.

According to the author, education moves according to a spiral motion: this derives from life and it goes back to it. This movement is carried out only after the advent of a separation, in which education becomes repetition of life itself;

⁹ By now we refer to it as "Education Clinic" n.d.r

repetition that as such takes place among the sphere of experience separated from immediate life, although maintaining its peculiar feature of vitality.

It is thanks to this repetition feature that education seems mostly to be characterized by its tendency to keep distance from that same life in which it is rooted, dragging strength out of it.

Hence education becomes the stage of life (Massa, 2001). It is in virtue of this ambivalence that for Massa education appoints itself as a pragmatic device specifically featured by an experiential dimension that guarantees her a specific level of factuality, which the design of each methodological device should be able to aim to. It is moreover important to underline how the educational relationship that has developed in this contest, could be interpreted, and therefore distinguished from other kinds of relations, as an effected experience, where pedagogy qualifies itself as a science of action in order to produce it. This can be asserted only if, in the same way as Massa, we interpret as *pragma* the make-believe dimension of the educational work. The educational experience proceeds in fact along a dual register that oscillates between the real and the make-believe, in respect to the common passing of the real course and that also proves itself able to directly intervene on it.

Other aspects that allow identifying a tight meaning of the concept of education as a factual as well as intentional factor are those related to the centrality that the relational dimension and the group one, the initiatory and the ritual one, the prescriptive one, the expressive one, the motivational and the transitional one assume in it. Massa clearly explains the features of this transitional dimension, expression with which it is meant that education comes to establish an intermediate and mediating region, one of contact and passage between external world and personal life, cognitive requests and sentimental needs, real things and childish imagination, through processes of symbolic substitution and operative test.

But to understand education as a factual factor it is necessary to go investigating a latency level even more elementary and submerged, that is, we have to investigate the educational device as structural device. In it, the spatial, the temporal, the corporal and the symbolic dimensions result tangibly structured and they determine the education in its specific happening. The fact that education is a socially determined item results obvious for Massa, but not the fact that this resolution is not direct and determined, but takes place through specific means of a structure that is procedural, with method and experiential; even less the fact that these structuring refer to the substance that creates them. It is from the kind of structuring of space, of time, of corporeity and of symbolization, of the exposition to them within defined educational practises or non voluntary or non intentional educational situations, from the qualitative and quantitative ratio between them and the spatial, temporal, corporal and symbolic experience of current life that the efficiency of education, its factuality and its ideal implication ultimately depend upon.

But before understanding how pedagogy could go back to ask itself and re-think its own areas dedicated to education, we think it is mandatory an attempt in that direction of integration of pedagogic knowledge around which the Education Clinic works all along. This in order to highlight once again the fact that, although if up to now we intentionally referred only to the most intentional element of the formative event as programmed action, underlining over and over again the materiality surrendering to any element that constitutes the structure of the device in which it takes place, we do not intend to forget what until now presents itself as the most pulsing core in continuous evolution of the Education Clinic: the profound questioning regarding the interpretations between the emotional, the cognitive, the corporal and the existential variables that design the deep texture of each educational happening.

For this reason the attitude of those who want to “clinically” get to know education appears as “the attitude of who distances himself from it [...] exactly to get better involved and understand it once again, of those who interrupt any tendency of generalization in order to be able then to contribute more efficiently to it, of those who retreat from goals and values at the same moment, in which they recognize them as fundamental for any kind of educational event, of those who are not afraid of revealing to themselves and to others the unpleasant and irrational hidden behind the desire of educating or being educated, of those who accept the erotic and power implications of the educational relationship without sublimating them, denying them or naturalizing them surreptitiously (Massa, 1990 p. 583)”

Facing all this, as Mottana (1993) reminds us, means to analytically segment the body of the educational fact in all its structural components – from the planning level, to the analysis of the needs, the inclination of specific communication techniques – at the level of the existential past experiences, of the pre-comprehension and of the cognitive classification, of the sentimental dynamics and of the anthropological and cultural factors that structurally define and influence the happening of the event itself. Therefore the Clinic anticipates and legitimates itself the opportunity of a crossed and inter-disciplinary reading of the educational fact in which phenomenological, existential, cognitive and psychosocial, anthropological-cultural elements merge, and in which the psychoanalysis acts both directly at the level of the analysis of the sentimental dynamics submitted, and at the level of the methodological structuring itself of the device.

In particular, as we are dealing with existential planning and as we are choosing to set us in that part of the pedagogy that focuses on that new category – still fully to be disambiguated at a social level – of the “young adult”, we think it can be useful to ask about the way, in which psychoanalysis has brought back to its own inside the processes regarding educational thinking and the elaboration conducted by psychoanalysis regarding the role of work in human life. The purpose will therefore be to go back and ask ourselves about the

contemporary context with a look that is enriched by the experienced elements, in order to finally show, in a through and through open way, a possible niche of the education device, in which the disclosure of the idea of education as a space of potential development for the existential design of the individual and the groups that there reside can be possible.

Il lavoro come momento di connessione tra mondo interno e mondo esterno attraverso la mediazione del principio di realtà (Pagliarani, 1975) is the title of the work we will refer to in order to clarify how psychosocioanalysis looks at work and shows Pagliarani signature. The key that represents the starting point, is Bion's *Learning from experience* (1962), text in which the psychoanalyst questions the problem of the development of thinking, asking himself about the causes of its origin and its obstacle in psychosis situations.

In his pondering about the process of the thinking genesis, Bion proposes three terms that point out the phases of the development of the thinking itself in the child's mind: pre-conception, conception and concept that we will briefly sum up, as they are useful for the argument we are proposing. The pre-conception indicates the expectation of something and produces a kind of empty thinking. The conception represents the second phase, where pre-conception and actualization gather together, which is the making contact between the expected and the real. From the emotional experience of satisfaction that arises from this encounter, we have the beginning of the conception. Eventually, the concept represents an idea defined by a name, a term, a *word* that can identify and define it.

From this sequence of steps Bion deduces that in the child's mind the thinking is not built as the result of satisfaction, but after the frustration of which the moment that precedes the actualization is burdened, because it is in that moment that the non-present, the expected non-existing take shape in the mind. The form of the desired would give origin to the first thought, lighting up in the mind the capability of thinking that will then develop during the course of life and that will reproduce itself always according to the same model, each time triggered by new emotional experiences; of course all this is possible provided that the quantity of frustration generated by the expected does not result unacceptable for the individual. The detachment between an acceptable and an unacceptable frustration reveals itself in the individual with the same difference that already exists between what leads to the creative and transformative act of the reality, which the subject identifies with, and, on the other hand, what leads to the escape in front of a task, gesture in which it is located all the pathological product rising from the pain caused by the feeling of frustration. It is in this situation that we set ourselves, starting to ask ourselves about the expressed potentialities of the pedagogic and educational result that establishes itself in the education space. A space that, as it has been observed over and over again (Massa, 1987; Mottana, 1993; Riva, 2004), is by its own constitution

simultaneously located in the here and now and, at the same time, built in the elsewhere. It is the peculiarity of the elsewhere that makes this place full of creative and transformative potentialities for the subject that inhabits it. A doorstep space, freely organized and reconstructed among the grips of the institutional commitments and the ability of who is governing it to exploit its power, permeated but undeniable, that forms it. A setting, a container, in which rules, rituals and real curiosity can find the right composition to accompany the forming through the strain dictated by the frustration in order to achieve the possibility of a new thinking and a new project; a place in which it becomes possible “to recapture the existence”(Bruzzone, 2012). In this context we can also think about the genesis of the thinking as it is proposed by Bion, that is something that fills the emptiness of the frustration and that, being born from the capability of tolerating it, in turn contributes to increase this capability, in a virtuous circle that tends to restore itself keeping itself alive.

In the gratification of the desire for that not yet present and in the creation of a new thinking Pagliarani finds in turn the link to provide a first psychoanalytic definition of what work is:

“Work, from a psychoanalytical point of view, is nothing but the possibility of fulfilling our desires accepting an extension between the moment of the birth of the desire, or of the need, and the moment of the fulfilment. That is, against the principle of pleasure the leads either to claim for a total and immediate fulfilment or, as this fulfilment does not exist, to the escape from frustration in different ways [...] in the name of the reality theory. (Pagliarani, 1982 pp. 214-215)”

A reality that, it is important to point out, in this phase shows up as twisted by the paranoia masks and by the projective identification (Klein, 1935), that drives the individual to escape from the task and from the effort that the idea of the newness – idea non only as rising thinking, but also as out-and-out conception, mating, birth. This mechanism finds its support in the name of the simple archaism, that refers primitively to the work as mere way of surviving, except for interrupting then that self-generating and really satisfying cycle for that individual who, the more he surrenders to the temptation of escaping, the more he gets mixed up in the psychosis press, until he loses– temporarily – the capability of thinking.

“This is work: the capability of accepting that reality dimension that is time – that is the expansion in view of a fulfilment – always acted in name of the principle of pleasure, but with manners that also consider the reality tenet. (Pagliarani, 1982 p. 215)”

Therefore work displays itself as an attempt to modify the frustrating reality, letting the reality principle become the centre of one’s own interest – typical of the individual or of the group – maintaining anyway a certain balance and a certain inclination for the gratification of that sane side that is located within the pleasure principle.

All this refers to the own individual situation that belongs to a working institution: if work gives substance to the double aim of modifying the frustrating reality and of avoiding the frustration that is not possible to bear, then, in the working institution, it happens that if the institution coherently fulfils the aims for which it was created, it is also able to modify the frustrating reality and it works transforming it, becoming itself agent and mean for the change and positive container of the anxieties of the individuals that inhabit it.

A second situation occurs if we go after what the socioanalysis by Jaques tells regarding work, according to which work would be *an exercise of discrimination within preset limits*. In this context the limits, the rules, the deliveries represent the prescriptive aspect of work: within this more or less defined space, each of us, as he works operates choices. That is, he takes decisions for which he feels responsible, of which he is liable, decisions whose positive or negative result is not immediately known, but some test time has to elapse that allows to state if the choice has been proven valid or wrong. And it is precisely in the act and in the exercise of the discretion that the anxiety content is situated. In the work, each time the “individual is going to do something, it is as if he is mentally planning something that has to come out of his hands” (Jaques; 1970).

Jaques comes back to the topics of the choice that, in turn, refers to responsibility and wait, a break space in which the anxieties, that attack the individual, arouse snake-like, letting him at the mercy of symbolic and tangible meanings that work and its plan drag, sinking him into a state of insecurity.

Jaques divides this state of development of the project in six stages that tend to repeat themselves in a cyclic way starting from the “relationship of the subject with the objective” and with the object that he intends to produce, in order then to move to what he calls the “appointment of the mental capability” and that Pagliarani translates in “appointment of psychic energy”, whose amount determines also the level of motivational investment that the person puts in the realization of the task. The third stage is that of the “organizational reticulum” and could be compared to the phase of the frustrating wait, in which the thinking takes shape in the mind of the individual and starts to organize the structure of the project on the base of a conceptual network that the subject is self-building. In the fourth stage there is the “concentration on the task” that involves the examination and the research of all elements that can facilitate its realization. From the <<lysis>> of the fourth stage we get on to the “summery” of the fifth, in which the earlier untied elements are put back together driving to the taking of the decision and to the decision for action, that leads to the creative action, that by itself shows to be an interpretative act of the process of lysis and summary, reason why Jaques calls this sixth stage: “interpretation”.

At this point it starts to become more clearly the reason for which work is considered a moment of connection between the internal world and the external world; the capability of experiencing the symbolic meanings of what the individual is doing on multiple levels and the capability of managing different stages of the planning, depend – according to Pagliarani – exactly upon how the individual experiences work, its meanings and the relationships that, thanks to it, are established with others.

But for Jaques work takes also a third meaning, that somehow makes the so far outlined scene more difficult, adding further elements and, at the same time, clarifying others:

“At the level of the meaning of transferable - that is belonging to the emotional meanings for us who work – work would expose us, more or less unconsciously, to a double experience. From one side, as we give birth to a creature that is our piece of work, we shape ourselves on the mother that gave us birth: that is, we – men and women, no matter - as we give birth to pieces of work, we relive a maternal experience, of the <<mater>> who gives birth to something; thus with all hopes that this product becomes a good son, and with all the fears that this son turns out to be phocomelic, crippled, handicapped, misfit, etcetera.

From the other side, according to Jaques, an even more deep experience is the fact that, in the working activity, the work is liable to be experienced also as an exhumation of our relationship as children with the mother's body. Therefore, from the point of view of the deep meanings, according on how we proceed with work (meant in this case as renovated experience in the relationship with the maternal body), it can take on the meaning either of creating, fixing, integrating, enriching the mother's body, or, on the contrary, of a destructive attack experience, of deterioration, of disablement and of death of the mother's body.”(Jaques, 1970)

The deep meanings and the lived past that the working experience calls back and collects in the person's unconscious become deeply rooted in the relationship with the mother's body, always dual and squashed in its symbolic meanings of double experience of creation and fix of a maternal body that generates, in the infant, the experience of the primary envy. Envy that in the past of the adult individual connotes with the expression of <<work related injury>>, so meaning both what occurs in the relationship between individual and the object work, and what happens in the relationship with the external world (reality in which the subject lives, but also relationship between the subject and the individuals that surround him at work) or, more commonly, the failure of the creation experience that aborts the role of the subject in the work-system in which he is integrated. All the good is contained in the mother's body that the son is trying to imitate and recreate at the time when he prepares himself to give birth to a creature that “belongs to him”, but the mother keeps this goodness for herself and this generates anger in him, that gives voice to the resenting feeling

and “blocks” its germinating capability and with it – going back to Bion – the thinking capability that, as it includes the hallucinatory function of an object that does not yet exist, already takes on the statute of a first work form that modifies the perceived reality. If all the psychic energies are fossilized on the original way of feeling, that is primary envy, the individual loses the capability of staying mentally set in the present reality, thing that makes him actually an aberration of the work system within the organization; an aberration that can also become collusive towards the sick organization.

A process, with tones significantly referring to Klein, that once again refers to the split and the capability more or less carried out of internalization of the internal object from the individual side. Also the envy, as all psychic processes, is always present in the individual experience, what changes is the degree according to which it reveals itself and, according to Pagliarani, the fact that it is more or less endurable by the person, depends once again upon the meanings that the work the individual is carrying on, acquires in his inside world, that is in relation with the external world with which he is in touch:

“This is the reason why work is the moment, in which, in the name of the exercise of the reality principle, it occurs a soldering or an attempt of soldering and of integration – not of confusional fusion – between internal world and external world.”(Pagliarani, 1982)

The principle of reality shows to be then, once again and more and more, an essential glue to keep the individual close to the present, actual and experienced reality, preventing the slipping into more archaic and primitive areas of the psyche, in a way guaranteeing the real possibility of the fulfilment experience for the individual through its own work and with that the possibility of keeping the working institution, in which he is integrated, alive – a true life, stimulating and creative.

It is for this reason that, in the attempt of crossing again the present, it is not possible to think of a education space without wondering which meanings feed it and appoint it and how in its deontological integrity (Contini, Demozi, Fabbri, Tolomelli; 2014) it can live through the schizophrenic changes of a society in a continuous transformation and more and more unable to offer itself as a device able to receive the individual and to offer him spaces in which gaining a sense for his identity.

Identity that macerates itself and looks like splitting apart, as soaked paper, the very moment in which a strong decrease of the working offer related to the expressed request is spotted. The consequence of this reject is clearly explained by Pagliarani when, reflecting about the passage from the adolescence to the adult age, he highlights the feeling of deep frustration that the boy feels as soon as he leaves school when realizing that outside there is no longer a place for him. A frustration that leads him to literally ask himself, “why have I been

born?”¹⁰ A condition of “having been thrown into the world”, from which the falling of the contemporary institutions and of the retaining devices looks like not leaving any way of escape.

The range of this condition is also quite easy to be grasped with Bordoni (2010), when he states:

“Work represents the man’s dignity, that otherwise would have no sense in life. He would pass his time with useless actions, seeking for pleasures and satisfactions free from social meaning [...] the present working crisis has deprived the man from his identity, without offering him an alternative. It is the end of the industrialized society that requires new shapes of identity (and new compensations) on the base of an individual recognition, devoid at present of any social explanation. [...] it is the end of the ethic of work so as it had been set in origin” (Bordoni, 2010 p.4)

And if the market crisis is for sure not the only element characterizing the contemporary society, the reflection it has on the organizations and on the individuals, fills for sure a bulky space, space that invades – by now not even too shiftily, but with arrogance and energy more and more evident – the places dedicated to the planning, the desire, the transformation and the dream. Places that pedagogy inhabits and whose challenges, made of imprecise and mutant shapes – with the double meaning of shimmering, but also horrific – has to find today a way to reply by entering it, taking again the challenge in order to renovate itself and show itself in a social contest that has lost the feeble notes of hope with which it is often dressed. Today also pedagogy finds itself, same as all the sciences that are dedicated to the development of the individual, forced to face the challenge of the “liquid fear” (Bauman, 2006), so different in terms of quality from the fears and the ghosts that have crossed men’s lives since ever, and to do so, it is mandatory its proceeding on contaminated roads (Riva, 2004; Bainbridge, West, 2012). If it’s true that doing research means “getting one’s hands dirty”, it really appears impossible to penetrate the territory of the complexity, without becoming complex in turns, without becoming “liquid” in turns, able to flow on the lands of alike knowledges, carrying with us those small grains of knowledge that will help us to recreate our lands of sense. The “liquid fear” that permeates our age, presents itself to us as different in

¹⁰ In *Educazione sentimentale* (2001) Pagliarani writes: “There is nothing that makes us suffer more than feeling left out, because it is like feeling non-existing. This is about managing the situation in such a way as to obtain that attention we are entitled to. This is also a social problem together with the problem of unemployment that is more and more widespread. The status of unemployed involves due kinds of suffering. The missing salary is the first, but the other, the exclusion, is even stronger. Our children experience a quite more gratifying and enjoyable life compared to those of my generation. On my birthday I was given as a present a mandarin or, I remember, a tin rifle that quite soon broke. While now, the rifles that are given to children as presents, are more expensive, they are very similar to real rifles. If you think about it, birthday parties are luxury country festivals, where all companions that attend bring a present. Than the moment arrives when we have grown up, maybe after university, and the world states <<there is no job for you>>. In other terms, <<I let you enjoy so far, but now I tell you that if you would not have been born, it would have almost been better >>. This is mortifying. I think that many problems that today teenagers show are due to the fact that they feel they are a burden their family and society would rather not have to bear.” p. 32-33

constitution and infinitely more dangerous and disturbing, because untied from the existence of “tangible” dangers – although they persist, in their constant and monstrous repetition – but innate and permeated in the own existence of the individual, inhabitant of times and spaces deprived of position, global spaces and deprived of limits that force the man to the fulfilment – or its attempt – of the impossible operation:

“At the end of the journey we have lost the *illusions*, but not the *fears*. [...] *the most horrible among the occurring fears is those of not being able neither to avoid nor to escape from it.* [...] We fear what we do not know. We call <<incomprehension>> that inability: <<understand>> something is in fact the knowledge of doing that allows facing that same thing. [...] *Comprehension arises from the ability of managing.* What we are not able to manage is for us <<unknown>>; and the <<unknown>> is scaring. *Fear is a different name we give to our being without shelters.* [...] it happened, in recent years, a discontinuity that has made visible the dreadful strength of what we can/must define as the sphere of the unknown, of the unintelligible, of the unmanageable. So far, this decisive news has been indicated with the term <<globalization>>,, (Bauman, 2006 p.119)

Observing this attempt of evolution, these signs of afterthought, dropped in a context that looks like when the ground falls out from underneath the feet of who resides there, at such a speed that almost does not even leave them the time to perceive the gradual weight change that comes from this emptying, requires a great effort. We are witnessing today a progressive and programmed crumbling away of each element that was, in some ways, making the structure of the global society on average reassuring, a condition in which the “alterity” becomes threatening. A condition that concerns each individual as part of a social matrix that, at a transpersonal level, shapes and includes everybody (Brown, Zinkin; 1994), including observing suitors. Pondering over Bion, over the genesis of thinking, over the role of work in man’s life, we can’t avoid of asking ourselves, what about thinking?

They come back, more alive and biting than ever, the questions that the pedagogical debate was feeding in the 80’, maybe because never really resolved, but only tired out and finally soothed by the inevitable attempt of chasing the needs of yore that in the meantime has also almost lost its rhythmic and vertical scan, broaden and strained in such a dimension, that has all of a sudden become horizontal and simultaneous. An asthmatic dimension that doesn’t give any time to education and training, meant as space for education and growth – sometimes even for care – of the human being and of the groups that live through it. They prove to be still useful then, after thirty years, but as present as ever, are the words of Massa who in those years was writing:

“Education is therefore in the contemporary culture something not said and hidden, that can no longer be conceived and planned, expressed and plotted, but, for this reason, not less real and factual. Something that in its same unconscious and unintentional actuality is not easy to legitimate, and that, for what concerns its design, has to be censured; something that cannot be mentioned and about which it is better not to talk, if not indirectly, although in the end it represents the very one foundation of the historical accuracy. (Massa, 1987 p.14)”

It looks like today there exist, locked and implicitly recognized in the already known perspective of life-long-learning, on average scattered figures of black pedagogy, that daily and, in an almost candid way, invade our homes through the most common information channels. Scenes of terrorism, violence and misery that set themselves in an underhand manner, easily overstepping the limit of the Skin-Ego (Anzieu, 1974) to cling to a flexibility that looks like losing more and more its fundamental feature of resilience, to gradually turn into fragility. How can therefore this fully contemporary new category of the “young adult” succeed in proceeding through all this without losing that dimension, that is so essential for its own existential planning that is the dream?

The thinking that resides behind the research in this area of poetic but steep shades, arises from the evocation of a border idea, an edge idea that, in its thin and uncertain condition, allows those who try to balance there, to give a look outside, to the society, and a look inside, to the scholastic and educational institution (UlivieriStiozzi, 2013b), with the advice of staying steadily clung to one’s own frame, hoping for it to be solid enough not to run the risk to be swallowed up in the becoming of the final catastrophe:

“It will be never enough reaffirmed that the “final catastrophe” that threatens, is produced by the intrinsic logic of modern life. The perspective of a disaster is especially difficult to avoid, because the pathological (better said suicidal) potential of modern civilization is due to the same qualities from which it draws importance and prestige, that is its inability of setting limits, its innate inclination to break the law and its rejection and non-observance of any kind of boundary and limit, and from the same idea that there exist ultimate and final limits. [...] The modern civilization hasn’t got neither the time nor the interior pressure to ponder on the darkness at the other side of the tunnel.(Bauman, 2006 pp.95-96)”

Referring to these words of Bauman, we call back the necessity of the attempt of tracing a margin, a suspended line from which – lost any presumption of neutrality with regard to such a situation that, as sons of this modern age, associates and involves us all – it should be at least possible to recover, almost pulling it by the feet, that thrust to a reflection and a thinking that, once again, with a more and more increasing heat, refers to the necessity of the individual to exercise the negative capacity and to live the frustration of the mandatory wait in the state of uncertainty.

The concept of doorstep, in our case, takes on also a third meaning, linked to the legitimacy of exercising a pedagogic-clinical glimpse, designed to the discovering of the hidden dimension and of the common inspirations, that allows to think to the educational device as a place in which it should be possible to take all the necessary time (Riva, 2004; Bauman, 2012; UlivieriStiozzi 2013b), in order to elaborate that state of pervading frustration and retrieve the possibility of dreaming the own existential planning.

In the painted scenario, we believe, pedagogy and education have the same tangible, terribly tangible, opportunity to do something. Terrible, because rejecting the prescriptive dimension, it requests, to those who operate, the wager linked to the putting into play and to the firsthand exposition of who becomes guardian of the educational device and of those submerged parts that, at the beginning of this work we have intentionally left aside. Such a posture involves the ability of actively becoming involved in the experience with one's own relational and communicative ability, and that is more and more characterized as fundamental for the care of that huge space full of possibilities, but equally undervalued and often even twisted, that is the sphere of education.

Awful because in some ways, it is loaded with the responsibility of the care, in an environment, in which still today often actions of the singles simply stay as they are, at the mercy of the common sense and of the self-righteousness. If it is decided to go beyond the intentional and planned educational action, as the profession of the educationalist fails to have a codified and common code of conduct (Contini et al, 2014), the only remaining way to penetrate this space with awareness and respect seems to be that of a meditative and reflective space, in which it is possible to adopt a kind of deep feeling towards themselves and the others. A way of listening that brings into play the wide appeal that words and the body gestures of the other causes us, showing up as a relational listening that allows the subject to directly face the fact, that it is not possible to understand "the other" if not starting from ourselves. Therefore a path that instinctively presents itself opposite to that merely transmissive.

This implies that the one who is guarding it, has to take charge of creating a container within the container, a "group-skin" in which the thoughts of the inhabitant could find that necessary support essential to overcome the frustration state driven by the external reality, and that allows the rethink of the educational experience to make her "of matter" and truly fordable again (Bion, 1961; UlivieriStiozzi, 2013a). For us this is presented as the only viable way so that work can develop and germinate within an educational space, a space in which each individual, since it is its inhabitant, has to take care of it. An emphatic place whose study, we feel like saying, is just at the beginning.

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НЕПРЕРЫВНОЕ ОБРАЗОВАНИЕ СОТРУДНИКОВ ДОМОВ ДЛЯ ЛЮДЕЙ С ОГРАНИЧЕННЫМИ ВОЗМОЖНОСТЯМИ В ОБЛАСТИ ДРАМАТЕРАПИИ

Lifelong Learning in Methods of Dramatherapy for Staff Working with People with Disabilities

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Abstract. *Topic of this article is about lifelong learning for staff who works within the homes of people with intellectual disorder in using methods of drama therapy. The project particularly emphasizes on the education using these methods within institutions, where clients live and workers are employed. The advantage of this approach is that workers know them well, so they can promote clients' participation and observe their progress during the process.*

Keywords: *Drama therapy; Homes for People with Learning Disabilities; Lifelong Learning, Social services.*

Введение *Introduction*

Методы драматерапии являются современной тенденцией в сфере ухода за людьми с ограниченными возможностями. Целью проекта «Непрерывное образование сотрудников домов для людей с ограниченными возможностями в области драматерапии» была демонстрация того, как можно использовать практические приемы драматерапии в конкретных учреждениях социального обеспечения по отношению к клиентам, проживающим в данных учреждениях. Таким образом, данная форма образования позволяет продемонстрировать, как драматерапия функционирует на практике. Внедрение данного проекта является со стороны авторов реакцией на предвзятое мнение некоторых сотрудников, хоть и знакомых с методами драматерапии, но считающих, что данные методы нельзя применять по отношению к клиентам. Целью проекта было просвещение в области драматерапии, а также мотивация к дальнейшему образованию персонала. Данная статья кратко знакомит читателя с проблематикой непрерывного образования сотрудников домов для людей с ограниченными возможностями. Основная часть статьи представляет собой описание самого проекта, его реализации и исследования, а также описывает впечатления и непосредственные

ощущения самих сотрудников. Реализация проекта стала возможной благодаря финансовой и методической помощи проекта IGA 2014 (IGA_PdF_2014005)

Непрерывное образование в области драматерапии *Lifelong learning within the methods of drama therapy*

В домах для людей с ограниченными возможностями предоставляются условия для проживания лицам, которые в связи с проблемами со здоровьем лишены самостоятельности и нуждаются в регулярной помощи со стороны другого лица. Данные учреждения предоставляют клиентам подходящие условия с учетом индивидуальных требований клиентов и их социального положения. Они также ставят перед собой цель поддерживать качество жизни клиентов и оказывать им психологическую помощь, направленную на усиление чувства самодостаточности, благодаря чему клиент меньше зависит от посторонней помощи и чаще проявляет собственную волю (Krejčířová & Treznerová, 2011). Проект, которому посвящена данная статья, также ставит перед собой вышеуказанные цели. Драматерапия предоставляет возможность узнать клиентов с новой точки зрения, поменяться с ними ролями или, исполняя роли, быть с клиентами на равных. Подобный опыт работы в группе ведет к развитию взаимоотношений между сотрудниками и клиентами и улучшает их взаимопонимание. Драматерапия главным образом заключается в экспрессии и невербальной коммуникации, которая часто оказывается более доступной для людей с ментальными проблемами.

Согласно словам М. Валенты клиенты с ментальными отклонениями являются самой широкой группой, по отношению к которой применяются приемы драматерапии. Таким образом, одной из основных целей данной терапии является повышение интерперсонального интеллекта, социального взаимодействия, укрепление самоуверенности и самоуважения и расширения репертуара жизненных ролей (Valenta, 2007). Данные навыки помогут клиентам выйти на рынок труда и стать активными членами социума. Следовательно, драматерапия является одним из видов деятельности, сопутствующих гуманизации служб социальной опеки.

Одним из возможных путей просвещения в области драматерапии является непрерывное образование. Непрерывное образование можно описать как «совокупность всех видов деятельности, ведущих к получению, расширению, обновлению и совершенствованию знаний и навыков, повышению квалификации, освоению новейших знаний в течении всей жизни независимо от места, способа и процесса реализуемой деятельности» (Klenková & Vítková, 2011, с. 36). Непрерывное образование можно понимать как концепцию образования, которая ставит перед собой общегражданские и индивидуальные цели. Общегражданские цели

ориентированы на целостное развитие человеческих ресурсов, в то время как индивидуальные цели направлены на развитие личности, решение задач и удовлетворение потребностей индивидуума на социальном и экономическом уровне (Kol. autorů, 2000). Непрерывное образование должно дать каждому человеку возможность развития собственных талантов и реализации своего творческого потенциала с акцентом на достижение личных целей и ответственность за собственную жизнь (Bartoňková, 2013). Неотделимой частью непрерывного образования является дальнейшее профессиональное образование, которое имеет большое значение после окончания специального образования и подготовки к работе в образовательной системе – речь идет обо всех возможных формах профессионального и специального образования в период активной рабочей деятельности. Дальнейшее профессиональное образование ставит перед собой цель развивать навыки и знания, необходимые для определенной профессии. Данное образование напрямую связано с трудоустройством индивидуума и в соответствии с квалификацией определяет объективные требования к качеству исполнения обязанностей, входящих в рамки той или иной профессии (Palán & Langer, 2008).

Образование людей зрелого возраста в глазах общественности является важной ценностью, помогающей человеку найти свое место в социуме и в профессиональной сфере. Данное образование может осуществляться как в образовательных учреждениях, так и в рамках бесприбыльных организаций, гражданских объединений, благотворительных организаций, предпринимательских самоуправлений и частных компаний (Veteška, 2011). Образование в области драматерапии, осуществляемое непосредственно в учреждении, позволяет сотрудникам более рационально распоряжаться собственным временем, не тратить его на дорогу. Другое преимущество заключается в том, что курсы проходят в естественной среде с клиентами, которых сотрудники хорошо знают благодаря ежедневному общению.

О проекте *About the project*

Проект координировала сотрудник программы TERA Ленка Цереова и членами команды проекта выбрала студентов специальной педагогики Университета Палацкого в Оломоуце Ивану Лиштиакову, Ленку Шиларову и Яну Шиларову. В дома для людей с ограниченными возможностями по электронной почте было отправлено предложение показательной лекции на тему драматерапии. Более подробное предложение было отправлено заинтересованным учреждениям (было их восемнадцать), далее было установлено время проведения лекции. В

каждое учреждение было отправлено как минимум два члена команды, а также выбранные студенты психологии и специальной педагогики, заинтересованные в полезной практике.

Главной целью данной встречи было ознакомление сотрудников (и клиентов) с драматерапией, с ее возможностями и характеристиками в естественной среде (прямо в учреждении) с клиентами, которых сотрудники хорошо знают. Другой целью было обеспечить сотрудникам и клиентам совместный опыт, дающий возможность достигнуть большей сплоченности в группе и узнать отдельных членов группы с новой стороны. Было поставлено условие, что на каждой встрече будут присутствовать четыре наших сотрудника, которые будут принимать активное участие в сессии. Показательные драматерапевтические лекции, проведенные в разных учреждениях, имели одинаковую тему и подобную структуру.

Ход лекции

The process of the intervention and research

В начале сеанса терапевты выделили тридцать минут на ознакомительную беседу и на то, чтобы найти первичный контакт с клиентами, которые будут принимать участие в интервенции, и получить необходимую информацию о них. После краткой беседы сотрудники заполнили анкету, в которой ответили на вопросы, связанные с возможностями использования экспрессивных видов терапии, главным образом драматерапии.

Вторую часть программы авторы посвятили непосредственно драматерапевтической интервенции, согласно договоренности сессия должна была длиться полтора часа, однако в некоторых случаях интервенцию пришлось продлить в зависимости от конкретной обстановки в данной группе. Каждую лекцию вели два терапевта, в качестве помощников выступали студенты психологии и специальной педагогики, участниками было около десяти-двенадцати клиентов и трех-пяти сотрудников (количество служащих и клиентов в каждой конкретной группе немного отличалось). Лекция была подготовлена заранее, содержание лекций, проведенных в различных учреждениях, было одинаковым, но в зависимости от возможностей и потребностей каждой конкретной группы вводились некоторые поправки, часто приходилось импровизировать. Для авторов было важным присутствие персонала, который принимал активное участие в программе и мог вмешаться в случае непредвиденного поведения клиента. Сотрудники имели возможность пережить совместный опыт с терапевтами и с группой и непосредственно в течение сессии наблюдать поведение и реакции конкретных членов группы.

Последние полчаса были посвящены фокусной группе с сотрудниками, это была теоретическая часть сессии. С помощью диктофонов были записаны мнения сотрудников об эффективности драматерапии и пользе, которую она может принести клиентам. Авторы спрашивали, знают ли сотрудники что-нибудь о драматерапии и имеют ли какой-нибудь опыт в данной сфере. Далее вместе попытались определить впечатление, полученное ими во время интервенции и выяснить, извлекли ли они из сеанса какой-либо положительный опыт, получили ли новые знания, научились ли чему-нибудь. Обсуждались дальнейшие возможности использования драматерапии в данном учреждении. Авторы также говорили о трудностях и недостатках программы, сотрудники высказывали собственные потребности и делились идеями с точки зрения реализации драматерапевтических методов в их учреждениях. В заключение обсуждались возможности дальнейшего сотрудничества.

Описание исследовательского коллектива *Research sample*

Исследовательским коллективом стали сотрудники восемнадцати учреждений, проявившие интерес в сотрудничестве. В исследовании приняли участие 78 опрошенных, которые являются сотрудниками домов для людей с ограниченными возможностями, среди них было 74 женщины и четыре мужчины. Большинство присутствовавших сотрудников имело законченное среднее образование. Большинство имело образование в области педагогики (учитель, воспитатель), специальной педагогики или медицинское образование и работало в сфере социальных услуг.

Ход исследования *Research survey*

Прежде всего, были сформулированы исследовательские предпосылки: авторы предполагали, что служащие в своих учреждениях еще не работали с методами драматерапии, а встречались лишь с теорией или тренингами в данной области. Также предполагалось, что сотрудники увидят в методах драматерапии потенциал к личностному росту клиента, его поиску собственного места в социуме и улучшению субъективной стороны качества жизни клиента.

Перед началом каждой драматерапевтической интервенции каждого из 78 сотрудников попросили заполнить анкету, из которой впоследствии была получена информация о том, где и в какой форме ему было предложено образование в данной области, и сталкивался ли он где-нибудь прежде с драматерапией. Оказалось, что просвещение в области драматерапии имеет свое обоснование, так как 38 опрошенных никогда не имели дело с драматерапией, 31 опрошенный уже где-либо с

драматерапией сталкивался, а оставшиеся 9 не были уверены. Однако опыт 36 опрошенных, сталкивавшихся прежде с драматерапией, ограничивался чтением специальной литературы или сведениями, полученными от кого-либо понаслышке. 24 сотрудника в прошлом принимали участие в каком-либо драматерапевтическом тренинге. Авторы предполагали, что полное представление о том, как проходит драматерапия с пациентами, страдающими от ментальных недостатков, имеет лишь тот, кто пережил непосредственный опыт драматерапевтических лекций с такими пациентами. Данному условию соответствовали лишь три из 78 опрошенных респондентов.

Как было сказано выше, показательная лекция была закончена фокусной группой с сотрудниками. В данной части сеанса авторы сосредоточились на следующих вопросах: Какие впечатления оставила сотрудникам лекция о драматерапии? Знали ли сотрудники о представленных видах деятельности, и приходилось ли им применять данные виды деятельности в работе с клиентами? Что нового узнали сотрудники из данной лекции и какую пользу может принести драматерапия клиентам? Как на драматерапию реагировали сами клиенты? Во время лекции у сотрудников также возникло множество вопросов и идей, поэтому терапевты выделили достаточное количество времени, чтобы дать им возможность высказать свое мнение, свои предложения и замечания.

Фокусные группы были записаны на диктофон, далее переведены в письменную форму и методологически переработаны с помощью метода кодировки. На основании смысловой подобности конкретных кодов было создано несколько тематических категорий: *Специфическая польза, которую драматерапия принесла группе; Неспецифическая польза, которую драматерапия принесла группе; Польза драматерапии для индивидуума; Странное поведение клиентов; Структура лекции, содержание программы, использованные техники и методы; Непосредственные впечатления сотрудников от лекции; Потребности и мотивации сотрудников, касающиеся образования в сфере драматерапии.*

В данной статье более подробно излагаются последние категории *Структура лекции, содержание программы, использованные техники и методы; Непосредственные впечатления сотрудников от лекции; Потребности и мотивации сотрудников, касающиеся образования в сфере драматерапии.*

Чтобы было удобнее ориентироваться в данных категориях, для начала приведены конкретные коды, которые неоднократно появлялись в этих категориях.

Структура лекции, содержание программы, использованные техники и методы: первая встреча с драматерапией; драматерапия непосредственно с клиентами; естественная игра; знакомство с

импровизацией; работа с реквизитами; полная тематическая история; окончание курсов; знакомство с ситуативной игрой; занимаемся театром; путь через эмоции и опыт; были на театротерапевтической конференции; ориентация в программе (понимание ситуации); смена стереотипа; интересно выбранная тема; эффект фольги; хорошо подготовлено; вклад новых лиц; мотивация наградой; непонимание, не подошла тема; работали с белой материей.

Непосредственные впечатления сотрудников от лекции: отдых; приятное расслабление; эмоции, улучшение настроения; хороший; сбылась мечта поехать на море; радость, когда что-то получается; любопытство; ощущение счастья; приятно; останутся воспоминания; увлечение и восторг.

Потребности и мотивации сотрудников, касающиеся образования в сфере драматерапии: необходимость расшевелить клиентов; необходимость заменять; необходимость идеи, что делать дальше; необходимость наглядных примеров; вовлечение в процесс; необходимость методики, руководства; интерес к продолжению; хочу делать, но не знаю, как; необходимость регулярности; необходимость работы с постоянной группой; длительный процесс драматерапии в учреждении проходить не может; необходимость драматерапии прямо с клиентами/ на практике; необходимость достаточного количества персонала; необходимость небольшого учреждения/ трансформации.

Сотрудники, описывая собственные впечатления, говорили об эмоциях, которые в них пробудила интервенция, говорили о пережитом опыте, восторге, улучшении настроения и приятном расслаблении, подчеркивали, что все они извлекают из пережитого опыта общие впечатления и воспоминания: «Уходя, они были в восторге, и они точно будут рассказывать об этом на своем отделении. Другие это услышат и тоже захотят пережить подобное». Большинство из них работало с драматерапией впервые, но они заметили определенное сходство с драматическим искусством, театром, работой с реквизитами, ситуативными играми и импровизацией. Многие сотрудники уже использовали данные элементы в рамках активизационных программ, однако их удивила полнота темы целой интервенции, то, что клиенты имели достаточно времени, чтобы вжиться в тему и прочувствовать интервенцию.

Сотрудники говорили о новой форме коммуникации и пути сближения участников сеанса: «Драматерапия научила меня практике с людьми, страдающими от ментальной ретардации, теперь я могу выражать свои мысли жестами, указывать им... Недостаточно сказать что-либо словами, клиент не понимает, о чем идет речь... Здесь нам это наглядно продемонстрировали прямо в общении с клиентами... Это не связано с разумом». Они также говорили о необходимости включить в группу и тех

клиентов, у которых есть проблемы с общением: «Если бы участвовали и клиенты, имеющие серьезные проблемы с коммуникацией, они бы точно приобрели полезный опыт». В процессе ролевых игр, когда все участники равны, стираются социальные границы между сотрудниками и клиентами: «Я не чувствовал, что это наши клиенты, все мы были равны...мы были не клиенты и сотрудники, а просто туристы». Сотрудники и терапевты активно участвовали в программе и мотивировали к активному участию и самих клиентов. Большинство сотрудников говорило о необходимости продолжения. Большинство из них чувствовало важность длительного процесса и терапевтическую глубину, которую мог бы принести более длительный процесс. Однако согласно мнению некоторых, очевидный эффект объясняется тем, что драматерапия внесла разнообразие в рутину учреждения, но при регулярном повторении клиенты потеряют интерес. Говорили и о потребности в дальнейшем образовании: «Мы не знаем, как с этим работать... Мы знаем теорию, но не практику... Нам необходима какая-нибудь методика». Сотрудников мало, и они не обладают достаточным количеством времени. Говорили и о потребности трансформации социального учреждения, работы с небольшой и постоянной группой. В то же время звучали комментарии, что члены команды как внештатные работники обладают тем преимуществом, что не так сильно привлекают внимание клиентов. Одна из сотрудниц высказала мнение, что клиенты никогда не поймут принцип «как»: «Они только повторяли то, что сказали другие. Я не верю, что они вели машину». Однако мнения других сотрудников были противоположными: «Они быстро вжились в роли: мы у моря, плаваем. Это меня удивило... Клиенты участвовали, вошли в игру... Как только она вошла в игру, в ней проснулся интерес».

Результаты исследования *Results of the research*

В данной главе охарактеризованы исследовательские предположения авторов.

1. *Сотрудники никогда не сталкивались в своих учреждениях с методами драматерапии, но имели дело лишь с теорией или тренингами в данной области.* Выяснилось, что образование в сфере драматерапии прямо в учреждении, где работают сотрудники, является для них новым опытом. Эту новую для них форму образования они считают полезной и оценивают ее очень положительно. Таким образом, предположение подтвердилось.
2. *Сотрудники увидят в методах драматерапии потенциал к личностному росту клиента, его поиску собственного места в социуме и улучшению субъективной стороны качества жизни.*

Сотрудники оценили процесс интервенции очень положительно, они видели в ней возможность развития навыков коммуникации, возможность совместного опыта и достижения большей сплоченности группы. Они считали важным переход на принцип «как» и игру, и отмечали то, что данные виды деятельности вносят разнообразие в рутину клиентов. Сотрудники считали, что с помощью игры они могут установить более тесный контакт с клиентами и узнать их с новой стороны. Они также высказывали мнение, что длительная интервенция может помочь клиентам перенести полученный опыт в реальную жизнь. Однако к вопросу продолжения драматерапевтического проекта сотрудники отнеслись скептически. Видели серьезные недостатки в нехватке персонала, недостатке свободного времени, а также отмечали необходимость трансформации социальных учреждений и работы в небольших и постоянных группах.

Заключение *Summary*

Исследование показало, что работники ранее не встречались с методами драматерапии в своей организации, и на основе показательной лекции видят потенциал личностного роста клиента, его социальной интеграции и улучшения субъективных аспектов качества жизни клиента с помощью методов драматерапии. В начале статьи было сказано, что основным фактором эффективности работы с взрослыми и детьми в консультационной, терапевтической или иной сфере медицинской помощи являются отношения между сотрудником и клиентом. Согласно мнению И. Ялома, главными компонентами данных отношений являются эмпатия, конгруэнтность и безусловное позитивное принятие (Yalom, 2005). Драматерапия благодаря особой форме коммуникации, главным образом невербальной коммуникации и экспрессии, может служить в качестве моста между сотрудниками и клиентами. Благодаря совместному опыту и игре драматерапия позволяет временно разрушить установленную систему социальных ролей и позволить сотрудникам увидеть клиентов с новой точки зрения, в новых ситуациях. В течение одноразовой показательной лекции участники были лишь кратко ознакомлены с данной проблематикой и, возможно, были мотивированы к дальнейшей работе и самообразованию в данной сфере. Авторы предполагают, что личный опыт в области драматерапии непосредственно в учреждении является эффективной формой обучения. Сотрудники имеют возможность использовать драматерапевтические методы прямо с клиентами, которых они хорошо знают благодаря ежедневному общению. В заключение важно

добавить, что мнения, высказанные сотрудниками, авторы сочли очень полезными и конструктивными.

Summary

Through the research survey, it was found out that workers did not have a previous experience with the methods of drama therapy in their institution. After the model lesson, the workers observe a potential for personal growth of clients, social inclusion and improvement of the subjective aspects of quality of life of the clients in the methods of drama therapy. In the beginning of the article, it was stated that the main factor in the effectivity of work with adults and children in counselling, therapy or other helping professions, is the relationship between worker and client. The main aspects of this relationship are empathy, congruence and unconditional positive acceptance (Yalom, 2005). Drama therapy, thanks its specific form of communication, mainly non-verbal communication and using expression, may contribute to the creation of „bridges” between workers and clients. The common experience and play in role realised during drama therapy gives a permission to destroy the created system of social roles for a moment and allows workers to see clients from a different perspective, in other situations. During a one-time model lesson, participants were offered only an insight into the issues of drama therapy. It brought awareness and the opportunity to next motivation for training and self-education of workers in this field. The authors suggest that personal experience in the area of drama therapy in a direct practice in the institution is an effective form of education, especially as a specific form of training. Workers have the opportunity to experience the methods of drama therapy directly with clients who they know very well from day-to-day meetings. Finally, it is important mention that the opinions and knowledge expressed by workers, the authors saw as a very useful and constructive knowledge.

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МОНИТОРИНГ РАЗВИТИЯ ПРОФЕССИОНАЛЬНО ВАЖНЫХ КАЧЕСТВ СТУДЕНТОВ В ВУЗЕ

Monitoring of Students' Professional Merits at the University

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Abstract. *Constant system of monitoring of students' professional merits is an effective instrument of quality evaluation in higher education. Different approaches to understanding of professional merits are considered in the article. The main professional merits are defined for professionals in the field of international relations. Results of monitoring of students' professional merits are described from first to fifth courses of international relations department. The second research is aimed to the professional merits of future teachers-students. The research demonstrates that the educational environment of university and especially designed and approved program of development of professional merits are important for formation of students' professional competence.*

Keywords: *monitoring, professional merits, students.*

Введение *Introduction*

Наличие в вузе постоянно действующей системы мониторинга развития профессионально важных качеств (далее – ПВК) студентов, являясь эффективным инструментом оценки качества образования, представляет ценность для всех участников образовательного процесса: преподавателей, студентов, администрации вуза, органов управления образованием и работодателей.

В задачи исследования входило:

1. Исследовать ПВК опытных и успешных руководителей и специалистов и сформировать образ результата подготовки выпускников вуза.
2. Провести мониторинг ПВК студентов первых и выпускных курсов факультета международных отношений и студентов – будущих педагогов.

3. Проанализировать эффективность программы развития ПВК студентов педагогических специальностей, направленной на совершенствование их эмоционально-ценностных отношений.

Существует множество подходов к пониманию профессионально важных качеств. К профессионально важным качествам относят достаточно широкий спектр качеств – от природных задатков до профессиональных знаний, получаемых в процессе профессионального обучения и самоподготовки. К ПВК относят также особенности личности (мотивацию, направленность, смысловую сферу, характер), психофизиологические особенности (темперамент, особенности высшей нервной деятельности), особенности психических процессов (память, внимание, мышление, воображение), а в отношении определенных видов деятельности – даже анатомо-морфологические характеристики человека (Шелепова, 2007).

Сущность понятия ПВК рассматривалась в работах А.С.Баласаняна и В.Н.Софьиной (Баласанян, Софьина, 2010), В.А.Бодрова (Бодров, 1991), В.Г.Зазыкина и Е.А.Смирнова (Зазыкин, Смирнов, 2013), Е.А.Климова (Климов, 1996), М.В.Клищевской и Г.Н.Солнцевой (Клищевская, Солнцева, 1999), С.В.Кошелевой (Кошелева, 2010), Н.В.Кузьминой и В.Н.Софьиной (Кузьмина, Софьина, 2012), К.К.Платонова (Платонов, 1970) и других.

Обобщая исследования вышеуказанных авторов, можно сказать, что ПВК представляют собой интегральные психофизиологические и психологические образования, которые в процессе конкретной профессиональной деятельности формируются в специальные (профессиональные) способности и компетенции.

При анализе видов профессионально важных качеств мы основывались на методике выделения ПВК Клищевской М.В. и Солнцевой Г.Н., которая включает два этапа:

1. Выделение и проверку таких индивидуально личностных особенностей, которые связаны с эффективностью деятельности (анализ профессиограммы, опрос специалистов).
2. Сравнение успешных и неуспешных специалистов по одному или нескольким качествам. Если наблюдается значимое различие, то оцениваемое качество является достаточным для прогнозирования успешности профессиональной деятельности, следовательно, и профессионально важным (Клищевская, Солнцева, 1999).

Профессионально важные качества специалистов-международников *Professional Merits of Professionals in International Relations Field*

Нами была проанализирована по целому ряду качеств профессиональная деятельность опытных дипломатов и руководителей структурных подразделений (российских и зарубежных органов власти, государственных и коммерческих организаций), отвечающих за установление и поддержание международных связей, имеющих стаж работы более 10 лет. Качества указанной группы респондентов сравнивались с аналогичными качествами специалистов, работающих в области международных отношений, чьи профессиональные успехи за последние 5 лет не заслужили формальной высокой оценки руководства и деловых партнеров. В результате анализа были выявлены и классифицированы следующие профессионально важные качества, обеспечивающие продуктивность профессиональной деятельности специалистов в области международных отношений:

- качества, отражающие отношение к работе (ответственность, работоспособность, целеустремленность, осторожность, предусмотрительность, системный подход к решению проблем, внимательность к деталям, языковая грамотность, добросовестность, ориентация на качество и результат деятельности, обучаемость);
- качества, характеризующие стиль поведения и деятельности (исполнительность, уверенность в себе, гибкость поведения, адаптивность, наблюдательность, прозорливость, креативность, харизматичность, вежливость, следование требованиям делового и дипломатического протокола и этикета, инициативность, оптимизм);
- качества, относящиеся к организаторской деятельности (организаторские способности, инновационность, системный подход к решению проблем, общая и профессиональная эрудиция, полипрофессионализм);
- социально-психологические качества (доброжелательность, коммуникабельность, лояльность, тактичность, толерантность, гибкость поведения, деловой стиль общения, социальная проницательность, терпение, сдержанность, умение работать в команде, сотрудничество, обаяние, красноречие, отзывчивость);
- эмоционально-волевые качества (настойчивость, самоконтроль, решительность, выносливость) (Софьина, 2007).

В качестве наиболее значимых успешными руководителями и специалистами, имеющими опыт работы в сфере международных отношений более 10 лет, выделены следующие качества:

1. Качества, относящиеся к организаторской деятельности:
 - организаторские способности (56%),
 - системный подход к решению проблем (52%),
 - общая и профессиональная эрудиция (48%);
2. Качества, отражающие отношение к работе:
 - ответственность (68,2%),
 - ориентация на качество и результат (67,1%),
 - языковая грамотность (63%),
 - целеустремленность (51%),
 - предусмотрительность (47%);
3. Качества, характеризующие стиль поведения и деятельности:
 - адаптивность (68,5%),
 - соблюдение требований делового этикета и международного протокола (49,2%),
 - наблюдательность (45,4%);
4. Эмоционально-волевые качества:
 - самоконтроль (57,7%),
 - решительность (50%);
5. Социально-психологические качества:
 - умение работать в команде (54,6%),
 - коммуникабельность (54,6%),
 - вежливость (52,3%),
 - тактичность (50%),
 - лояльность (46,9%),
 - исполнительность (44,6%),
 - красноречие (40,8%) (Меленевская, 2014).

На следующем этапе проводились мониторинговые исследования ранее выделенных профессионально важных качеств у успешных руководителей и специалистов с опытом работы в области международных отношений более 10 лет и студентов 1 и 5 курсов факультета международных отношений Северо-Западного института управления Российской академии народного хозяйства и государственной службы при Президенте Российской Федерации (далее – СЗИУ РАНХиГС). В процессе исследования респонденты и их коллеги (для профессионалов) и преподаватели (для студентов) оценивали степень сформированности указанных выше ПВК по десятибалльной шкале; усредненная оценка в процентах представлена на рисунке 1.

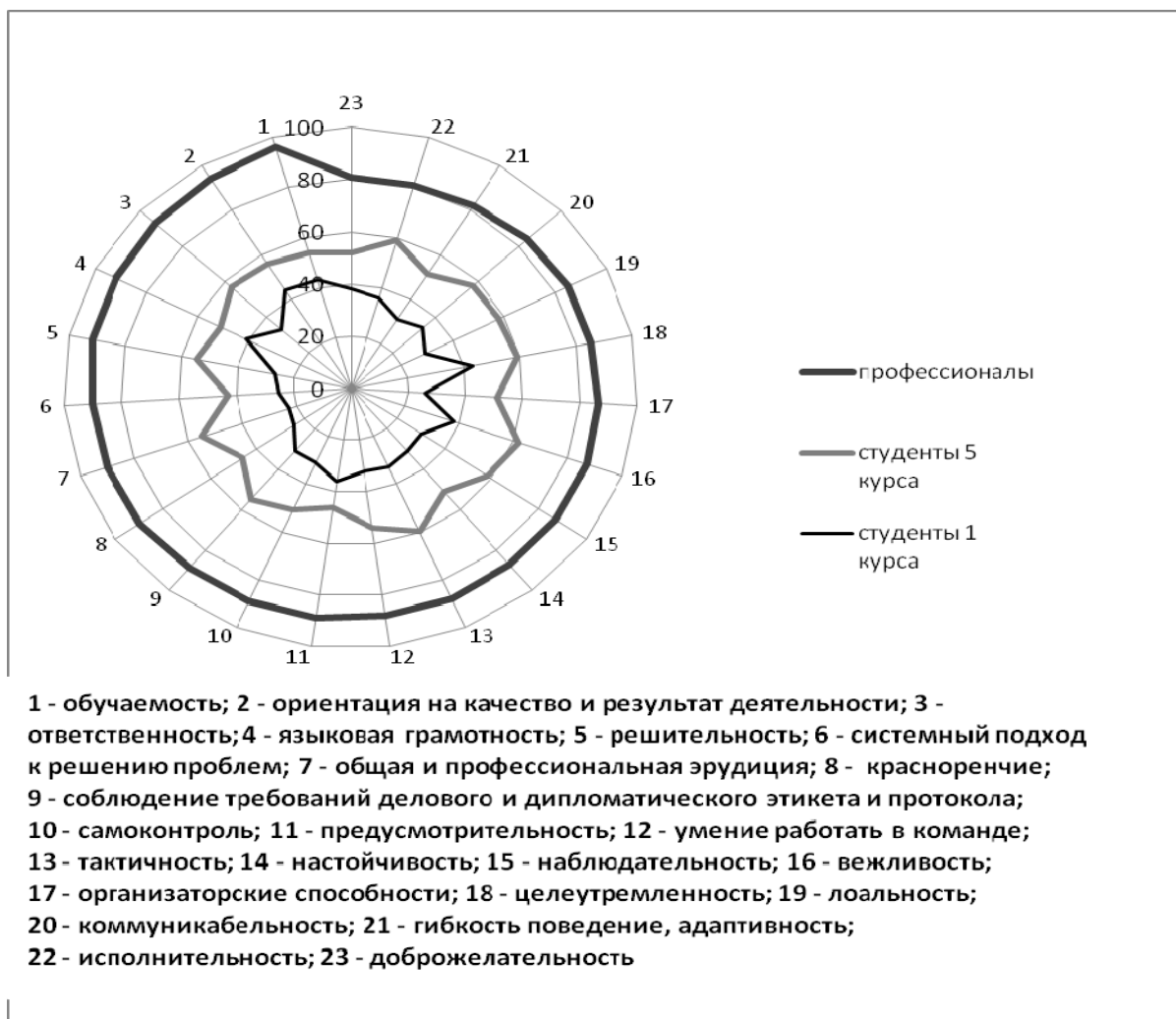


Рисунок 1. Мониторинг развития профессионально важных качеств студентов факультета международных отношений и успешных руководителей и специалистов с опытом работы в области международных отношений более 10 лет
Figure 1. Monitoring of students' professional merits (international relations department) and merits of successful professionals in international relations field with more than 10 years operational experience

Анализ результатов оценки уровня сформированности ПВК показал, какие качества наиболее развиты у успешных руководителей и специалистов с опытом работы в области международных отношений более 10 лет (таблица 1).

В целом мониторинг показал, что все ПВК студентов подвержены развитию. Следует отметить, что на самом высоком уровне сформированности из всех ПВК оказались вежливость (62%) и тактичность (60%), что свидетельствует о высоком качестве внеучебной и воспитательной работы на факультете международных отношений СЗИУ РАНХиГС. Кроме того, высокого уровня развития у исследуемой группы студентов достигли: целеустремленность (59%), исполнительность (59%), наблюдательность (58%), лояльность (58%), коммуникабельность (58%) и

ответственность (57%). Данные качества вошли в список наиболее значимых, по мнению успешных и опытных руководителей и специалистов в сфере международных отношений. Указанные качества позволят выпускникам факультета международных отношений успешно начать профессиональный путь.

Таблица 1. ПВК, наиболее развитые у успешных руководителей и специалистов с опытом работы в области международных отношений более 10 лет
Table 1. The most developed professional and merits of successful professionals in international relations field with more than 10 years operational experience

№ п/п	ПВК	Уровень сформированности, %
1.	Обучаемость	96
2.	ориентация на качество и результат деятельности	94
3.	Ответственность	93
4.	языковая грамотность	92
5.	Решительность	92
6.	системный подход к решению проблем	90
7.	общая и профессиональная эрудиция	90
8.	Красноречие	90
9.	соблюдение требований делового и дипломатического этикета и протокола	89
10.	Самоконтроль	89
11.	Предусмотрительность	89

При этом, обращает на себя внимание недостаточно высокий уровень развития таких качеств, как предусмотрительность (46%), красноречие (46%), системный подход к решению проблем (43%).

В условиях реализации системного подхода к учебно-воспитательному процессу следует учесть результаты исследования в построении творческой образовательной среды факультета, способствующей развитию профессиональной компетентности студентов.

Профессионально важные качества педагогов ***Pedagogic Professional Merits***

Во втором исследовании изучались профессионально важные качества студентов – будущих педагогов. В структуре личности педагога особая роль принадлежит профессионально-педагогической направленности. Она является той основой, вокруг которой формируются основные профессионально значимые свойства личности педагога. По определению В.А. Сластенина, профессионально-педагогическая направленность представляет собой систему эмоционально-ценностных отношений, задающую иерархическую структуру доминирующих мотивов личности

педагога, побуждающих его к утверждению в педагогической деятельности и профессиональном общении (Сластенин, 1997). Структура профессионально-педагогической направленности включает: направленность на ребенка (и других людей), связанная с заботой, интересом, любовью, содействием развитию личности и самоактуализации его индивидуальности; направленность на себя, связанная с потребностью в самосовершенствовании и самореализации в сфере педагогического труда; направленность на предметную сторону профессии учителя (содержание учебного предмета).

Для изучения эмоционально-ценностных отношений использовались: методика диагностики реальной структуры ценностных ориентаций личности С.С. Бубновой (Бубнова, 1999); опросник для изучения представленности высших чувств личности Д.Я. Банниковой (Банникова, 2007); методика направленности личности Б. Басса (Bass, Bass, 2008).

Развитие профессионально важных качеств происходит в процессе обучения в вузе, однако специально разработанная и апробированная программа позволяет достигнуть более высоких результатов. Это подтверждается проведенным мониторингом развития эмоционально-ценностных отношений студентов. Соответственно, экспериментальная группа – это группа студентов педагогических специальностей, принимавшая участие в разработанной программе, контрольная группа – это однокурсники, не участвовавшие в ней (Банникова, 2010).

Мониторинг развития профессионально важных качеств студентов 1–5 курсов с применением непараметрического критерия Вилкоксона выявил положительную динамику в уровне выраженности ценностных ориентаций на милосердие и помощь другим людям, на познание, практических и интеллектуальных чувств, а также установки на альтруизм (все показатели при $p \leq 0,01$). Ценностная ориентация же на отдых и приятное времяпрепровождение стала менее значимой для студентов экспериментальной группы ($p \leq 0,05$).

Сравнение показателей студентов пятого курса экспериментальной и контрольной групп, осуществленное с использованием непараметрического критерия Манна-Уитни, показало большое число значимых различий. Студенты экспериментальной группы демонстрируют большую выраженность ценностных ориентаций на прекрасное, на милосердие и помощь другим людям, на познание, эстетических, практических, нравственных и интеллектуальных чувств, а также установки на альтруизм (все показатели при $p \leq 0,001$) по сравнению с контрольной группой студентов, не принимавших участия в специально разработанной программе развития эмоционально-ценностных отношений.

Summary

1. As result of research the classification of professional merits was chosen: merits reflecting attitude towards professional activity; merits characterizing style of behavior and activity; merits referred to managerial activity; social-psychological properties, emotional-volitional properties.
2. The most important professional merits in international relations field were defined and used as a result image. They are managerial abilities, systematic approach to problem solving, responsibility, commitment to quality and result achievement, eloquence, flexibility/adaptability, self-control, team-work skills, communicative skills, etc.
3. Research of 5th course students (international relations department) professional merits showed that such qualities as politeness, tact, purposefulness, sense of duty, power of observation, loyalty, communicative skills and responsibility are the most well-formed. These merits are considered by experienced and successful managers and experts working in international relations field to be significant for effective work which confirms that educational process in international relations department of North-West Institute of Management of Russian Academy of National Economy and Public Administration is well organized. However, several problems were disclosed – some professional merits were formed not well enough by the graduation. Thus, the research revealed strengths and weaknesses of educational process at the international relations faculty and allowed to indicate the directions of creative educational faculty environment development.
4. The most important professional merit for pedagogical profession is professional pedagogical personal orientation that means high developed emotional and valuable attitudes.
5. Monitoring of students' emotional and valuable attitudes from 1st to 5th course showed the positive dynamics. The special program for professional merits development applied proved its effectiveness. It is displayed in higher development level of students' professional merits, such as value orientation to the beautiful, to mercy and help, to cognition, aesthetic, practical, ethic and intellectual senses and attitude to altruism.

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CAREER DEVELOPMENT THEORIES FOR THE EDUCATION OF UNEMPLOYED

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Abstract. *The topicality of the research – To determine the tendencies of the development of career services, conclusions of career theories have been analysed in the article, the career promoting and hindering factors in the State Employment Agency have been investigated, which could help to employ the forms, methods and techniques of pedagogical organization thus creating preconditions for a more successful career development of the clients. The aim of the research – to explore the career theories, which can be used for the unemployed to obtain their education or to improve their motivation according to the economic situation. Career development theories such as career development structural or opportunity theories (J.Klimov, J.Parson, J.Holland, K.G.Jung) and development or lifespan theories (D.Super, L.Ginsberg, R.Havighurst, E.Erikson, J.Krumboltz, A.Bandura, Dh.Fukuyama) were investigated. In the changing conditions of economics new requirements for the working people are being developed because of formation of new forms of employment. The former advantage in Latvia – the relevantly cheap labour force, has already ceased to exist, so in the future it will not be able to serve as the resource for the economical development. In the formation of an educated society only purposeful educational action can ensure the development and prosperity of the state, so enabling the individuals to find creative solutions in critical situations and adapt in a new environment. The main problem is the contradiction between the acquisition of the value of education in the adult society and the fact that the unemployed in adult age have the lack of knowledge for making their career. Everybody has a different career, it is developing dynamically all through the lifetime. The career reflects the skill of the individual to find balance between the salaried work and the unpaid work, as well as the duties of the personal life.*

Keywords: *adult education, career, career counselling, career development theories, unemployed.*

Introduction

In the time of rapid changes, which are being observed in all the spheres of human life right now, there is increasing cooperation between the European countries, which is affected by the global development tendencies. Alongside with that also the comprehension about education and occupation is changing. Nowadays due to the influence of globalisation processes education becomes more and more important and diverse. In the adult education there appear new forms and methods of teaching and learning to make the process of acquiring new knowledge and skills more effective. The European Union Lifelong Learning programme offers an opportunity for collaboration to State Employment Agency, educational establishments, local authorities, entrepreneurs as well as social organisations. In the White Book of the European

Commission it is indicated that a learning-focused network must be formed (EC, 1998).

This article describes the research about the improvement of a person's career development. In the changing economic circumstances there develop new requirements for the employees, as new forms of employment and new work places are being created. The previous advantage in Latvia – comparatively cheap labour force – has already lost its topicality, and in the future it will not be able to serve as a resource for the economic development. The professional improvement according to different stages of human life has been analysed by different theories of career development (Mikelsone, Latsone, 2008). The registered level of unemployment in the state at the end of December, 2014 was 8.5% (the proportion of the registered unemployed from the total of economically active inhabitants). The lowest level of unemployment in December, 2014 was registered in Riga region – 5.2%, the highest level of unemployment was in Latgales region – 17.8%. In Kurzemes region the level of unemployment was 10.7%, Zemgales region – 8.3% and Vidzemes region – 9.9%. In December, in comparison with the previous month, the level of unemployment in Kurzemes region increased by 0.7% points, Vidzemes and Zemgales region by 0.3% points, in Latgale – by 0.2% points, but in Riga the level.

For lifelong learning and career education in Latvia it is important to ensure opportunities for everybody to acquire appropriate professional skills, education and preparation for a successful participation in the labour market (The assessment of the activity of the career development support system in Latvia, 2013).

Table 1. The division of the unemployed according to the obtained education, %

2013			2014		
<i>Unemployed according to the obtained education</i>	<i>Female</i>	<i>Male</i>	<i>Unemployed according to the obtained education</i>	<i>Female</i>	<i>Male</i>
Higher education (14,0%)	9277	3831	Higher education (14,9%)	8702	3496
Vocational training(37,3%)	18131	16720	Vocational training (37,1%)	15376	15042
General secondary education (26,6%)	14239	10614	General secondary education (26,3%)	12172	9431
Elementary education (19,2%)	9293	8614	Elementary education (18,9%)	8020	7476

From the total of the registered unemployed in Latvia at the end of December, 2014 the biggest proportion was made by the unemployed with the vocational training – 37.1%, and, in comparison with the end of 2013, this indicator has decreased by 0.2% points, however, the proportion of the unemployed with the higher education has increased by 0.9% points from 14.0% at the beginning of the year until 14.9% at the end of December (www.csb.gov.lv).

The current level of unemployment is mainly connected with the cyclic unemployment, i.e. with the decrease of the essential amount of production and the provided services during the crisis. Thus all the activities which are connected with the promotion of the economic activities and entrepreneurship, stimulate the increase of the demand for the labour force and increase employment. At the same time there is a risk that one part from the existing unemployed will be unable to find a job for a long time, so in the future unemployment can become an explicitly structural phenomenon (EM informative announcement „About the medium and long-term predictions of the labour market”, 2014)

The International Labour Organization, according to its calculations, estimate that the world level of unemployment will increase and by 2019 212 million people will become unemployed. In January, 2015 201 million people are unemployed worldwide. The organization points out that a big part of young people aged 15 – 24 will experience difficulties in finding a job. The world unemployment level in this age group reaches 13%, and, as the document states, this indicator is going to increase. The consequences of the crisis in the international labour market have not been overcome, it is necessary to make an effort to fight with unemployment and its consequences also further on (International Labour Conference session No 102 and the announcement of the Social Dialogue Committee, 2013).

The strategy of a sustainable development of Latvia until 2030 indicates that innovative economics requires more and more new skills and competences from the employees to be able to adapt to the changing labour market requirements. However, the system of education of Latvia is not flexible enough in solving the needs of adult further education. It means that the competitiveness of Latvia will more and more depend on the link of the system of education with the changes in the labour market and the ability to prepare the person for the job in changing circumstances throughout the lifetime. (The strategy of a sustainable development of Latvia until 2030, LR Saeima, 2010).

The EU Council Resolution suggests the basic initiatives of Strategy „Europe 2020” so that the adults, especially those who are low-skilled or elderly, could improve their ability to adapt to the new requirements of labour market and society. The adult education gives opportunities to improve or adapt the skills of those people who have been affected by unemployment, as well as essentially promotes the social inclusion (The Council Resolution about a

renewed European programme of education for the adults, EU Official Journal, 2011).

The education development guidelines for the years 2014 – 2020 is a medium-term policy planning document, which states the basic principles, aims and spheres of activity of the education development policy for the next seven years. The processes of education directly concern every inhabitant in all age groups, the guidelines comprise all kinds and levels of education (LR Saeima, The Education Development Guidelines for years 2014 – 2020, 2014).

Professor Tatyana Koke stresses that the adult education must promote the increase of life quality. Everybody must look for and ensure new, more effective ways of learning, flexibly combining the resources, attracting partners for co-operation and expanding the educational environment (Koķe, 1999).

The adult education helps to shift accents from stable education to flexible one, the basis of which is general knowledge, offering and solving the issues of curriculum in an integrated way, making it more real-life like (Koķe, 2011).

The aim of the research is to investigate and identify the career development theories, which would be appropriate to use for promoting the unemployed to obtain education or promote the motivation of personal improvement according to the economic situation.

Methodology of Research

The research was carried out in the State Employment Agency, as well as in the State Employment Agency Jēkabpils branch in 2014 by an electronic survey of 3468 unemployed and job seekers about the opportunities of education for the career development.

Theoretical methods have been used for the research - studying, analysis and evaluation of the scientific literature, surveys, researches and documents. To carry out the tasks, the stages of the research were identified, analysed and evaluated. For the analysis different scientific theories were chosen which deal with the factors influencing the career - developmental theories of vocational behaviour or life-span theory (D.Super, E.Erikson) (Super, 1990); the structural theory or the theory of occupational allocation (J.Klimov, J.Holland) (Holland, 1997); the theory of rational choice of profession by Sh.Fukuyama; the cycle theory of development tasks throughout the lifetime (M.Savickas) (Savickas, 2005); socio-dynamic constructivist theories (R.Vance Peavy) (Peavy, 2010). Also the theory and practice of the research methodology, alongside with the previous research conducting experience of the author of the research, were taken into consideration.

Specialists, who work in the sphere of career education, by maintaining a common understanding about a human and its development through different stages of life, have to take into consideration that the personality is influenced by the environment, culture and experience (Korna, 2011).

The major part of the career theories look at the career influencing factors mainly from the viewpoint of the career counsellor. By integrating the career theory conclusions into the science of pedagogy, by identifying the promoting and the inhibiting factors of the career, during the process of the employment agency services it becomes possible to look for and make use of those pedagogical organization forms and methods, which would ensure the formation of certain habits of activities, thus creating pedagogical preconditions for a more successful career development.

Rasma Garleja in her „Human Potential in a Social Environment” states that „Career opportunities according to McClelland theory serve as a success motivating factor, as the behaviour determining factor, as a human potential creating factor (a wish to know, be able to, risk). Career is the motivation of achievement, it is self-control, dedication, self-confidence. It is an important self-realization process, followed by social recognition (Garleja, 2006).

Results of the research

To evaluate the satisfaction of the unemployed and job seekers with the service provided by State Employment Agency and also Jēkabpils branch, during the year 2014 a survey of the unemployed and job seekers was carried out about their satisfaction with the services of the Agency. The aim of the evaluation of the satisfaction is a constant improvement of the Agency actions and provision of an effective customer-focused service system regardless of the place of the service. Within the survey 3468 unemployed and job seekers were questioned. As it is seen in the results of the survey, 72% of all the questioned are women, and 28% - men. Women have been most active in the survey.

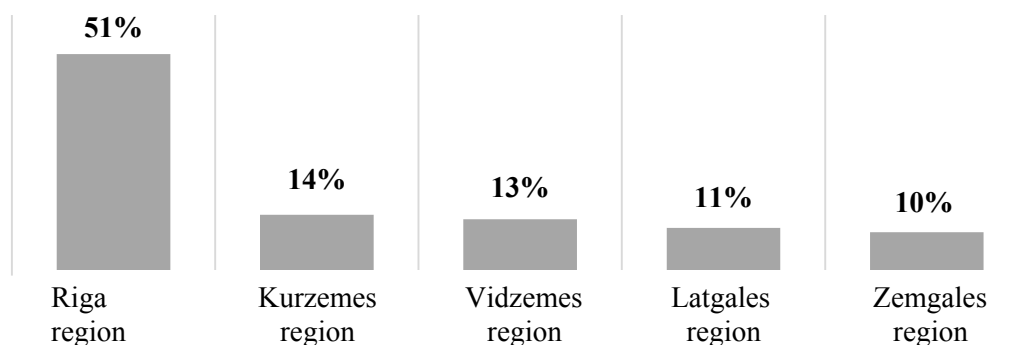


Figure 1. The division of respondents by regions

After collecting the statistical data a conclusion has been made that most answers have been obtained from the respondents in Riga region (51%), followed by Kurzemes region (14%) and Latgales region (13%), while the least number of responses has been obtained from Zemgales and Vidzemes regions (see Figure 1).

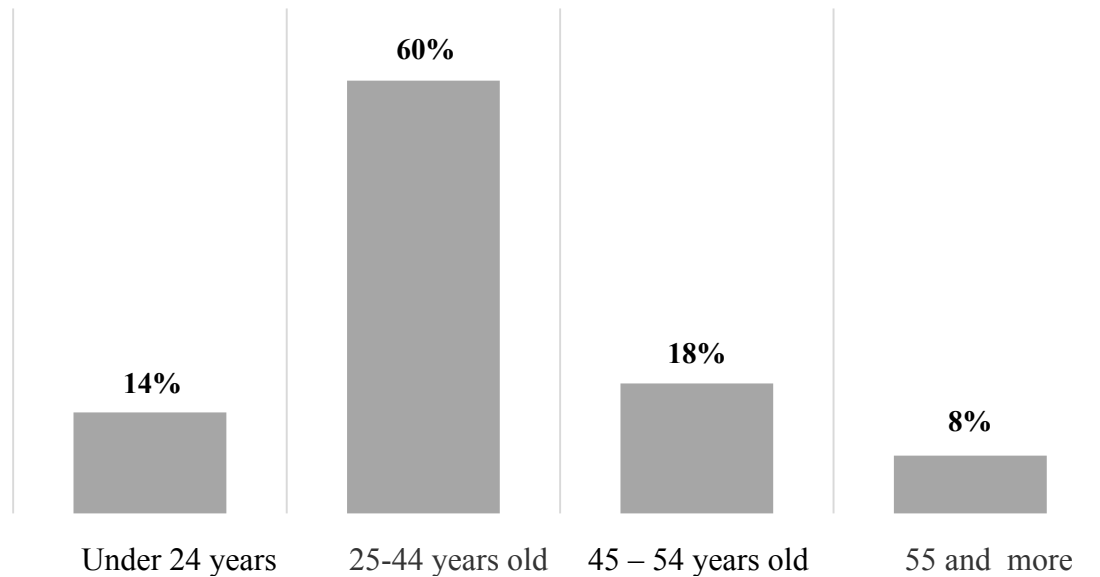


Figure 2. The division of respondents according to age groups

By analysing the divisions of age groups, respondents are divided in the following way: under 24; 25 – 44 years old; 45 – 54 years old; 55 and older (see Figure 2). 60% of all the respondents are between the ages 25 – 44, 14% - under the age of 24, 18% - between the ages 45- 54, 8% - 55 and older.

By analysing the data according to the time period, how long the respondent has had a status of the unemployed or a job seeker (see Figure 3), the most – 78% respondents have had the status of the unemployed or a job seeker up to 1 year, 15% - from 1 – 3 years, 6% - more than 3 years.

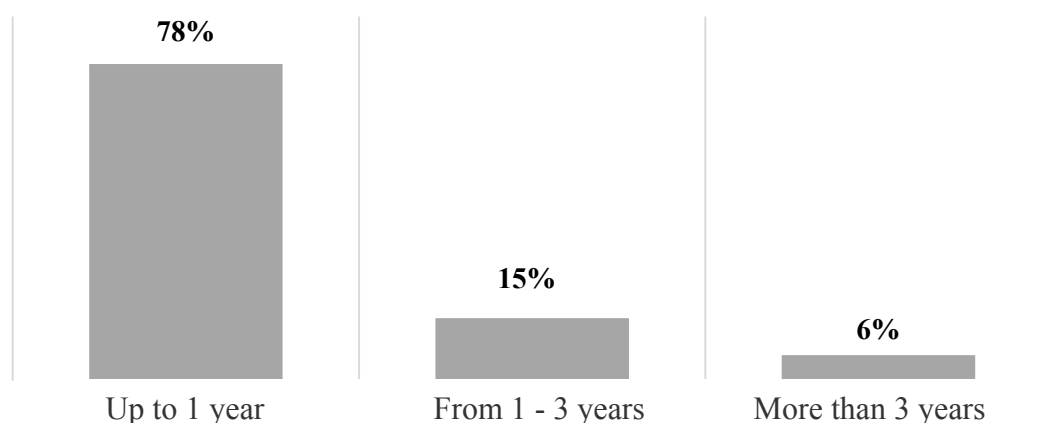


Figure 3. The division of respondents according to the time period of registration in the Agency

The data of the estimated usefulness of the career counselling have been analyzed. As it can be seen in Figure 4, 27% of the respondents consider career counselling as a useful service, evaluating it as high. 21% of the respondents

evaluate the usefulness of the career counselling as low, while 13% of the questioned consider this kind of service as useless.

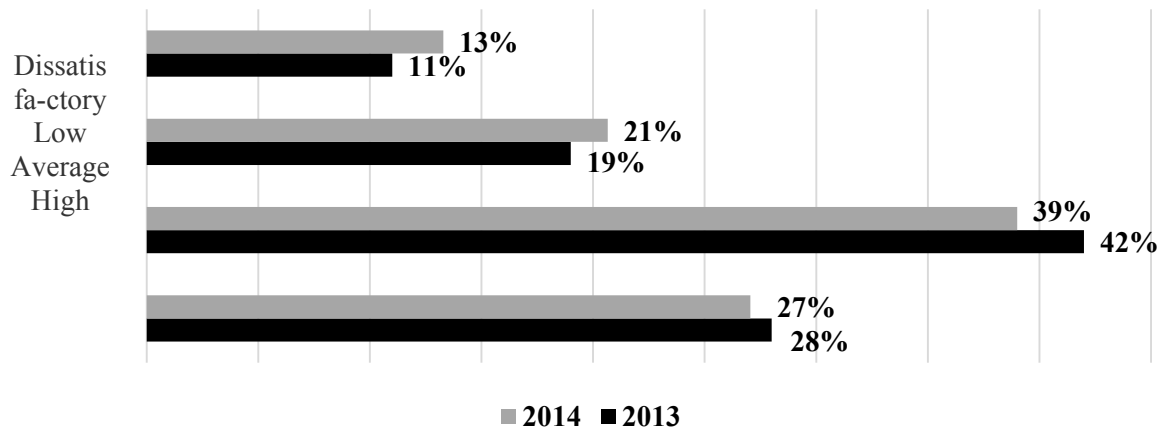


Figure 4. The estimation of the usefulness of career consultations

By making the comparison of survey data with the data obtained in 2013, it can be concluded that in 2014 the number of respondents has increased by 2%, who consider that the usefulness of career counselling in the Employment Agency is not very high. In the surveys of both years 2013 and 2014 the respondents evaluate the usefulness of the Agency services in the process of looking for a job, and it can be concluded that in comparison with the year 2013 the indicators of usefulness have decreased for all the events also in 2014. For example, the usefulness of career counselling has decreased by 4%, the usefulness of the events for increasing competitiveness has decreased by 4%, the usefulness of the offer of continuing vocational training and professional development programme of education for the unemployed has decreased by 5%, the acquisition of non-formal education has decreased by 2%.

In order for career counselling to maintain topicality and be able to satisfy the needs of help-seekers in the modern society, it is concluded that also the career counselling has to change – both in terms of the words and the methods used. According to the obtained theoretical knowledge about the career guidance for the unemployed, the work of career counsellors has to be improved, by differentiating the system of career counselling according to the groups of clients, as in the circumstances of developing a knowledgeable society the people’s creativity, critical thinking, problem solving, decision making for acquiring new skills should be promoted, in order to live in the modern progressive world.

Discussion and conclusions

By studying different career theories (McClelland, Super, Holland, Erikson, Parson, Rogers, Viljamson, Klimov, Jung, Peavy, Bandura, Fukuyama and others), which are focused on the achievement motivation of the

unemployed, lifelong career, choice of profession theory, socio-dynamic constructivity theories and methods, the acquired knowledge would contribute to the assistance of the clients of the State Employment Agency, thus decreasing their problems of work and simultaneously strengthening their ability to choose and act responsibly towards oneself, by setting individual aims.

By integrating the career theory conclusions into the science of pedagogy, by identifying the promoting and the inhibiting factors of the career, during the process of the employment agency services it becomes possible to look for and make use of those pedagogical organization forms and methods, which would ensure the formation of certain habits of activities, thus creating pedagogical preconditions also for a more successful career development.

In the course of the research a contradiction was found out between the fact that the value of education is recognized in the adult society and the fact that the unemployed in the adulthood lack the necessary knowledge for making and developing their careers.

By developing and improving the career and adult education as constituents of lifelong learning, which are joined by the necessity to ensure the continuity of lifelong learning and the career development, the career services are the creation of circumstances and conditions for continuous development of the personality in its living, working and learning environment.

There is a situation that the skills demanded by the labour market are limited. The number of the available jobs is very low, so the people have to be flexible and have to be able to adapt their skills.

The person's need for education can be stimulated not only by various outer socio-economic or political factors and stimuli, but also by the inner motives and needs.

By viewing different insights made by scientists about the opportunities of giving career services, it can be concluded that career is different for each person, it is dynamically developing throughout the lifetime. The career reflects the person's ability to find balance between the paid and unpaid work, as well as the duties of private life.

In order for career counselling to maintain topicality and be able to satisfy the needs of help-seekers in the modern society, also the career counselling has to change – both in terms of the words and the methods used.

According to the obtained theoretical knowledge about the career guidance for the unemployed, the work of career counsellors has to be improved, by differentiating the system of career counselling according to the groups of clients, as in the circumstances of developing a knowledgeable society the people's creativity, critical thinking, problem solving, decision making for acquiring new skills should be promoted.

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THE ROLE OF EDUCATION IN PROMOTING SOCIAL INNOVATION PROCESSES IN THE SOCIETY

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***Abstract.** The purpose of the paper is to clarify the role of education in promoting social innovation processes in the society based on the main findings of the theoretical study conducted from October 2014 to January 2015 within the project “Involvement of the Society in Social Innovation for Providing Sustainable Development of Latvia” supported by the National Research Program 5.2. EKOSOC-LV. The paper provides the analysis of causal interaction between social innovation and education, as well as two conceptual models which disclose the relationship between social innovation and education and the triple role of education in promoting social innovation; both are elaborated by the authors.*

***Keywords:** conceptual model, education, social innovation, theoretical study.*

Introduction

The theoretical study conducted within the project 5.2.7. “Involvement of the Society in Social Innovation for Providing Sustainable Development of Latvia (EKOSOC-LV)” aimed to work out the methodology and basis for conducting the empirical research in order to reveal the character of social innovation processes in the Latvian society for elaborating a model of active involvement of different stakeholders in social innovation. This theoretical research was based on the scientific literature and sources from:

- EBSCO host, Emerald Insight, Cambridge Journals, JSTOR, ProQuest Dissertations & Theses Global, OECD iLibrary, SAGE Journals, Science Direct databases;
- ec.europa.eu, www.tepsie.eu, www.innovation.cc, youngfoundation.org, www.socialinnovationeurope.eu, www.si-drive.eu, www.ssireview.org, www.oecd-ilibrary.org, www.innovativelatvia.lv, socialinnovation.lv, izm.izm.gov.lv, www.lm.gov.lv, www.birdhub.eu, www.em.gov.lv, www.vraa.gov.lv, www.liaa.gov.lv, likumi.lv web-sites.

More than 70 references were analysed including journal articles; PhD and MA theses; conference proceedings; PowerPoint presentations; project deliverables (reports, handbooks, reviews, guides, policy documents) developed

by The Young Foundation & NESTA, OECD, TEPSIE, SI-DRIVE, Social Innovation Europe Initiative, Bureau of the European Policy Advisers (BEPA) under the supervision of the European Commission).

This paper focuses on the analysis of the role of education in promoting social innovation processes in the society. The main findings are given in two parts: 1) state-of-the-art review of the development and research of social innovation; 2) interaction between social innovation and education with two conceptual models elaborated by the authors. Together with conclusions further research directions are specified in the context of the empirical part of the research.

State-of-the-art review of the development and research of social innovation

There are many definitions of social innovation in use without explicit and uniform theorizing of the concept, therefore as argued by Oeij et al. (2011), “social innovation is about everything and nothing at the same time” (p. 40). For the purpose of this paper the authors use the definition of social innovations as “...new solutions (products, services, models, markets, processes etc.) that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources. In other words, social innovations are both good for society and enhance society’s capacity to act.” proposed by partnership of TEPSIE project (The Young Foundation, 2012, p. 18; Krlev et al., 2014, p. 201).

According to European Commission (2011) and Bonifacio (2014), there are three key approaches to social innovation:

- The ***social demand approach*** (the ‘ghetto’ view) which responds to social demands that are traditionally not addressed by the market or existing institutions and are directed towards vulnerable groups in society. They have developed new approaches to tackling problems affecting youth, migrants, the elderly, socially excluded, etc.
- The ***societal challenge approach*** (the ‘reformist’ view) focuses on innovations for society as a whole through the integration of the social, the economic and the environmental. Societal challenges in which the boundary between ‘social’ and ‘economic’ blurs, and which are directed towards society as a whole.
- The ***systemic change approach*** (the ‘empowering’ view), the most ambitious of the three and to an extent encompassing the other two, is achieved through a process of organizational development and changes in relations between institutions and stakeholders. The process of reforming society in the direction of a more participative arena where empowerment and learning are sources and outcomes of well-being (EC, 2011, p. 36-38; Bonifacio, 2014, p. 153-154).

This theoretical study reveals a number of concepts which are interrelated to social innovation in multiple ways being embedded within theoretical and empirical underpinnings of social innovation:

- social system (Cajaiba-Santana, 2013; McCarthy et al., 2014; Westley et al., 2014);
- social value (Le Ber & Branzei, 2010; Minks, 2011; Bonifacio, 2014);
- social problems (Minks, 2011);
- social challenges (The Young Foundation, 2012; EC, 2011);
- social impact (Ortega et al., 2014);
- social change / transformation (OECD, 2010; Dover, 2011; Minks, 2011; EC, 2011; Cajaiba-Santana, 2013; Westley et al., 2014);
- system change (OECD, 2010; Nichols et al., 2013; Westley et al., 2014);
- social quality (Oeij et al., 2011; Li et al., 2012);
- quality of life (Pol & Ville, 2009; OECD, 2010; Li et al., 2012; Edwards-Schachter et al., 2012; Bonifacio, 2014);
- quantity of life (Pol & Ville, 2009);
- well-being, welfare (OECD, 2010; Edwards-Schachter et al., 2012; Bonifacio, 2014);
- social action (Cajaiba-Santana, 2013; Bhatt & Altinay, 2013);
- social capital (Bhatt & Altinay, 2013);
- social practices (Oeij et al., 2011; Cajaiba-Santana, 2013; Howaldt et al., 2014; Klievink & Janssen, 2014);
- cross-sector partnership (Le Ber & Branzei, 2010; Jiménez Escobar & Morales Gutiérrez, 2011);
- relationships (OECD, 2010; Li et al., 2012; Klein et al., 2012; Nichols et al., 2013; Klievink & Janssen, 2014), etc.

This literature review presents core elements and common features of social innovation (Minks, 2011; Edwards-Schachter et al., 2012; The Young Foundation, 2012; Bulut et al., 2013; Ümarik et al., 2014), typology of social innovation (Nambisan, 2009, cited in Lundstrom & Zhou, 2011; The Young Foundation, 2012; Davies, 2014) as well as fields, sectors, and levels of social innovation (The Young Foundation, 2012; Bund et al., 2013; Bonifacio, 2014). The most crucial analytical dimensions and models of social innovation which could be used in the further empirical research are determined to be:

- the systemic model for social impact innovation (Ortega et al., 2014);
- the conceptual model or heuristic of social innovation (McCarthy et al., 2014);
- the conceptual model of the social innovation process (Cajaiba-Santana, 2013);
- the relevant building blocks of innovation studies and key dimensions of social innovation (Howaldt et al., 2014);

- the integrated model for measuring social innovation (Bund et al., 2013; Krlev et al., 2014);
- the six stage process of social innovation (Murray et al., 2010; The Young Foundation, 2012);
- the policy analytical dimensions concerning social innovation (Lundstrom & Zhou, 2011).
- the citizen engagement in social innovation (Davies & Simon, 2012) including a typology for mapping citizen engagement in the social innovation process as well as functions and examples of engagement;
- the structural and agency barriers to social innovation (Mendes et al., 2012).

Recent studies (Pol & Ville, 2009; Edwards-Schachter et al., 2012; Cajaiba-Santana, 2013; Ümarik et al., 2014) have shown that the concept of social innovation is used in various and overlapping ways in different disciplines; the research on social innovation is highly diversified, fragmented and includes interdisciplinary approaches to social innovation from different fields such as territorial and urban development, sociology, public administration, social entrepreneurship, history, economics, social psychology, management, social movements, creativity, political science, communication technologies, environmental sciences, human services, etc.

Many researchers are dissatisfied with the current situation in the field of social innovation studies, because a more coherent concept of social innovation is needed (Oeij et al., 2011). In order to provide a more holistic view of the phenomenon of social innovation (Cajaiba-Santana, 2013) as a complex, multidimensional concept (Edwards-Schachter et al., 2012), context-dependent phenomenon, strongly influenced by the socio-cultural, institutional and geographical background of the actors involved (Howaldt et al., 2014), the systemic understanding of the development and research of social innovation is needed. For that research should be based, for instance, on:

- systems ecological approach (Nichols et al., 2013);
- perspectives of social constructionism, sensemaking, and story-telling (Cajaiba-Santana, 2013);
- design approach (Murray et al., 2010; Hillgren et al., 2011);
- participatory design (Hillgren et al., 2011); community-based, collaborative and/or interdisciplinary research (Nichols et al., 2013);
- multiple case study approach, conducting interviews, observing meetings and events (Dover, 2011); comparative case study research, conducting in-depth interviews (Le Ber & Branzei, 2010); case studies by conducting qualitative semi-structured interviews with individuals directly involved in the spreading social innovation (Davies, 2014);
- survey method (Bulut et al., 2013).

The concept of social innovation is still relatively new in Latvia; therefore it is to be researched and comprehended by the society. That requires theoretical and empirical community-based, collaborative and interdisciplinary research on social innovation in Latvia. This process has been triggered by Social Innovation Centre (socialinnovation.lv) which has initiated open discussion on social innovation in Latvia.

The interaction between social innovation and education

The model of interaction between social innovation (SI) and education (E) revealed in the course of this research is depicted in Figure 1.

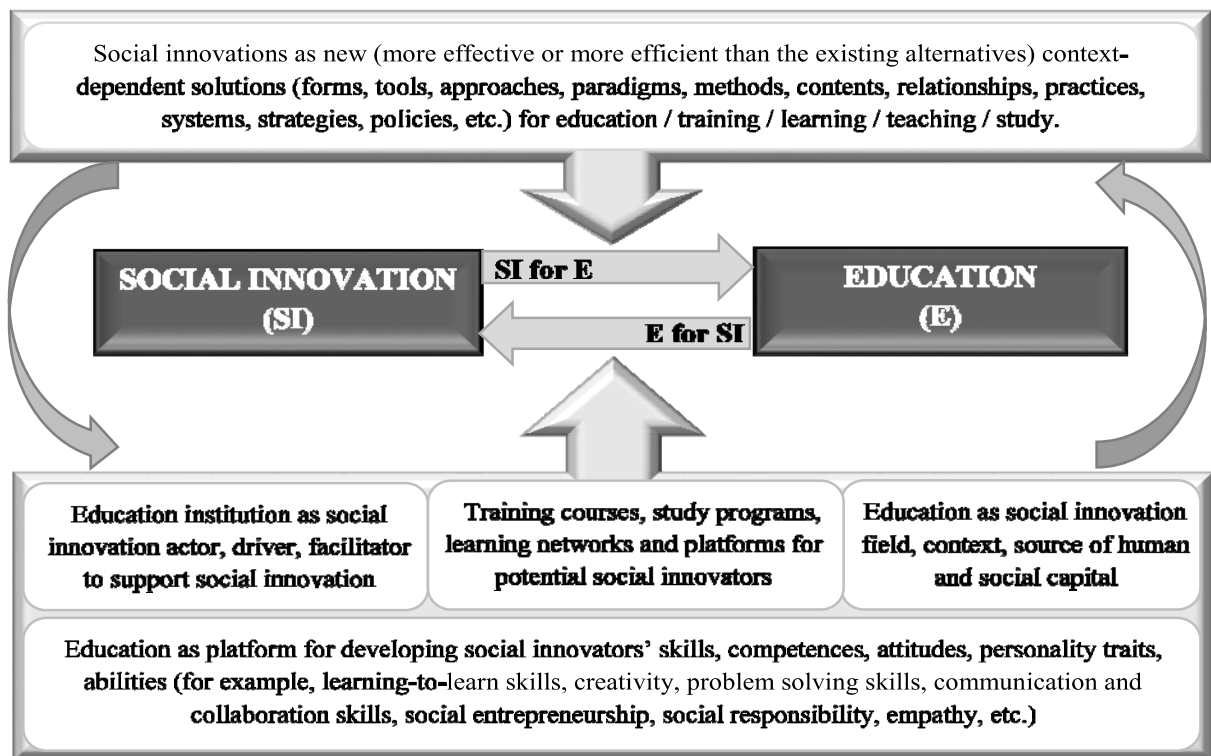


Figure 1. A conceptual model of interaction between social innovation and education (elaborated by the authors)

The central part of the Figure 1 shows the two directions of interaction between social innovation and education based on the motto “Innovating to learn, learning to innovate” (OECD, 2008):

- **SI for E** (see Figure 1): Social innovation for education concerns new solutions (forms, tools, approaches, paradigms, methods, contents, relationships, practices, systems, strategies, policies) for supporting, improving quality and transforming of education / training / learning / teaching / study (Pol & Ville, 2009; OECD, 2008, 2013; EC, 2011; Bulut et al., 2013; Krlev et al., 2013; Ümarik et al., 2014);

- *E for SI* (see Figure 1): Education for social innovation relates to the development of the set of skills, competences, attitudes, personality traits and abilities needed for making social innovations come true. Education institutions play an important role as social innovation actors, drivers and facilitators to support social innovation and realise training courses, study programs and learning networks for potential social innovators (TEPSIE, 2014). Education is determined to be one of social innovation fields (Bund et al., 2013) with powerful source of human and social capital which create an appropriate context for developing social innovation ecosystem (EC, 2011; Mancabelli, 2012; Nichols et al., 2013; Bhatt & Altinay, 2013; TEPSIE, 2014).

According to Andrew and Klein (2010, p. 22–23), “Social innovation requires learning and institutional capacity to learn. ‘Learning regions’ and ‘learning institutions’ are therefore critical elements in the social innovation processes” (cited in Edwards-Schachter et al., 2012, p. 680). Collective process of learning is one of the characteristics of social innovation obtained from the analysis of 76 definitions by Edwards-Schachter et al. (2012). Lack of capacity for organisational learning at all levels is one of the barriers to social innovation in the public sector (Mendes et al., 2012). According to Mancabelli (2012), “to become 21st-century innovators, we must first become 21st-century learners” (p. 74). It is necessary to focus on the social mechanism of innovation (e.g., social learning) (Howaldt et al., 2014). Promoting a learning culture and developing an infrastructure for social innovation involves changing minds and practices, it calls for ongoing mutual learning (EC, 2011). Knowledge mobilization processes facilitate interdisciplinary learning and organising studies to support of social innovation (Nichols et al., 2013).

The general types of training of potential social innovators were identified within TEPSIE (2014) project as: tailored courses for interested persons offered by training centres; university programmes for social innovators; certificates for volunteers; learning networks; subsidized secondments; mobility schemes. Furthermore, according to TEPSIE (2014), “growth extends beyond just the number of social innovation courses offered at colleges / universities globally, to an equally impressive increase in the number of disciplines and thematic focus areas represented by those social innovation courses” (p. 74). The role of education varied depending on the approaches to social innovation (see Table 1). These three approaches to social innovation are not mutually exclusive, but rather interdependent parts of a common framework: the first approach is the background for the second, which creates the conditions for the third (EC, 2011; Bonifacio, 2014).

Table 1. The role of education within three key approaches to social innovation (analysed, systemised and tabled by the authors)

Some measures related to capacity building / recognition and research for a European Social Innovation Initiative (EC, 2011, p. 123-124)	Some domains of the role of education in promoting social innovation processes	
<p>Approach 1: Social needs Goal: Boost social innovation as an instrument of social and employment policies (<i>Europe 2020 'inclusive growth'</i>).</p>	<ul style="list-style-type: none"> - Establish a EU database on good practice example - Support network of SI incubators - Work out training material for SI, including a SI handbook - Develop research skills for SI 	<ul style="list-style-type: none"> - Education as one of social needs to be met and one of social issues to be solved (Lundstrom & Zhou, 2011) - Workplace learning, learning by doing, experience-based learning, research-based learning as a basis for promoting SI - Inclusive education, second chance education as SI field
<p>Approach 2: Societal challenges Goal: Enlarge the remit to societal, environmental and global challenges (<i>Europe 2020 'sustainable growth'</i>)</p>	<ul style="list-style-type: none"> - Create Master module for training SI - Create EU status and professionalization (skills) of SI 	<ul style="list-style-type: none"> - Education as societal challenge - Professionalization of SI and development of the skills of social innovators as a basis for promoting SI (TEPSIE, 2014) - Interdisciplinary learning, lifelong learning and life-wide learning as SI field
<p>Approach 3: Systemic changes Goal: Build a responsive society for enabling innovation (<i>Europe 2020 'smart growth'</i>)</p>	<ul style="list-style-type: none"> - Develop open social innovation digital platforms - Provide active citizenship training modules - Carry out education reforms for mutual learning and participative citizenship 	<ul style="list-style-type: none"> - Education opportunities (including quality of teaching and learning practices) as elements of the determinants of the quality of life (Pol & Ville, 2009) - Empowerment and learning as sources and outcomes of well-being (EC, 2011; Bonifacio, 2014) - Participatory workshops as examples of problem solving being one of the functions of citizens' engagement in SI (Davies & Simon, 2012) - Education as a profession or sector for spreading SI (NESTA, 2008, cited in OECD, 2010) - E-learning, interactive social learning, collaborative learning, problem-based learning, interdisciplinary learning as a basis for promoting SI - Mutual learning and participative citizenship as SI field

Based on the analysis carried out in Table 1, a conceptual model of the triple role of education in promoting social innovation was elaborated (see Figure 2).

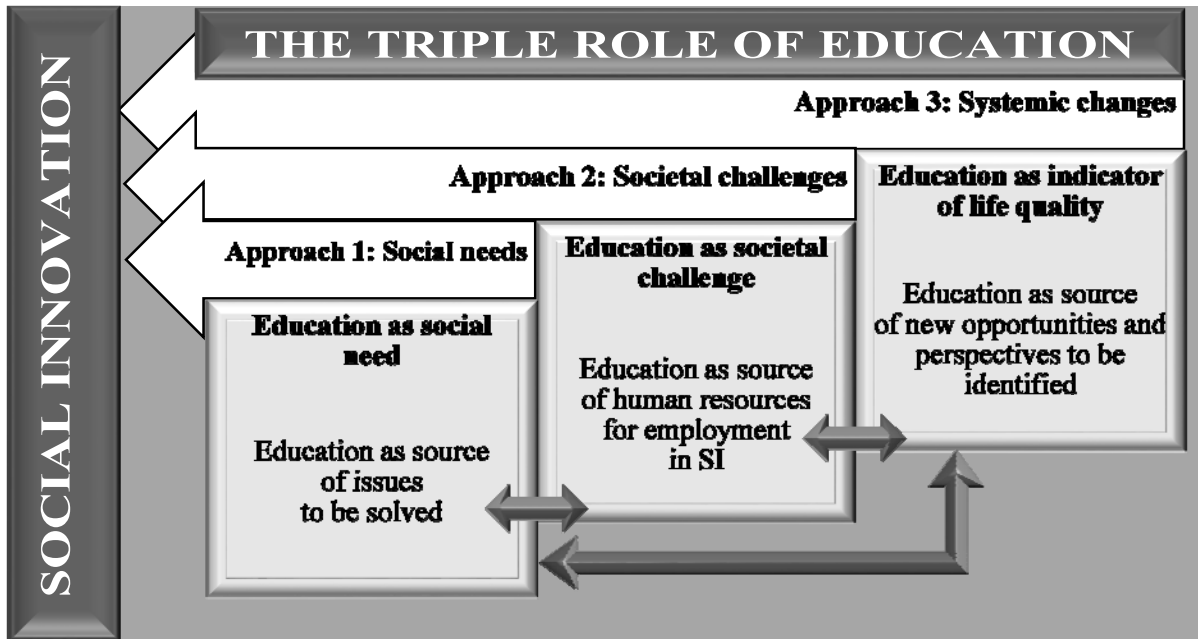


Figure 2. A conceptual model of the triple role of education in promoting social innovation (elaborated by the authors)

The three components of the role of education in promoting social innovation are interdependent; moreover the triple role of education as source of topical issues, human resources and new opportunities should be perceived, comprehended, researched and developed within a holistic perspective.

Conclusions

The concepts of education and social innovation are interrelated. Education has triple role in promoting social innovation processes in the society. The three components of this role (social need, societal challenge and indicator of life quality) are interdependent; that requires a holistic view of the triple role of education as source of topical issues, human resources and new opportunities and perspectives.

The concept of social innovation is still relatively new in Latvia; therefore it is to be studied and comprehended by the society via conducting empirical community-based, collaborative and interdisciplinary research on social innovation in Latvia. It requires the elaboration of interdisciplinary methodology for empirical research on social innovation in Latvia within and crossing the fields of education, economics, regional development, etc.



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DAŽĀDA VECUMA PIEAUGUŠU INDIVĪDU APZINĀTĪBAS, IEKŠĒJĀS SASKAŅOTĪBAS UN VIEDUMA RĀDĪTĀJU SAKARĪBAS UN ATŠĶIRĪBAS

Correlation Between Mindfulness, Coherence and Wisdom in Sample of Different age Groups in Adulthood

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Abstract. *There are two different researches has been explain in this article. There is common idea of those two researches (Svence, Mihailova, Bebre, 2014)- does age as correlate statistical significant differ scores of mindfulness, wisdom and coherence.*

The aim of the first research (Svence, Mihailova, 2014) is to make theoretical and practical analysis of correllations between sense of coherence, mindfulness and wellbeing among 25-45 year old women, as also make qualitative analysis in order to explore one of the sense of coherence categories – meaningfulness. Reserach has shown that there exists positive correlation between wellbeing and sense of coherence and between wellbeing and mindfulness, as aslo it has been shown that higher scores of sense of meaning in life is related to higher scores of wellbeing, yet there are nearly no research where the correlations between mindfulness and sense of coherece and/or meaningfulness would be explored. Yet there are enough research where the realaton of these concepts with other concepts such as self-efficacy, anxiety, stressreactivity is confirmed. Considering the above mentioned it is valuable to explore relations between sense of coherence, mindfulness and wellbeing.

Principal question of the research was to investigate if there is an association between sense of coherence, mindfulness and wellbeing, as also to make qualitative and quantitative analysis and acquire the broader understanding of this association. There were 36 participants in the research who were asked to fill three questionnaires via internet and to particiapate in the interview. Quantative methods were used in the research (Fife Facet Mindfulness Questionnaire, Orientation to Life Questionnaire to measure sense of coherence, Scales of Psychological Well-Being), as well as statistical methods (Pearson correlation) and qualitative method (content analysis of narratives).

Quantitative analysis confirmed the question of the research, since there were significant positive correlations discovered between all three concepts – sense of coherence, mindfulness and wellbeing. Content analysis of narratives was made and several typical content units were discovered whish are related to age appropriate meaningful life tasks, and to the processes of sense of coherence. Therefore the associatio between meaningfulness and other sense of coherence components was confirmed.

There is other research (Svence, Bebre,2014) about wisdom and meaningfulness scores- how they correlates and differs in different age subgroups in adulthood.

There are some results show- scores of wisdom and meaningfulness are not significant differ in different age groups- early adulthood (20-35), middle age (40-55) mathematical statistical significant, but differences has been finded about wisdom in early adulthood and middle age – according scores – wisdom is more higher in middle age as in early adulthood.

Keywords: *sense of coherence, mindfulness, wellbeing, meaningfulness.*

Ievads *Introduction*

Pētījumos ir pierādīta pozitīva sakarība starp dzīves labklājību un iekšējās saskaņotības izjūtu (Feldt, Metsäpelto, Kinnunen, & Pulkkinen, 2007), dzīves labklājību un apzinātību (Davis & Hayes, 2011), kā arī, atsevišķi pētot dzīves jēgu, pierādīts, ka skaidrāka dzīves jēgas izjūta ir saistīta ar lielāku dzīves labklājību (Heitzelman & King, 2014). Taču nav izdevies atrast pētījumus, kur tieši tiktu pētīta saistība starp apzinātību un iekšējās saskaņotības izjūtu un/vai dzīves jēgas izjūtu, viedumu un vecuma grupām.

Zinātniskajos pētījumos ir atrodamī pētījumi, kuros tiek kopā pētīti viedums un apzinātība, taču pētījumus, kuros būtu apskatītas vieduma un apzinātības sakarības un atšķirības nav daudz.

Tā kā šajā rakstā ir apkopoti divu lielāku pētījumu, kas veikti Rīgas Pedagoģijas un izglītības vadības akadēmijā (Svence, Bebre, Mihailova, 2014), rezultāti, tad raksta mērķis ir apkopot rezultātus par pētījumiem pieaugušo vecumposma periodā vairākām izlasēm ($n_1 = 54$, $n_2 = 40$) dažādās vecuma grupās par vieduma, apzinātības un iekšējās saskaņotības rādītājiem. Pētījuma jautājumi: 1) vai pastāv matemātiski statistiski nozīmīgas atšķirības dažādās pieaugušo izlasēs pēc vieduma un apzinātības rādītājiem?, 2) vai pastāv matemātiski statistiski nozīmīgas sakarības starp pozitīvajā psiholoģijā aprakstītajiem fenomeniem- apzinātību, viedumu, labizjūtu un iekšējās saskaņas izjūtu vidējā brieduma vecuma sievietu izlasē?

Izmantotās metodes: Iekšējās saskaņotības izjūtas aptauja (Orientation to Life Questionnaire, Antonovsky, 1987; tulkota un adaptēta RPIVA, Anderemane, 2010- pēc Svences, Mihailovas), Apzinātības Piecu aspektu aptauja (Five Facet Mindfulness Scale (FFMQ), Baer, Smith, Hopkins, Krietmeyer, Toney, 2006; latviešu valodā adaptējis Māris Majors, 2012- pēc Majors, 2013), Psiholoģiskās dzīves labklājības mērīšanai tika izmantota Psiholoģiskās dzīves labklājības aptauja (Scales of Psychological Well-Being, Ryff, 1989; aptaujas tulkojumu latviešu valodā veica K. Beijere un S. Blumberga, RPIVA- pēc Svences, Mihailovas, 2014), Trīs-Dimensiju Vieduma Skala (Three-Dimensional Wisdom Scale – 3D-WS, Ardelt, 2003, adaptējusi V. Grīvza, 2012- pēc Svences, Bebres, 2014) un naratīvu kontentanalīze pēc teorijās bāzētās deduktīvās analīzes sistēmas.

Apzinātības, vieduma, iekšējās saskaņotības un labizjūtas jēdzieni un to saistība

Mindfulness, wisdom, sense of coherence and well-being- theoretical background and relevance

Apzinātība ir mērķtiecīga uzmanības pievēršana šajā brīdī notiekošajiem ārējiem un iekšējiem procesiem, skaidra un nevērtējoša šo procesu apzināšanās. Jo vairāk cilvēks ir pieradis tādā veidā fiksēt realitāti, jo precīzāk un ilgāk viņš

spēj apzināties, kas tieši notiek katrā konkrētā brīdī, saredzēt sakarības starp notikumiem, izprast savas reakcijas, ieraudzīt to patiesos iemeslus, kā rezultātā spēj efektīvāk rīkoties (Davis, Hayes, 2011). Savukārt iekšējās saskaņotības izjūta ir globāla orientācija, kas raksturo cilvēka pārliecību, ka viņa izpratne par dzīves laikā notiekošajiem ārējiem un iekšējiem procesiem atbilst realitātei, ka viņam pietiek resursu, lai pārvaldītu šos procesus, un ka dzīves izaicinājumi ir tā vērti, lai tos risinātu un ieguldītu tajos savus spēkus (Antonovsky, 1990). Dzīves jēga ir patstāvīgs un pēdējos gados plaši pētīts koncepts, bet tā ir arī viena no iekšējās saskaņotības izjūtas sastāvdaļām. Iekšējās saskaņotības izjūtas jēdziena autors Antonovskis uzskatīja, ka dzīves jēga ir iekšējās saskaņotības motivācijas daļa, kas nosaka cilvēka vēlmi iesaistīties dzīves procesu, un bez kuras pārējām jēdziena sastāvdaļām nav lielas nozīmes (Antonovsky, 1990). Savukārt citos pētījumos dzīves jēgas izjūta un tās meklējumi tiek uzskatīti par vienu no pamatmotivācijām jebkuram cilvēkam, jo caur to cilvēks izprot apkārtējo pasauli, izveido shēmas, kas sniedz kontroles izjūtu un iespējas paredzēt nākotni, piemēram, citu cilvēku darbības, kā arī rod motivāciju darboties un iesaistīties pasaules norises (Frankl, 1988; Yalom, 1980- pēc Svences, Mihailovas, 2014). Tādējādi visi trīs šajā darbā pētīti jēdzieni ietver dzīvē notiekošo procesu izpratni un motivāciju un iespēju tajos iesaistīties un efektīvi pārvaldīt. Viedums tiek uzskatīts kā kognitīvs process un kā rezultāts traumas gadījumā pozitīvai adaptācijai- tā ir spēja pārvarēt nenoteiktību, afekta un intelekta integrācija un cilvēkam raksturīgo ierobežojumu pieņemšanu (Linley, 2003- pēc Grīvzas, 2012). Lielākā daļa teorētiķu uzskata, ka viedums ir parasti vērojams kā attīstības, kura notiek cilvēka visas dzīves laikā, rezultāts, kurš parādās mūža otrajā pusē (Klaitons & Birrens, 1980; Sternbergs, 1986; Sowarka, 1989- pēc Sternberg, Jordan, 2005), kaut arī pastāv arī cits viedoklis, saskaņā ar kuru, laikam ejot viedums tiek zaudēts, nevis gūts (Meachams, 1990- pēc Svences, Bebres, 2014). Līdzīgi kā apzinātība viedums nav termins, kuru ir izdomājusi mūsdienu civilizācija, par viedumu runā jau antīkās civilizācijas. Visas tautas primitīvas vai civilizētas ir centušās nodot nākamajām paaudzēm savu viedumu teiku, pasaku, dziesmu un pat zīmējumu veidā, kas datējami 30 tūkstošus gadu atpakaļ. Vieni no tādiem seno civilizāciju vidū bija šumeri, kuri dzīvoja Mezopotāmijā. Vairāk kā 5 tūkstošus gadu atpakaļ viņi sāka organizēt valstis, būvēt pilsētas un izgudroja rakstību. Šumeri rakstīja uz māla tāfelēm un šīs atziņas ir klasificējamās kā senākā „vieduma literatūra”. Šī „vieduma literatūra” jau saturēja pirmās filozofiskās atziņas, tādas kā „Mēs esam nolemti mirt, ļaujiet mūs pavadīt”. Taču šajā kontekstā viedums parādījās vairāk kā praktiski padomi (Sternberg R.J., J.Jordan, 2005).

Visi trīs jēdzieni ir saistīti ar virkni citu psiholoģijā pētīto jēdzienu un parādību, piemēram, gan apzinātība, gan dzīves jēga, viedums un it īpaši iekšējās saskaņotības izjūta ir negatīvi saistīti ar negatīvo afektivitāti, trauksmi un depresīviem simptomiem, stresa uztveri un reakciju, kā arī visi trīs ir pozitīvi saistīti ar pašefektivitāti, identitāti un autonomiju un sociālo atbalstu (Hart,

Ivtzan & Hart, 2013; Davis & Hayes, 2011; Pallant & Lae, 2002; Feldt et al., 2007). Gan apzinātība, gan iekšējās saskaņotības izjūta ir cieši un pozitīvi saistīti ar labāku veselību un veselību veicinošo uzvedību, kā arī kontroles izjūtu. Pastāv arī sarežģītākas saistības, piemēram, apzinātība pozitīvi ietekmē emociju pašregulāciju, kas savukārt veicina kontroles izjūtu, uzlabo kognitīvas funkcijas (tai skaitā viedumu), pozitīvi ietekmē veselību, kas savukārt ir saistīts ar augstāku iekšējās saskaņotības izjūtu (Brown & Ryan, 2003; Davis & Hayes, 2011; Nelsson, 2014).

Kā šie fenomeni ir saistīti ar vecumposmu?

Runājot par viedumu, Bierlijs (pēc Grīvzas, 2012) indivīdi var iegūt viedumu ar pieredzes palīdzību (t.i., cikliskuma novērojumi un apceres, kas noved pie plašākas konteksta sapratnes), garīgumu (t.i., pašrefleksija un ticība, darot pareizās lietas) un aizrautību (t.i., pārliecības stiprums darboties). Šis koncepts iesaka, ka jebkura metode, novērtējot praktisko viedumu, nefunkcionē instrumentāli kā vieduma iegūšanas instruments, bet gan ilustratīvi ir kā līdzeklis, palielinot cilvēka izpratni par to, kā viedums var parādīties, un tas attīstās un nostiprinās līdz ar vecumposmu, kristāliskā intelekta attīstību, personības iezīmēm. Līdz ar to pētījuma jautājuma – vai pastāv saistība starp vecumposmu un viedumu- pamatā ir attīstības psiholoģijas izvirzītā hipotēze, ka viedums korelē ar vecumposmu, un ar vecumposmu korelē arī apzinātības līmeņu pieaugums, un apzinātība paaugstina tādas pozitīvas īpašības kā apzināšanos, iekšējās atklāsmes, viedumu, līdzietību, nosvērtību (Goldstein, 2002, Kabat- Zinn, 2000, kā minēts Baer, 2006). Kognitīvais vieduma komponents mēra dzīves sapratni vai vēlmi zināt patiesību. Tas iekļauj zināšanas par iecietību pret neskaidrību un nenoteiktību. Reflektīvais vieduma komponents mēra spēju apskatīt parādības un notikumus no dažādiem skatu punktiem un izvairīties no subjektivitātes un projekcijām

Daudzas vieduma definīcijas satur kognitīvos un reflektīvos elementus, bet vieduma afektīvā dimensija bieži netiek ņemta vērā (Ardelt, 2003, kā minēts Majors, 2013). Monika Ardelta uzskata, ka viedums būtu jāmēra, novērtējot cilvēku viedumu nevis viņu „zināšanu” viedumu, bet kā kognitīvo, reflektīvo un afektīvo personības iezīmju vienlaicīgu klātbūtni, kas ir pietiekama, lai cilvēku uzskatītu par viedu (Ardelt, 2004, kā minēts Majors, 2013).

Zinātniskajos pētījumos ir atrodami pētījumi, kuros tiek kopā pētīti viedums un apzinātība, taču pētījumus, kuros būtu apskatītas vieduma un apzinātības sakarības un atšķirības pa vecuma grupām nav daudz.

Materials and Procedures

Pētījumā tika izmanota Apzinātības Piecu aspektu aptauja (Five Facet Mindfulness Scale (FFMQ)), Baer, Smith, Hopkins, Krietmeyer, Toney, 2006; aptaujas adaptāciju latviešu valodā veica Māris Majors, maģistra darba “Apzinātības Piecu aspektu aptaujas (Five Facet Mindfulness Scale (FFMQ))

adaptācija,” ietvaros, (2012)). FFMQ paredzēta, lai iegūtu respondentu apzinātības un tās apakšskalu - pamanīšanas, aprakstīšanas, apzinātas rīcības, nevērtēšanas, nereagēšanas pašnovērtējuma - rādītājus. Apzinātības piecu aspektu aptauja sastāv no 39 apgalvojumiem, kas jānovērtē 5 punktu Likerta skalā no „nekad vai ļoti reti” līdz „ļoti bieži vai vienmēr”.

Aptaujā ir piecas apakšskalas, kuras Harts ar kolēģiem (Hart et al., 2013) raksturoja šādi:

- 1) pamanīšana, kas raksturo noslieci pamanīt ārējos un iekšējos stimulus, piemēram, emocijas, domas, skatus un smaržas; panta piemērs: „Es ievēroju, kā ēdiens un dzēriens ietekmē manas domas un ķermeņa sajūtas”;
- 2) aprakstīšana – spēja aprakstīt savu pieredzi ar vārdiem; panta piemērs: „Man labi izdodas atrast pareizos vārdus, lai izteiktu savas sajūtas”;
- 3) apzināta rīcība – uzmanības pievēršana tajā brīdī notiekošajam kā pretstats „autopilota” režīmam; panta piemērs: „man grūti ilgstoši koncentrēties uz to, kas notiek esošajā momentā”;
- 4) iekšējās pieredzes nevērtēšana – spēja ieņemt nevērtējošo pozīciju attiecībā uz domām un emocijām; panta piemērs: „es vērtēju, vai manas domas ir labas vai sliktas”;
- 5) nereagēšana uz iekšējo pieredzi – ļaušana domām un jūtām pāriet, neiekritot to slazdā; panta piemērs: „Kad man ir mokošas domas vai vīzijas, es spēju tās tikai pamanīt, bet nereagēt uz tām”.

Tika izmantota arī Iekšējās saskaņotības izjūtas aptauja (Orientation to Life Questionnaire, Antonovsky, 1987). Aptauja sastāv no 29 jautājumiem. Latvijā ISI aptauja tulkota un aprobēta A.Veilande, N.Bahmačova (2000), I.Rūtiņa (2003), A.Miltuze, A.Upmane, K.Mārtinsons, K.Maslovska, I.Bite (2002, 2004), Andermanes (2007) darbos (Andermane, 2007). Atbilžu skala sastāv no septiņiem semantiski dažādiem punktiem. Aptaujas vienpadsmit panti mēra saprotamības izjūtu (panta piemērs – „Kad Jūs sarunājieties ar cilvēkiem, vai Jums ir izjūta, ka viņi Jūs nesaprot?”), desmit panti – pārvaldāmības izjūtu (panta piemērs – „Cik bieži Jums ir sajūta, ka nespējat kontrolēt savu dzīvi?”) un astoņi panti – jēgas izjūtu (panta piemērs – „Cik bieži Jums ir izjūta, ka tam, ar ko Jūs ikdienā nodarbojoties, nav lielas nozīmes?”). Antonovskis uzsvēra, ka konstrukts jāanalizē kā vienfaktora vienība, nedalot to komponentos. Vairākos pētījumos veiktas faktoru analīzes apstiprināja šo viedokli, taču pastāv arī citas interpretācijas (Holmberg et al., 2004).

Pētījumā tika izmantota arī Psiholoģiskās dzīves labklājības aptauja (Scales of Psychological Well-Being, Ryff, 1989; aptaujas tulkojumu latviešu valodā veica K. Beijere un S. Blumberga, RPIVA). Aptauja sastāv no 6 skalām pa 9 jautājumiem katrā, kopā 54 jautājumi. Skalu pamatā ir dzīves labklājības aspekti saskaņā ar Rifas daudzdimensionālo dzīves labklājības modeli (Ryff, 1995). Taču šajā rakstā rezultāti atklāj tikai šīs aptaujas vispārīgo rādītāju, neiedziļinoties skalās raksta apjopma ierobežojuma dēļ.

Rezultāti *Results*

Datu vākšanai tika izmantota interneta vietne visidati.lv, kur tika ievietota aptauja, un tika izsūtīti e-pasti ar lūgumu aizpildīt pievienotu elektronisku anketu vai aizpildīt internetā ar lūgumu pārsūtīt tālāk. Pētījumā par vecumposma saistību ar viedumu (Svence, Bebre, 2014)- pētījuma dalībnieki bija 54 respondenti vecumā no 20 gadiem līdz 45 gadiem (vidējais vecums $M = 34,42$, $SD = 6,62$), 82,7% no respondentiem bija sievietes un 17,3% bija vīrieši. Pētījumā par apzinātības, iekšējās saskaņas izjūtu un labizjūtu pētījuma dalībnieki bija 36 latviski runājošas sievietes vecumā no 25 līdz 45 gadiem ($M = 33,7$ gadi, $SD = 5,6$ gadi).

Tā kā iekšējās saskaņas izjūtas kategoriju definēšanai tika izmantota naratīvu kontentanalīze, tad 1. Tabulā attēlotas kategorijas un satura vienības pēc 36 sieviešu atbildēm.

Table 1. Iekšējās saskaņotības izjūtas sastāvdaļu atspoguļojums
Factors of sense of coherence according qualitative research

<i>Kategorija</i>	<i>Satura vienība</i>
Saprotamība	R2: Agrāk man likās, ka man neko nevajag, ka es varu tā vai šitā, bet tagad es pavisam skaidri saprotu, ko es gribu un ko negribu R11: patīk sakārtot lietas, salikt visu pa plauktiņiem R33: analizēju, kāpēc man šāda mācību stunda bija vajadzīga R36: Daudz skaidrāk sāku apzināties savas iespējas, mērķus, vajadzības
Mācīšanās	R14: tā man ir laime, lasīt Rodžersu, Jungu, Maslovu, par flow, well being, mācīties to pašu sevis pieņemšanu un pieredzi R21: dzīve, apstākļi un sīkas situācijas, kas noveda pie dažādu lekciju klausīšanās, piemēram, Torsunovs R26: apgūstu astroloģiju, lai spētu labāk iepazīt sevi, jo jūtu, ka nedzīvoju īsti savu dzīvi
Pārvaldāmība	R3: kad laiks ir slikts, tad vienkārši vajag atbilstošu apģērbu, tas tomēr ir labāk nekā tur... ofisā sēdēt R10: Gribas, lai vienmēr pietiktu spēka, mīlestības un gaišu domu R12: Es nepadevos vētrām un negaisiem, kas manu dzīvi plosīja, jo jutos par savu nākotni pārlicināta R21: Un apzināšanās, ka tas [lekcijās iemācītais] darbojas R22: Man šķiet svarīgi izpildīt sev paredzēto misiju uz zemes izmantojot un pielietojot tos talantus ko Dievs ir dāvējis man R27: Sajutos kā ragana, kura var visādas lietas, ko parasti cilvēki nevar

Atspoguļotās kategorijas saturiski/semantiski sakrīt ar Antonovska koncepciju par iekšējās saskaņas izjūtas rādītājiem-dzīves pārvaldāmība./saprotamība. Saprotamības semantiski ir saistāma ar apzinātības fenomena un vieduma saturu, jo tie ir kognitīvo procesu raksturlielumi. Bet kvalitatīvā izpēte

parādīja, ka sieviešu naratīvos par dzīves jēgu bija ļoti maz satura vienību, ko varētu saistīt ar apzinātību.

Tā kā kvalitatīvajā daļā netika atrasti visi iekšējās saskaņotības rādītāju pēc Antonovska (Antonovsky, 1990) modeļa, tad tika veikta kvantitatīvā datu analīze pēc Antonovska aptaujas, lai noskaidrotu pozitīvās psiholoģijas (humānisma paradigma) trīs svarīgāko konceptu – labizjūta, apzinātība- saistību ar iekšējās saskaņas izjūtu, kas vairāk attiecināms uz eksistenciālo psiholoģiju, bet semantiski izmanto līdzīgu konceptu, kā dzīves jēga, dzīves saprotamības izjūta, kas ir tuvu gan K. Rifas (Ryff, 1995) izveidotajai eidemoniskās labizjūtas koncepcijai (dzīves jēgas izjūta, sevis pieņemšana, autonomijas izjūta u.c.) un Ardelas (Ardel, kā minēts Majors, 2013) koncepcijai par apzinātību.

Lai noskaidrotu esošajai izlasei kvantitatīvās daļas pētījuma uzdevumu- pārbaudīt, vai pastāv statistiski nozīmīgas sakarības starp apzinātības, labizjūtas un iekšējās saskaņas rādītājiem, tika veikta visu rādītāju korelāciju analīze, kas atspoguļota 2. tabulā.

Table 2. Sakarības starp Apzinātību, Iekšējās saskaņotības izjūtu un Psiholoģiskās dzīves labklājības kopējo rādītāju
Correlation between Mindfulness, Sense of Coherence and Well-being

<i>Mainīgie lielumi</i>	<i>1.</i>	<i>2.</i>	<i>3.</i>
1. Apzinātība (mindfulness)	--		
2. Iekšējās saskaņotības izjūta (sense of coherence)	0,60**	--	
3. Psiholoģiskā dzīves labklājība (well-being)	0,50**	0,56**	--

Piezīme. $N = 36$. ** $p < 0,01$.

Rezultāti saskan ar citu līdzīgu pētījumu rezultātiem, kur novērota cieša pozitīva sakarība starp apzinātību un psiholoģisko dzīves labklājību un starp iekšējās saskaņotības izjūtu un psiholoģisko dzīves labklājību. Apzinātības un iekšējās saskaņotības izjūtas savstarpējā sakarība norāda, ka šie divi koncepti ir cieši pozitīvi saistīti, t.i. jo augstākā ir apzinātība, jo augstāka ir arī iekšējās saskaņotības izjūta, kas saskan arī ar Veisbekeris un kolēģu (Weissbecker et al., 2002) atklājumu.

Lai detalizētāk saprastu sakarības starp apzinātības (pēc Ardelas, kā minēts Majors, 2013) koncepta saturu un iekšējās saskaņas izjūtas rādītājiem (ISI), tika aprēķināti korelācijas koeficienti starp abu aptauju skalām (3. tabula).

Šajā izlasē novērota cieša pozitīva sakarība starp ISI aptaujas pārvaldāmības skalu un gandrīz visām FFMQ skalām (aprakstīšana, apzināta rīcība, nevērtēšana, nereaģēšana) un starp ISI saprotamības skalu un FFMQ apzinātas rīcības un nevērtēšanas skalām. Ņemot vērā saprotamības un pārvaldāmības savstarpējo pozitīvu ciešu korelāciju ($r=0,63$, $p<0,01$), rezultātus var interpretēt šādi: ja cilvēks spēj labāk aprakstīt savu šī brīža pieredzi,

precīzāk apzināties savas darbības, neļauties vērtējumiem par situāciju un savu iekšējo stāvokli un mierīgi vērot notiekošo, nereaģējot uz to ar emocijām, tad viņš daudz skaidrāk un pilnīgāk izprot situācijas norisi un cēloņus un spēj piemeklēt efektīvākus resursus situācijas atrisināšanai. Savukārt jēgas izjūta neuzrāda statistiski nozīmīgas korelācijas ar apzinātības skalām, ko, iespējams, var skaidrot ar jēgas izjūtu kā vairāk statisko priekšstatu par dzīvi un pasauli, motivējošo elementu iesaistīties notikumos, taču apzinātība vairāk atbilst notikumu procesam, kas norisinās un mainās ik mirkli. Nozīmīgu korelācija neesamība saskan arī ar šī pētījuma kvalitatīvās daļas secinājumu, ka sieviešu naratīvos par dzīves jēgu bija ļoti maz satura vienību, ko varētu saistīt ar apzinātību.

Table 3. Korelācijas starp apzinātības aptaujas (FFMQ) un Iekšējās saskaņotības izjūtas aptaujas skalām
Correlation between subscales of Mindfulness and Sense of Coherence

Mainīgie lielumi	1.	2.	3.	4.	5.	6.	7.
1. Pamanīšana (Observe)	--						
2. Aprakstīšana (Describe)	0,20	--					
3. Apzināta rīcība (ActAwareness)	-0,19	0,43**	--				
4. Nevērtēšana (Nonjudge)	-0,44**	0,29	0,48**	--			
5. Nereaģēšana (Nonreact)	-0,17	0,34*	0,38*	0,37*	--		
6. Saprotaamība (comprehensibility)	-0,25	0,19	0,62**	0,51**	0,23	--	
7. Pārvaldāmība (manageability)	-0,09	0,48**	0,48**	0,58**	0,33*	0,63**	--
8. Jēgas izjūta (meaningfulness)	0,18	0,32	0,32	0,29	0,17	0,24	0,61**

Piezīme. $N = 36$. * $p < 0,05$, ** $p < 0,01$.

Savukārt, atbildot uz pētījuma jautājumu, vai vieduma kategorija un apzinātības kategorija ir saistīta ar vecuma grupu atšķirībām pieaugušo izlasē, tika iegūti rezultāti, ka atšķirība ir tendenču līmenī, datus skatot pēc ballēm, bet sakarības starp vecumposma (4. tabulā „vecums”) kategoriju un vieduma dimensijām (kognitīvā, reflektīvā, afektīvā un vieduma kopējo rādītāju) un apzinātības kategorijām (pamanīšana, aprakstīšana, pazināta rīcība, nevērtēšana, nereaģēšana) nav matemātiski statistiski nozīmīgi lielas. Savukārt sakarības

starp apzinātības visiem rādītājiem un apzinātības kopējo rādītāju šajā izlasē ir statistiski nozīmīgas.

Table 4. Sakarības vieduma skalām un apzinātības skalām ar vecumposma kategoriju un sakarības starp vieduma un apzinātības skalām
Correlations between age as variable with scales of Wisdom and Mindfulness and correlation between subscales of Wisdom and Mindfulness

	Pamanīšanas apakšskala (Observe)	Aprakstīšanas apakšskala (Describe)	Apzinātas rīcības apakšskala (Awareness)	Nevērtēšanas apakšskala (Nonjudge)	Nereagēšanas apakšskala (Nonreact)	Apzinātība (Mindfulness)	Vecums (Age)
Vieduma Kognitīvā dimensija (Cognition level of Wisdom)	-0.076	0.308	0.243	0.329	0.207	0.396*	0.289
Vieduma Reflektīvā dimensija (Reflection of Wisdom)	-0.006	0.294	0.296	0.329	0.307	0.468**	0.206
Vieduma Afektīvā dimensija Afectivity of Wisdom)	-0.044	0.174	0.267	0.314	0.026	0.305*	0.128
Viedums (General Wisdom)	-0.054	0.329	0.336	0.407	0.231	0.491**	0.265
Vecums (Age)	0.085	-0.005	-0.010	-0.174	0.240	0.019	

Pilnīgākas informācijas iegūšanai par iespējamo vecuma apakšgrupu saistību ar mērāmajām kategorijām un citiem mainīgajiem iegūtie dati tika analizēti vēl dažādos citos griezumos, sadalot respondentus dažādās vecuma apakšgrupās: 20-30.gadi, 31-40.gadi; 41-50.gadi;

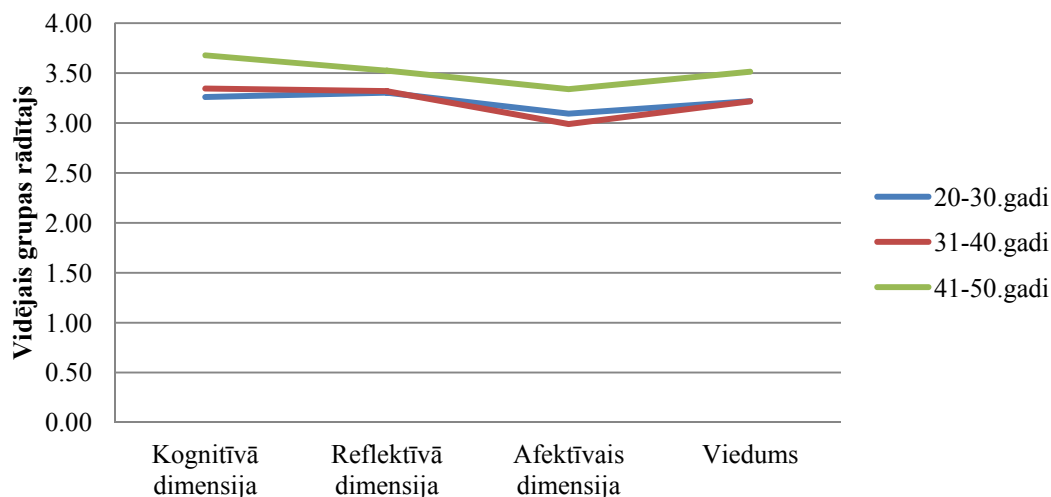
Saskaņā ar Trīs dimensiju vieduma aptaujas rezultātiem, lielākā daļa respondentu atbilžu rezultātu ir intervālos no 2,51 līdz 4,00.

Table 5. Trīs-dimensiju vieduma aptaujas rezultātu apkopojums sadalījumā pa vecuma grupām

Intervals of scores from Subscales of Wisdom in 3 age groups

Vecuma grupa (Age groups)	Kognitīvā dimensija (Wisdom Cognition)	Reflektīvā dimensija (Wisdom Reflection)	Afektīvais dimensija (Wisdom Afectivity)	Viedums (General Wisdom)
20-30 gadi	3,26	3,30	3,09	3,22
31-40 gadi	3,34	3,32	2,99	3,22
41-50 gadi	3,68	3,53	3,34	3,51

Kā redzam 5. tabulā un 1. attēlā, vieduma rādītāji pēc ballēm augstāki ir 41-50 gadu vecumā konkrētajā izlasē. Iespējams, ka iepriekš aprakstītie rezultāti, ka starp vecuma kategoriju un viedumu nav matemātiski statistiski nozīmīgas sakarības ietekmēja mazā izlase, kas attiecībā pret populāciju nav reprezentatīva un tas liek pētījumu turpināt.



1.att. Vieduma 3 dimensiju vidējās balles intervālos 3 vecuma grupām

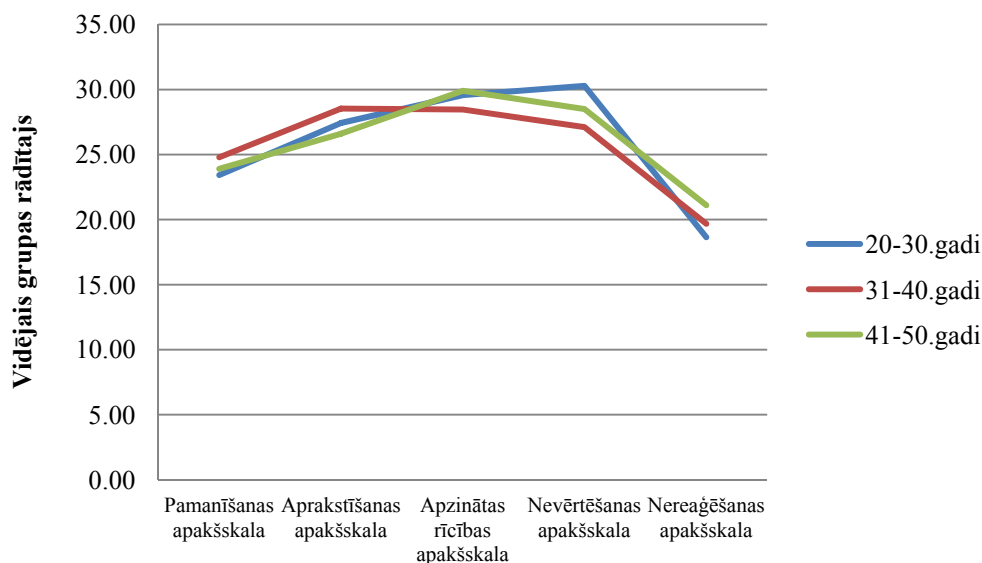
Fig.1 Scores of 3 subscales of Wisdom in 3 age groups

Tas pats tika mērīts, izzinot, vai atšķiras rādītāji pēc ballēm trīs vecuma grupās, mērot apzinātības testa skalas.

Table 6. Piecu aspektu apzinātības aptaujas rezultātu apkopojums sadalījumā pa vecuma grupām

Intervals of scores in 3 age groups in subscales of Mindfulness

Vecuma grupa (Age groups)	Pamanišanas apakšskala (Observe)	Aprakstīšanas apakšskala (Describe)	Apzinātas rīcības apakšskala (ActAware)	Nevērtēšanas apakšskala (Nonjudge)	Nereagēšanas apakšskala (Nonreact)	Apzinātība (Mindfuln)
20-30 gadi	23,43	27,43	29,57	30,29	18,64	129,36
31-40 gadi	24,79	28,54	28,46	27,11	19,68	128,57
41-50 gadi	23,90	26,60	29,90	28,50	21,10	130,00



2.att. Intervāli ballēs par 5 aspektu Apzinātības skalas mērījumiem 3 vecuma grupās
Fig.2 Scores of intervals in 3 age groups according 5 subscales of Mindfulness

Analizējot iegūtos rezultātus, var secināt, ka vecumam nav būtiskas ietekmes uz apzinātības rādītāju, lai arī kopējie apzinātības rādītāji ir augstāki vecuma grupā no 41-50 gadiem, taču to atšķirība nav būtiska, salīdzinot rādītājus ar citām vecuma grupām pieaugušo izlasē.

Secinājumi Conclusions

Atbildot uz pētījuma jautājumu- vai pastāv matemātiski statistiski nozīmīgas atšķirības dažādās pieaugušo izlasēs pēc vieduma un apzinātības rādītājiem- tika atrasti rezultāti, ka nepastāv statistiski nozīmīgas atšķirības starp dažādām pieaugušo izlasēm, bet vieduma rādītājos, analizējot tos pēc ballēm, tendenču līmenī tika konstatēts, ka 40-50 gadnieku izlasē tie ir augstāki, ko var saistīt ar izglītības faktoru, pieredzes faktoru un kristāliskā intelekta attīstības faktoru šajā vecumposmā.

Atbildot uz pētījuma jautājumu- vai pastāv matemātiski statistiski nozīmīgas sakarības starp pozitīvajā psiholoģijā aprakstītajiem fenomeniem- apzinātību, labizjūtu un iekšējās saskaņas izjūtu vidējā brieduma vecuma sievietes izlasē- tika konstatēts, ka savā starpā cieši pozitīvi korelē: vairākas apzinātības skalas un Iekšējās saskaņas izjūtas (ISI) Saprotamības un Pārvaldāmības skalas, kas norāda uz apzinātības saistību ar spējām izprast un pārvaldīt dzīves situācijas, taču netika konstatēta matemātiski statistiski nozīmīga korelācija ar jēgas izjūtu; kā arī tika konstatēts, ka matemātiski statistiski nozīmīgi korelē Psiholoģiskās dzīves labklājības (Ryff, 1998) Sevis pieņemšanas un Autonomijas skalas, no 5 faktoru Apzinātības skalas (FFMQ) visciešākā korelācija ir Aprakstīšanas skalas rezultātiem ar visām trīs

ISI skalas, kas norāda uz identitātes, „es” tēla saistību ar apzinātību, iekšējās saskaņotības izjūtu un labklājības izjūtu pēc eidemoniskās labizjūtas modeļa.

Summary

The aim of the research (Svence, Mihailova, 2014) was to make theoretical and practical analysis of correlations between sense of coherence, mindfulness and wellbeing among 25-45 year old women, as also make qualitative analysis in order to explore one of the sense of coherence categories – mindfulness. Research has shown that there exists positive correlation between well-being and sense of coherence and between well-being and mindfulness, as also it has been shown that higher scores of sense of meaning in life is related to higher scores of well-being, yet there are nearly no research where the correlations between mindfulness and sense of coherence and/or meaningfulness would be explored.

Principal question of the research was to investigate if there is correlation between scores of sense of coherence, mindfulness and wellbeing.

Sample was 36 participants who took place in this research who were asked to fill three questionnaires via internet and to participate in the interview. Quantitative methods were used in the research (Five Facet Mindfulness Questionnaire, Orientation to Life Questionnaire to measure sense of coherence, Scales of Psychological Well-Being), as well as statistical methods (Pearson correlation) and qualitative method (content analysis of narratives).

Quantitative analysis confirmed the question of the research, since there were significant positive correlations discovered between all three concepts – sense of coherence, mindfulness and wellbeing. Content analysis of narratives was made and several typical content units were discovered which are related to age appropriate meaningful life tasks, and to the processes of sense of coherence. Therefore the association between meaning of life and other- sense of coherence components- was confirmed.

There was other dimension of research was described in this article about wisdom and meaningfulness scores- how they correlates and differs in different age subgroups in adulthood. This idea before made by other researchers (Svence, Bebre, 2014) and was interested author of this article – with other sample.

There are some results show- scores of wisdom and mindfulness are not mathematical statistical significant differ in different age groups- early adulthood (20-35), middle age (40-55), but differences has been found about wisdom in early adulthood and middle age – according scores – wisdom is more higher in middle age as in early adulthood.

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EVALUATION AS AN INDIVIDUAL AND ORGANIZATIONAL LEARNING PROCESS THE RESEARCH EXPERIENCE OF THE EUROPEAN PROJECT- EDUEVAL

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***Abstract.** Adult education services – in Italy and Europe – are strongly in need of an advanced evaluation culture. How may we create the necessary conditions for the educational value of high-quality evaluation to be recognized? What does “evaluate” mean for managers of adult education staff? What organizational and relational dimensions are called into play by evaluation practices? How should evaluation be carried out in training groups, occupational skills programmes and in services providing care for fragile adult subjects? What knowledge disciplines should be included in the education and training profile of evaluators who wish to bring mindfulness and rigour to the implementation of their role? This paper examines the aims and instruments adopted by the European project EDUEVAL, presenting the results of a qualitative study conducted with a purposive sample of official and unofficial evaluators in Italian adult education contexts, and exploring the educational and learning dispositives required to make evaluation a practice motivating and fostering high-quality educational work within an organization.*

***Keywords:** affect, education, training, group, organization, evaluation.*

Introduction: the European background to the EDUEVAL project

It is now widely accepted by both academics and politicians that adult education has a key role to play in bringing to light and transforming social conditions in Western societies and in supporting new visions of inclusion and intercultural democratization in Europe over the coming decades (Buiskool, Broek, 2014) EU policies have long identified the adult education sector as a potential driver of innovation, with the power to revitalize the jobs market, in the current conditions of serious instability in Europe. The educational dimension assumes even greater importance in light of the profound economic crisis that has affected the European economy over the past twenty years.

A recent study, (Motschilning, 2014) conducted in 19 EU and non-EU countries, shows that investments in adult education yield returns for the economy as well as for individuals and society. The analysis suggests that adult learning has a crucial contribution to make to the future of the EU, being even more critical to attaining innovation targets than secondary education systems. The research pointed up, for example, that on-the-job learning, which addresses the complexity of the tasks, is the leading factor in innovation outcomes.

The EDUEVAL project explores the theme of evaluating the work of adult education staff, by comparing the models and practices of evaluation in the

countries of the project partners (Italy, Spain, Greece, Latvia and Poland). Evaluating the work of a team engaged in professional skills training or in the care and rehabilitation of adults in difficulty, is a key challenge today. Evaluating means looks for new ways of improving the quality of educational interventions, of promoting new work models and strategies, and of allowing educational sectors otherwise at risk of conforming to excessively narrow and inadequately problematized perspectives, to develop new *horizons* that are innovative and open to designing interventions to cater for the new needs of a continuously evolving social fabric. The leading aim of the EDUEVAL project is to draw up a European-wide evaluator profile, via the definition of an educational/training pathway and professional guidelines for those wishing to enter this delicate profession, in an era in which worker mobility has become a necessity.

Indeed, although evaluation is a key focus of interest within both the international scientific debate (Barbier, 1985; Bezzi 2001, 2007; Patton, 2010) and the organizations called upon to account for their work and to measure the impact of their interventions on the adult learner population, it is more difficult to pin down the precise competences and professional profile required by an evaluator or the processes of cultural transformation set off by evaluation practices within organizations whose role is to safeguard, promote and provide care for adults in conditions of temporary or permanent disadvantage. If we are to go beyond viewing evaluation as a merely formal act of certifying the quality of a service, we cannot but explore the process that this practice sets off within educational services and reflect on the changes in their educational cultures that it provokes.

We are particularly interested in the theme of evaluation because, in our role as educational scientists, getting value from processes of evaluating the work of educational staff, means intervening to enhance the learning processes of the professional figures involved, and investing from a future-oriented perspective, in the knowledge and competence available within an organization in the area of education/training, in order to reinforce its identity and enhance its ability to define and transform its own internal work processes.

In order to meet this objective, we investigated – by means of a recently concluded qualitative phase of our research conducted in all the partner countries – the multiple representations of evaluation held by a purposive sample of official and unofficial evaluators, in order to advance our understanding of how such representations shape – within diverse epistemological frameworks and models of intervention – the evaluation practices implemented across the different countries.

The Research Plan: goals and methodology

Our research plan was outlined in the following levels, each one functional for the achievement of specific goals yet integrated in connection with the above specified purposes:

1. A desk–research aiming to explore and systematize in a critical way the national and international literature regarding the topic of the evaluation in adult education, finalized to let its theories and most qualified and current scientific models emerge. Furthermore, the research has gone over the evolution of the regulatory plans in the last decades as regards to the laws governing the sector of adults' education and has carried out a deep analysis of the evolution of European policies in this area.
2. A qualitative and «micro-pedagogical» research (Demetrio, 1992) carried out with a selected sample of twenty official and non official evaluators who act on the Italian territory and especially in two of the widest and most representative regions (Lombardy and Puglia), with whom we conducted several semi-structured interviews. Our goal has been to investigate with a «clinical» approach ((Massa, 1993; Riva, 2004) to the texts analysis, the plaiting between cultural meanings and representations of the evaluation, starting from the point of view and from the professional work experience of each single evaluator involved, in order to highlight similarities and differences from the comparative analysis of the texts produced, of which this article offers a critical synthesis;
3. A «participatory action research» phase (Reason, 1995) achieved through a five days residential workshop, that took place in Crete last July. Professionals active in the evaluation area, coming from the various different territorial realities represented in the project, have worked side by side with the researchers to develop a shared knowledge, through a constructionist and cooperative research approach. Each Country has presented one case- study that has been the subject of a critical/reflective work (Schön, 1993) realized among the transnational groups. Through the arrangement of a work setting oriented to the exchange of experiences, it has been possible to reflect on different epistemologies that direct the evaluation practises in the various contexts and to start an interesting process of intercultural dialogue aimed at goals of transformative learning.

The key role of the educator from the European perspective

The emerging strategic vision of the European Union is that of an adult who is constantly engaged in growth and development, and who is capable, via targeted educational and self-educational pathways, of constructing new

insights, new mentalities and new existential and professional instruments for exercising his/her role as a responsible citizen, in a society in which democracy increasingly appears to be an outcome dependent on adults' increasing involvement in processes of mindful selection and choice. Attaining such objectives implies revisiting society's fundamental values, in light of the contribution that each individual citizen can make to the transformation of the social and cultural fabric (Orefice, 2005). The idea is for adult education to become one of the most advanced sectors within a society that aims to:

Encourage ecologically sustainable development, with a view to promoting democracy, justice, gender equality, and social, scientific and economic development and to building a world in which violent conflict is replaced by dialogue and a culture of peace based on justice (De Natale, 2006, p.13)

Adult education, furthermore, is the sector devoted to reinforcing the competences of marginalized subjects, by tapping into their residual resources and targeting effective inclusion processes enhancing their quality of life. This specific aspect of adult education makes it the operational arm of an advanced society offering equal education opportunities to all its citizens, independently of initial conditions of disadvantage, and actively implementing educational pathways to develop the autonomy and inclusion of all community members. Respect for diversity, tolerance and promoting difference thus become the key principles of an authentically intercultural society, which is capable of responding to new educational and care requirements emerging from a social fabric that is increasingly complex and stratified.

Viewed from this perspective, the cultural and social role of educators becomes critically important (Tramma, 2008). As an occupational category, educators, above all others, appear to be called to rethink their own cultural assumptions and to develop ongoing critical reflection on the educational value of their intervention models and practices, precisely because they have been assigned strategic responsibility for embodying the new values in their operational programmes. The cultural role of educators is given by their role as mediators, with the capacity to create new and concrete opportunities for social inclusion for the most fragile categories of adults in a society, which, due to its emphasis on the sophistication of knowledge, runs the risk of increasing the gap between adults who are capable of responding to the challenges of a constantly changing world and oriented towards high levels of performance and competitiveness, and those who, due to different forms of disadvantage, can easily find themselves in even more marginalized situations that diminish, rather than augmenting, their presence and exercising of their rights. It is precisely educators' currently weak professional profile and their daily involvement through their work with the needs of disadvantaged adults, which makes them a key investment priority within the overall effort to promote *lifelong learning*.

One of the cornerstones of our research project was to generate exchange among educators and trainers from a range of adult education services in order to

promote the comparison of the different educational perspectives underpinning their models and practices of evaluation. This process took place at a residential workshop in held in Crete in July 2014, with the participation of evaluators from the countries of the research partners, who worked side by side with the research teams to develop a shared knowledge. Following a case-study methodology, transnational discussion groups were set up to reflect on the different epistemologies orienting evaluation practices in the different contexts and to initiate a valuable process of intercultural exchange aimed at attaining transformational learning outcomes.

Examining the paradoxes of evaluation: resources and problem areas identified in relation to the Italian evaluation scene

The overall situation of education services in Italy today appears to feature contradictions and paradoxes, which must necessarily be taken into account in addressing the theme of evaluation (Benedetti, Donati, Fazioli, Maffeo, 1997; Kanéklin, 2000; Ulivieri Stiozzi, 2015). Our findings suggest, also in light of the comparison with other European contexts, that evaluation practices can function as dispositives that deviate socially-oriented cultures towards purely economic and profit-driven aims. The interview data for our entire sample indicates that evaluation is often subordinated to a key emphasis on the services' economic targets, and that evaluation does not always successfully capture organizational culture or bring to light its limitations and scope for potential change. Defining the quality of an intervention in services which produce immaterial goods is a complex process and an "impossible" task; it is difficult, for example, to establish criteria for evaluating the quality of an educational programme implemented with an adult with disability, without taking into account the many variables characterizing the life of the educational service. How does that particular team work? What is done to support the personal and professional growth of that specific work group? What are the educators' models of care and how do these models interact in the course of planning and evaluating their interventions? What is relationship between the wellbeing of the education staff and that of their clients?

The interviewees in our sample report that the world of education is complex: there is no one right approach and it is not possible to measure an outcome that is valid for all parties. The lack of objectiveness inherent in educational processes is also reflected in differences in the measurement criteria and the perspectives brought to bear on evaluation: education is a highly delicate area, that is challenging to pin down and is in a constant state of flux, such that in a given educational situation the initial aims may be constantly redefined as a function of real-time developments. Because education is a continuous and dynamic process, it is difficult to identify standardized instruments with the power to photograph and monitor such complexity. In such contexts, evaluation

must necessarily be viewed as a complex dispositive that assesses processes following a systemic logic.

Nonetheless, within a socio-political framework that pushes adult education services to optimize costs and produce objectively measurable outcomes, it may be that the educational knowledge and competence which pervades the daily life of an educational service is sacrificed; evaluation practices often consist of nothing more than a series of procedures and protocols which cut the information to be processed down to the minimum.

Instead of using such instruments with a pre-test function to assist in developing a shared and more exhaustive exploration of the processes implemented, there is a danger that the monitoring of a client's educational programme or of the level of satisfaction with an occupational skills course will be entirely delegated to codified instruments.

The accounts of the evaluators interviewed for our study clearly suggest that evaluation is an act which risks impoverishing educational work by bringing it into line with pre-defined standards and which fosters on the part of educators, often at an unconscious level, a tendency to develop a detached perspective on their work, and the inability to problematize the education contribution being implemented in a given setting:

In the reality of their daily work the educators themselves are so overburdened with everyday routine and contingencies that it is hard to elevate one's thoughts. So many actions are carried out in the educational services and they aren't seen. (M.A.)

In organizational as well as in educational settings, evaluation seems to have become totally proceduralized, an object that almost goes unobserved, hidden by the rules and about which one no longer reasons, one no longer even questions. Things are the way they are. (M.O)

The interviewees agree that evaluation is a dispositive driven by implicit codes that discipline behaviours and orient perspectives towards a superficial interpretation of information, which is often stripped of its historical, dynamic and contextual substrates. The invisible retreats and disappears from sight, leaving in the shadow the entire set of actions, behaviours and meanings that come to life within everyday relational processes in an educational setting.

Educators know, thanks to their training, that the vital core of their work lies in this ability to look beyond appearances and to empathically draw closer to their clients' vision of the world. They know that under the surface there is valuable material towards which they need to train their gaze. They know that educational work is acted out in the presence of oneself and the other, and that this presence is an embodied act of self-revelation, which requires a long time frame and the courage to learn from one's mistakes. They know that a united work group acts as a mirror required to integrate the perspectives of individual educators and to provide affective support to each of them at times of disorientation, doubt and frustration. But how can this dynamic process be

translated into a product accessible to evaluation? How may evaluation practices be adapted to sustain and value this process of educational growth within a service?

In the contemporary educational context, the risks of a homogenization of perspectives, and of a loss of critical and reflective capacity on the part of those operating in the sector, are concrete and shared by all of our interviewees: the participants in our study all stated that – if evaluation is to become a constellation of practices aimed at promoting processes of innovation – it must have a focus on targeted ongoing training processes for educators.

Transforming the practice of evaluation into a learning dispositive is nonetheless a highly delicate operation for which the whole organization needs to receive specific training: clearly defined criteria and transparent practices must be put into place, but above all, it is critical to co-construct, within each given educational setting, a high-level interpretation of evaluation bases on the ethics of behaviour, and which far from being highly regulated and prescribed, should be the outcome of a process of enquiry and negotiation within the organization.

Being evaluated indeed bears a high cost at the emotional level, particularly when those implementing it are not aware of the deep level at which they are acting, of their implicit power apparatus and of the fact that it elicits powerful emotions linked to the dynamics of personality formation of the individual being appraised:

It is tough because no matter how prepared for it you are, it is always something that touches deep chords that vibrate within us. It is challenging to manage at the relational and hierarchical levels, because those being appraised always tend to try to give a camouflaged image of themselves (S.S)

The evaluators recount that the first component of resistance to evaluation is to be found within the educators themselves, in their personal history and in the defences that they erect in the face of the threat of evaluation, experienced at the outset as an intrusive judgement, as a telluric movement shaking the foundations of their identity, still before those of their professional role.

We have psychoanalysis to thank for having brought to light the close link between our schemes of thought and our interpretation of experience leading us to behave in ways that are often unmediated by mindful or reflective thinking, as well as the unconscious history that formed them beginning in the earliest years of life with identification with our family's cultural models (Ferenczi, 1933; Riva, 1993; Kaës, 2009). An adult's systems of meaning are the outcome of well-established attribution processes, marked by the key experiences, traumas and ruptures scattered along his/her life path. Each of our «perspectives of meaning» forms and selectively delimits our perception, cognition, feelings and disposition, predisposing us to given intentions, expectations and aims». (Mezirow, 2000, p.11).

The emphasis placed by psychoanalysis on the process of unlearning as a fundamental prerequisite for the development of new learning is critical to our reflection here: any adults who wish to develop new forms of interpretation of the self and of reality, must take on the onerous task of revising the assumptions that have made them as they are, shaking up their own defence systems, shaped by archaic emotions that contributed to their erection and which have to do with the fulfilment of our deepest needs. Becoming open to a new system of attribution of meaning impacts on expectations and unconscious desires, eliciting the emergence of primitive anguish and anxiety that challenge the way in which, since our earliest childhood we have structured our relationship with the process of separating /disidentifying with our “internal objects”. (Klein, 1952).

The fear of being judged – expressed in the interview extract just quoted – is understandable given the process of revelation of previously unknown areas lit up by evaluation: allowing oneself to be read/interpreted/scrutinized by a colleague or superior is a significant and psychically painful experience; educators who make themselves available to do so must cope with the dismantling of their primary defences and with the pain associated with the professional self-representation which may elicit feelings of inadequacy and poor self-esteem connected with significant past experiences. Given that evaluation brings into focus critical areas of one’s work, the appraisee must be given the tools required to modify some of his/her interpretive schemes and tolerate the uncertainty connected with change. Remaining suspended in a place between anguish and hope, in the transitional psychic space of the search for new frameworks of meaning, is not easy if the work group does not provide the individual with a sufficiently stable and welcoming container; then, as pointed out by the evaluators interviewed in the current study, evaluation can generate counterproductive emotional dynamics which take the form of either a strongly resentful attitude with the function of projecting aggressiveness onto the evaluator, or of denial behaviours, often accompanied by passive and depressive states of mind. Evaluation, our informants told us, is a dispositive to be handled with great skill and caution, precisely because, if not properly managed, it can have highly adverse effects on the motivation of individual educators and on the atmosphere of cooperation within the work group. The group or the individual, in turn, can react by setting in motion defensive and counter-transference dynamics, thereby undermining the effectiveness of the evaluation itself. In order to illustrate more powerfully the impact of evaluation on the equilibria regulating the identity of subjects and groups, I would like to draw on the analysis of a self-evaluation process conducted with students in basic training as part of a theoretical-experiential course designed to develop knowledge and skills in the field of educational counselling. During the evaluation phase, these students translated the laborious psychic process of appraisal that they had experienced, into an eloquent image: they depicted an underwater landscape

slowly rising to the surface and populated with new forms of animal and vegetable life which were still undefined and shapeless, a landscape in which the dense darkness was now and then penetrated by the light of day. During the process of reading/interpreting the image produced by the students, it emerged that their use of this biological metaphor was an allusion to the fact that they had been exposed to a repertoire of new forms of knowledge that had obliged them to profoundly remodel certain of their forms of thinking, in which they had previously connected educational events with those of their own life story.

They had experienced this educational exercise as a form of narration oriented towards the future, which had required them to review their own history with a view to critically questioning the cultural assumptions on which they had previously based their models and theories. The final course evaluation became not only a process of self-evaluation in relation to that one educational experience, but also a far broader process, in which the students evaluated their own competences by analysing their prior educational history from a hermeneutic perspective that involved looking at it from new angles. The new awareness gained was represented by the rays of light that promised to open up new future scenarios but which, for the time being, were not yet quite clear and remained enveloped in a shadow of uncertainty and fear. The group expressed a feeling of being at a critical threshold and moment of transition, in which it was no longer possible to turn back and in which the fresh insights they had acquired needed to be translated into new plans and strategic moves, in order to transform their hitherto shapeless desires into clearer and more defined projects and objectives.

As emphasized by Pellerey this kind of transformational learning process involves a projecting onto the future in which «the consideration of the ‘possible selves’ plays a complex role, a set of subjective future realities that are both desired and feared, of expectations that inhabit our hearts and minds, of dangers glimpsed by each of us, of fears for the future, of aspirations and desires, of ideals and of each of our private and public dreams. [...] A narration of possible or probable future actions, reactions and interactions, of foreseen or feared educational effects, of alternatives to possible defeats or resistances encountered» (Pellerey, p.7)

For a professional team to be equipped to stand up to the effort involved in evaluation, it must receive training in the meta-reflective competence required to learn from one's own and others' mistakes, a competence that is linked to the degree of trust that a group develops over time. It is therefore important, to bring to bear a counselling perspective, to lead the group to have a level of internal cohesion and a degree of psychic flexibility such that evaluation can become learning and both the group and its individual members can have sufficient trust to be able to integrate its effects and implications into their professional roles (Bion, 1972)

When evaluation processes do not deeply penetrate the cultural fabric of an organization, there is a risk of generating, instead of openness to change, a closed, apathetic and bureaucratic approach on the part of the work group, which is reflected in high levels of burnout, voluntary resignations or a drop in productivity. The general atmosphere in the work place may be adversely affected: levels of internal conflict and behind-the-scenes power struggles increase and an excessive competitiveness is generated that undermines relationships and causes quality of work to disimprove.

It follows that conducting evaluations means taking the relationship between evaluation and values seriously; indeed, evaluation practices that have been artificially stripped of the values that inevitably orient it and condition their outcomes, are purely rhetorical constructions, which risk being used as a disciplinary dispositive that jeopardizes organizational wellbeing and the internal cohesion of work groups.

Conclusions

What kind of training does the evaluator require?

All the interviewees made interesting observations on the theme of the evaluator's responsibilities, training and the need for someone who is in charge of such a delicate process to be highly qualified and to have a rich set of skills in keeping with their role. In general, our informants reported a reality currently dominated by a lack of rigour and strong variability: many of those with responsibility for conducting appraisals are improvised evaluators and do not have the training or the professional maturity required to carry out their work to a satisfactory standard.

According to the participants in our research, one of the major challenges is posed by the lack of an advanced evaluation culture and of a specific training background to prepare those who conduct evaluations as their daily work, to reflect on the profound consequences of their actions and to be familiar with the emotional reactions elicited by their practice. As one manager stated:

In order to be an effective evaluator you need to suspend your judgement, to stand back from it, because otherwise the act of evaluation will necessarily be contaminated by your own prejudices. And that is not effective evaluation. In my view, evaluation is an act that enables practices to be transformed into new knowledge (S.S)

However, such an approach is unlikely to develop from a personal inclination but requires constant training and a level of self-knowledge that can only be attained thanks to specific educational dispositives promoting listening and self-listening abilities, and teaching how to recognize and manage emotions, in highly stressful professional situations.

The evaluation process implies a constant focus, on the part of those implementing it, on the attempt to "measure" their communications and

modulate their interventions because there are relationships at stake as well as the safeguarding of an equilibrium that is functionally to the group being able to successfully complete its work. It demands of those who practice it, strong observation and listening skills for integrating visible and invisible aspects of the personality and professional style of the appraisee, the ability to mediate and to provide feedback designed to draw out the resources of the staff being evaluated and enhance their performance:

Evaluating demands observation and listening at a number of different levels because I think that you can do evaluation well if you are able to identify the various levels at which people express themselves through verbal and non-verbal communication; the emotional level is key, as is the ability to manage situations at the stressful emotional level as well, and then the capacity to empathically connect with people and the willingness not to make snap judgements. One also evaluates people's personal characteristics, such as presumptuousness on the one hand, or greater or lesser humility on the other, with a view to assessing to what extent any of these factors are useful or otherwise; for example a person with strong self-esteem may certainly be a resource but if that self-esteem is too strong it leads to not viewing others as having something to offer, to looking down at everybody else from a pedestal, then it's not so useful anymore and the same thing is true of humility (D.S.)

Indeed, one of the roles of evaluation is to bring individual characteristics back into equilibrium with the needs of the organizational context, correcting “outsize” behaviours that may not be functional to attaining the work group's objectives and harmful to its internal dynamics. All of the interviewees believed that the evaluator's training was a key aspect, and that if basic training is inadequate, then in-service training becomes of vital importance to those who wish to be professional in conducting evaluations.

As well as the more technical aspects of ongoing training relating to evaluation instruments, new technologies and legislative changes, our informants stressed that it is important for evaluators to undertake a broad and varied range of training courses, which also reflect their own particular learning interests. It is only thus that they can maintain the mental openness and flexibility required to carry out this “impossible” task with rigour and balance. In line with this image of the evaluator, all the participants emphasized that training should be designed to bring about self-development, a wider repertoire of communication and relational techniques, the fine-tuning of observation, listening and counselling skills and the construction of leadership competences, aimed at valuing the resources available within work teams.

In short, the design and implementation of a pilot course for evaluators will allow us to develop these ideas into specific training modules and to test the efficacy of a didactic model based on experiential learning in promoting the emergence and/or reinforcement of these types of knowledge and skills.

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FUNCTIONS OF EDUCATIONAL ACTIVITIES IN CULTURAL CENTERS FROM THE COMMUNITY DEVELOPMENT PERSPECTIVE

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***Abstract.** This paper aims to analyse the role that cultural centres in Lithuania and Lithuanian cultural organisations in the Kaliningrad region and Belarus play in organizing educational activities for the local communities. The aim of this article is to identify functions of the educational activities of cultural centres and Lithuanian cultural organisations revealing their impact on the local community development. Semi-structured interviews were conducted in 4 Lithuanian cultural centres and 6 Lithuanian cultural organisations of border regions in Lithuania, Belarus, and Russia, the Kaliningrad region. The sample consists of 55 informants from Lithuanian cultural communities and cultural centres. The content analysis and comparative analysis methods were applied for the data analysis. The study revealed that educational activities would lead to active participation of members in community development. The following functions of educational activities were identified: dissemination of knowledge, empowerment, self-realization, enlightenment, value development, recreation, communication, national identity strengthening, and community mobilization.*

***Keywords:** cultural centres, community development, educational activities, Lithuania.*

Introduction

Cultural centres are unique cultural organizations which are developed on the national basis and have few analogues in other countries. Cultural centres have been operating in Lithuania since the Soviet period, but they were reformed, and their network was optimised in 1993. Most of the cultural centres are multifunctional and providing cultural, educational, and social services for the residents. According to the Ministry of Culture, there were 181 cultural centres, 152 branches, and 279 territorial subdivisions in Lithuania in 2013. Each municipality has a network of cultural centres.

Some authors have indicated that cultural centres play a significant role in the provision of cultural-educational activities in the local communities (Jurėnienė et al., 2013). Thus, these cultural organisations become very important in creating opportunities to study, learn, and grow for the people from different age groups. Still, it remains unclear what impact does the educational activities have on the local community development? The aim of this article is to identify functions of the educational activities of cultural centres and Lithuanian

cultural organisations in the Kaliningrad region and Belarus revealing their impact on the local community development.

Educational Activities for Community Development

The constant educational processes have become a lifestyle involving people in the learning networks and environments in the rapidly changing societies. Besides the formal training and education, the non-formal and informal learning takes an important place in personal and community development as well.

Education is defined as a constant lifelong process that leads to personal development, vocational, spiritual, and intellectual improvement, which is based on the acquired knowledge and practical skills in a particular social and physical environment. Usually, it is a motivated activity aiming to achieve self-realisation, new knowledge or develop skills in a chosen field (Jurėnienė & Urbonienė, 2014). Educational activities contain three main areas: 1) learning that encompasses acquired knowledge and new experiences; 2) training that involves building competences and skills; 3) education that is displayed on personal, professional, valuable, and spiritual planes (Jovaiša, 1993).

According to the Law of Cultural Centres (Lietuvos Respublikos Seimas, 2004), there is a wide field of the activities that cultural centres are expected to provide for the residents. Cultural centres are responsible for the organization of cultural events and leisure activities focusing on the cultural needs of the local population. They promote ethnical culture and aim to raise interest in ethnic traditions and customs. Those organizations are as well contributing to the protection of cultural heritage in the area. Important part of their activities encompass project work and collaboration with the local authorities, other educational and cultural institutions (Jurėnienė et al., 2013; Jurėnienė & Urbonienė, 2012; Navasaitienė & Perkumienė, 2010).

It should be stressed that educational activities are only mentioned as insignificant in the laws regulating the activities of cultural centres in Lithuania. More emphasis is put on the children and youth education, while adults have fewer opportunities for non-formal learning in little towns and rural areas. Still, cultural centres create conditions for children, youth, and adults to participate in non-formal learning. Thus, they not only increase the availability of learning spaces, but also reduce the social exclusion in the society increasing the access to a variety of educational services. In this sense, cultural centres are very important as they organize various educational activities during the realization of lifelong learning strategy (Lietuvos Respublikos Seimas, 2008). Cultural centres organize various cultural events that are as well deeply educational in their nature, i.e., calendar festivals, exhibitions and workshops, special training, seminars, courses, and even conferences (Jurėnienė & Urbonienė, 2014).

There is a lack of detailed analysis on how the educational activities of cultural centres influence the development of local communities in Lithuania. However, the impact of cultural centres in the communities was analysed by some authors. First, cultural centres enable a dynamic development of art and culture because they are acting as modern cultural centres, as catalysts for creative practitioners; thus, their activities have an impact on the overall socio-cultural development. Second, cultural centres activate the processes of communication and information exchange through active socio-cultural activities and encourage creative collaboration, which generates constructive dialogues and innovative ideas. Third, cultural centres promote positive socio-cultural processes because very often they operate not only in cultural, but also in the social sphere, thus, creating a full rate social environment. Fourth, cultural centres create an attractive image of city, region, and country refreshing its landscape and formulating a positive image of the region. In addition, the creative activities that are encouraged and developed by these centres not only attract local residents, business representatives, but also draw the attention of foreign tourists and investors (Gulbinas, 2006; Jurėnienė & Urbonienė, 2012).

The educational services that are provided by cultural centres make an impact on the local community development. Community development involves strengthening the capacity of individuals within the community in order to accomplish the goals set by the community. It motivates people to plan a common community and act together in order to bring about the satisfaction of their needs and improve their conditions of living (Adedokun et al., 2010).

According to Bhattacharyya (2004), the three main principles - self-help, felt needs, and participation - provide the necessary guidance for the community development. The practice of self-help includes active role of the residents in community, abilities to reciprocate and be productive, and collective effort to take care of each other. The principle of felt needs recognizes and fosters people's capacities to define and prioritize their problems. Participation means that they are included in the processes of defining problems, which have to be solved, and finding solutions.

It is indicated that the main aim of the local communities in Lithuania is to motivate residents to improve their living conditions, education, and cultural self-expression; to strengthen solidarity and communal manifestations; and to prevent outspread of social isolation (Aleksandravičius & Žukovskis, 2011). Since the goal of the community development is solidarity and agency, the learning activities make a significant contribution. Cultural sector effectively contributes to the lifelong learning in the local community: it enhances social inclusion, active citizenship, and personal development and in this way contributes to the employability (Varbanova, 2011). Still, the confusion appears when the cultural organisations create learning activities as a part of non-formal education; it is often approached as "leisure", or "entertainment", and is not taken seriously by the decision-makers.

Thus, it may be stated that there is a lack of structural attitude towards the influence of educational activities on the local community development. This is especially relevant in border regions, where it is important for the local communities to make collective effort and be active.

Methodology

Research instrument. An authorised questionnaire with 22 open questions was developed on the basis of local community. There were 2 open questions aiming to identify the role of educational activities on the local community: 1) “Please describe what impact does the educational activities of the cultural centre make on the local community” and “What role do the educational activities play in making local residents more active/ participating and solidary?” This paper introduces the analysis of these data.

Data analysis. Qualitative content analysis was applied on the cultural centre employees’ interview data (Miles & Huberman, 1994). Qualitative analysis of the content was based on the systemic step performance: 1) identifying the manifest categories while referring to the ‘key’ words; 2) dividing the content of categories into subcategories; 3) identifying intersecting elements in the category/subcategory contents; 4) interpreting the content data. A comparative analysis was applied analysing data from three subsamples, i.e., representing cultural centres from the Lithuanian, Belarussian, and Russian border regions.

Data gathering. The qualitative research data were gathered in January-March of 2013. Semi-structured interviews were used for data gathering from cultural centres’ staff and leaders of Lithuanian ethnic communities. Semi-structured interviews were carried out at the premises of the cultural centres, and their average duration was 45 min.

Sample characteristics. In this research participated:

- 4 cultural centres in Lithuania that are located in the border regions with Belarus and Russia (in Švenčionys, Lazdijai, Kybartai, and Pagėgiai);
- 2 Lithuanian cultural centres in the Belarusborder region (Pelesa and Rimdžiūnai) and Lithuanian cultural organisation “Vytis” that coordinates their activities;
- 2 Lithuanian cultural organisations (“Birutė” and Lithuanian autonomous community) and 2 cultural centres in the border region of Kaliningrad, Russia (Gusev and Sovetsk).

The sample contains 55 informants that are managers and active members of these cultural organisations (Table 1).

The empirical study was performed by implementing project “Educational Activity of Culture Centres in Terms of Intercultural Mobilisation” (Research Council of Lithuania, 2012-2014, No. MIP-12157).

Table 1. Sample characteristics

Characteristics	Lithuanian subsample	Belarus subsample	Russian subsample
<i>Total amount</i>			
	35	9	11
<i>Gender</i>			
Women	24	7	10
Men	11	2	1
<i>Professional experience in cultural field</i>			
More than 20 years	13	1	3
10-20 years	9	5	2
Under 10 years	13	3	6

Results

According to the interview material, the following functions of educational activities, which Lithuanian cultural centres perform in the local communities, were identified: dissemination of knowledge, empowerment, self-realization, value development, recreation, national identity strengthening, and community mobilization.

Dissemination of knowledge. The informants from Lithuanian cultural centres highlighted the importance of educational events and activities for the local residents. One informant said that: *“every year a celebration, a folk festival, during which storks set off, takes place. An ornithologist comes and tells about storks’ life; people show interest and come with children”*. Another informant from the Lithuanian cultural centre noted that here *“various exhibitions are held, e.g., exhibition of drawing on water (during which people can learn how to do it), exhibitions of different handicrafts, blacksmith exhibition”* or *“people learn more about their land, gain more knowledge, expand their horizons”*. Thus, local residents that participate in educational events of cultural centres have an opportunity to learn and obtain information about things and phenomena of their interest.

Informants as well pointed out that the activities based on international cooperation also take place, for example, attending events in foreign countries and receiving guests at their events, implementing the projects together, during such projects both participants of artistic activities and local viewers of the events are involved in the educational process. Thus, the benefits are manifested through expanding the viewpoint and improving the knowledge about other

cultures. It has been noticed that the cultural centres that participated in the research perceived educational activities as one of the most important missions in the community. Therefore, they organize various events for the local residents in a structured way. The educational events can be meant for the masses or target groups according to the age.

Only one informant from Belarus out of all the Lithuanian communities in Belarus and Russia that participated in the research has mentioned that an important function of educational activity is to provide knowledge: “*Some people find out the truth. For example, when we showed a documentary film on the siege of Parliament created by a Swedish director, many Belarusians called me and said that they were shocked by the truth they found out...*” Thus, the most important of all is to provide knowledge for educational purposes in the cultural centres in Lithuania, whereas the role of providing educational activities in other border regions is different.

Empowerment. Cultural centres organize various educational events, such as, workshops, artistic activities, meetings with interesting and famous people, project activities, etc., that are closely related to self-development of participants. After reviewing the data it is clear that the educational activities help the local residents to develop their personal, social, cognitive, teamwork, and creative skills. One informant from the cultural centre in Lithuania noticed that participation in educational activities helps “children to become more communicative” and teaches them “*besides the musical skills, responsibility, time management, and teamwork skills as well*”. Another informant stated that “*introducing innovations to the elder people, helping them to get accustomed and teaching how to use it (e.g., development of computer literacy skills) is a constantly ongoing process*”.

However, a dominating attitude among the informants from the Lithuanian cultural centres was that the educational activities are mostly directed towards children and young people striving to empower them for the life-career. The impact of educational activities on the empowerment of adults was more clearly expressed by the informants from Russia and Belarus subsamples.

Self-realization. Cultural centres play an important role in local communities allowing personal growth and self-fulfilment. The data revealed that by offering a number of artistic and creative activities they allow local residents to realize their artistic skills and talents. The range of offered artistic activities is often wide: some choose to play, sing, dance, and paint, or express themselves in another way. This is particularly true for the adults and the elderly, because children and young people find similar opportunities at schools or other educational institutions. The cultural centres play even a more important role in the rural areas, where the network of educational art institutions is undeveloped. An informant from Belarus similarly stated that “*a person*

expresses oneself through participation, through cultural or aesthetic activity: someone carves, someone else reads, yet another one dances". None significant differences were observed between the subsamples concerning this issue.

Development of values. Educational activities are always closely related to the development of values, and this tendency was expressed by all the informants from cultural centres and Lithuanian cultural organizations in Lithuania, Russia, and Belarus. Cultural centres foster principles of democracy and teach peace and solidarity by the means of educational activities. This helps to develop tolerance and respect for otherness and dismiss xenophobia. This is revealed in the analysis of the activities of cultural centres and their descriptions and yearly plans. One female informant from Lazdijai cultural centre stated that *“educational events and celebrations are a major contributor to the fact that people are tolerant and friendly, ready to help one another”*. Another informant from Pagėgiai claimed that educational activities have a big impact on *“the community to become united. People are more tolerant and friendly, ready to help each other, learning to respect and foster our culture as well as to be tolerant and respectful towards the elderly persons”*. Similarly an informant from the Russian subsample told that cultural knowledge *“fosters respect for other cultures and people become more emphatic”*.

Recreation. Cultural centres have an opportunity to offer recreational activities for those groups of people who can choose from fewer leisure organization services. The organization of leisure provides opportunities for the local residents to communicate and share experiences as well as learn folk trades and participate in artistic activities and celebrate festivals together. Recreational activities in cultural centres usually are partly educational, and it is difficult to differentiate them. For example, as one informant from the Belarusian subsample told *“Lithuanian provincial centres are almost the only place where those who wish can gather and spend their leisure time and most importantly rest among their own and share information. Thematic meetings provide an opportunity to express oneself for any visitor. It is essential to have a place that a person can constantly visit”*.

Communication. This function of educational activities was stressed in all the three subsamples as important for the community strengthening. Creating spaces for the communication, sharing and dealing experiences allows different people and generations to learn and do things together. It as well develops unity and understanding, reduces social exclusion, and raises awareness. Communication with others as a virtue is inseparable from the recreation, which is perfectly illustrated by this quote of one Lithuanian informant: *“sometimes members of our music group meet even if the rehearsal is not scheduled; they sit and talk, and laugh”*. Educational activities motivate local residents to come and meet others despite the age. The data from the interviews revealed that the

cultural centres/ Lithuanian cultural organizations in Russia and Belarus help local residents to spend their free time, communicate more, and have the opportunity to find like-minded people, to get to know their land, culture, and others. For example, as one informant from the Lithuanian subsample expressed herself: *“education takes place in the ensemble, for instance, before starting to learn a song or a dance, we always discuss its origin, how it is performed in other places, etc. People learn about their own country, get more knowledge, and broaden their outlook...”*

Strengthening national identity. Informants from Belarusian and Russian subsamples stressed the impact of educational activities on strengthening the sense of national identity, responsibility, and citizenship for the community members. In their words, fostering national culture and traditions, acquisition of knowledge about folk crafts, celebration of most important public and calendar holidays allows local communities to experience the unifying pride of national identity. According to the informant from Belarus, *“our organization, providing educational services, allows here living Lithuanians to grow as individuals in terms of their nationality”*. A similar idea was expressed by the informant from the Kaliningrad region: *“Lithuanian parents that live here want their children to understand the Lithuanian language better, so these children already show a greater interest in Lithuanian culture, because this is associated with their identity”*. However, the informants from cultural centres in Lithuanian border regions missed this aspect of educational activities.

Community mobilization. It is important to enable cooperation of its members and strengthen mutual trust to mobilize the local community. This brings local people to solve common problems together, particularly when reducing social exclusion. Cultural centres help to mobilize communities by carrying out educational activities because they create spaces for communication where people exchange their ideas, solve problems, and learn to give and take. Still, this function was just fragmentally mentioned in the answers of the informants from all the three subsamples. An informant from the cultural centre in Lithuania noted that: *“educational activities make a huge contribution to a greater unification of the community, especially during various events and celebrations. People are really friendly, willing to help each other”*. An informant from Belarus expressed the idea that by participating *“people find close friends, socialize more. The community provides opportunities for people of different social backgrounds to communicate beyond social, age, and ethnic boundaries”*.

To sum up, it can be stated that educational activities perform different functions in the local community. The participation in educational activities enriches local residents with new competences and empowers the professional and life career due to the non-formal learning. Although most of the educational

events are mass events; however, sometimes it is more purposeful to direct them to ascertain target group, not only children or youth. Considering such functions as the development of national identity and empowerment, it is essential to change the view towards education as an activity intended only for children and youth. Including various age groups in education would allow cultural centres to organize purposeful leisure for them and would help to carry out socialization and integration into the community. It would as well create collaboration and partnership networks that are essential for the local community mobilization and development.

Conclusions

After evaluating what influence does the cultural centres' educational activities have on the community development, it has to be noted that the performed functions of educational activities make a different impact corresponding to the predominant needs. Cultural centres contribute to the growing knowledge about the ethnic or high culture by means of educational activities; the impact is as well reflected in other important aspects of the society, such as, the development of national identity, decreasing manifestations of xenophobia, and development of tolerance for the other cultures.

Thus, the managers of cultural centres in Lithuanian border regions highlighted such functions of educational activities as dissemination of knowledge, empowerment, self-realization, value development, recreation, communication, and community mobilization. However, it should be emphasized that not enough attention is given to the educational activities directed to the development of national identity, tolerance, respect for otherness, which are extremely important for the processes of social integration in the community, in the cultural centres in Lithuania. This essential difference was observed while comparing data of cultural centres in Lithuania and Lithuanian cultural organizations in Russia and Belarus.

Informants from the Lithuanian cultural centres and organisations in Russia and Belarus almost forgot that the function of knowledge dissemination is significant for the community development. Thus, the importance of strengthening national identity was especially stressed in these subsamples, while this function was underestimated in the Lithuanian subsample.

Yet, it is clear that cultural centres as the agents of community development play an important role in the local communities through the educational activities. However, cultural centres do not see their role in their local communities as influential in the processes of community development and mobilization. One of the most important missions of cultural centres in Lithuania should be to include community member groups into the educational activities, in such way decreasing the social exclusion, increasing active participation, and developing communal awareness.

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PIEAUGUŠO MATEMĀTIKAS PRASMES UN TO SEKMĒŠANA BALTIJAS VALSTU IEDZĪVOTĀJU UN DARBA DEVĒJU VĒRTĒJUMĀ

Adult Math Skills and its Promotion in the Baltic States: Citizens and Employers Assessment

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Abstract. *In order to activate the role of mathematics in the lifelong context, discuss how to improve/ disseminate mathematics competence in society as well as evaluate the role of mathematics in professional / personal development, Transnational comparative study on the mathematics educational needs was carried out in the Baltic States by the financial support of the Nordic Council of Ministers. This article analyses the inhabitants' and employers' responses to the questions about the basic knowledge of mathematics assessment. In the study used self-assessment method, so the results are based on respondents' views.*

Keywords: *adult education, educational needs, employers' questionnaire, mathematical skills.*

Ievads

Introduction

Eiropas Komisijas rekomendācijas 2006/962/EC nosaka 8 galvenās kompetences, kuras būtu nepieciešams attīstīt mūžizglītībā. Viena no tām ir zināšanas un kompetence matemātikā. Matemātikas kompetence ir balstīta uz spēju risināt ikdienas problēmas, izmantojot domāšanas modeļus (loģisko vai telpisko), attēlošanu (formulas, konstruēšana, grafiki, diagrammas utt.). Ikvienam indivīdam nepieciešamās matemātikas zināšanas ietver labas zināšanas par skaitļiem, matemātiskām vērtībām un struktūrām, pamatdarbībām un paņēmieniem, kā arī matemātisko terminu un jēdzienu izpratni un tādu jautājumu izpratni, uz kuriem matemātika piedāvā atbildes. Matemātikas kompetence nozīmē spēju saprast, spriest, lietot matemātiku ikdienā mājās un darbā, kā arī sekot un novērtēt neatkarīgo mainīgo virknes. Tā iever arī prasmi matemātiski pamatot, saprast matemātiskus pierādījumus, sazināties matemātikas valodā un izmantot atbilstīgus palīg līdzekļus. Pozitīva attieksme matemātikā balstās uz patiesības ievērošanu un vēlmi meklēt ceļoņus un novērtēt to ticamību.

Kompetences ir saistītas ar garīgiem un fiziskiem procesiem, aktivitātēm un uzvedību. Tātad, galvenais uzsvars ir uz to, ko atsevišķs indivīds spēj. Kompetencēm ir duāla daba, jo tai ir gan analītisks, gan produktīvs aspekts.

Analītiskais aspekts fokusējas uz matemātisko objektu un procesu sapratni, interpretāciju, pārbaudīšanu un novērtēšanu, piemēram, sekot un kontrolēt matemātisko argumentu rindu vai saprast kāda matemātiskā attēlojuma pielietošanu. Tai pat laikā produktīvais aspekts fokusējas uz aktīvo konstruēšanu un procesa veikšanu, piemēram, izgudrot argumentu rindu vai izmantot kādu matemātiskā attēlojuma veidu konkrētā situācijā (Niss, 1999, 2003). Ir skaidri redzams, ka matemātikas zināšanām un kompetencēm ir liela nozīme gan ikdienas dzīvē, gan darbavietā.

Ar Ziemeļvalstu Ministru Padomes finansiālu atbalstu tika veikts Starptautisks salīdzinošs pētījums par matemātikas izglītības vajadzībām Baltijas valstīs. Šī pētījuma galvenais mērķis bija aktivizēt matemātikas izglītības lomu mūžizglītības kontekstā un izvērtēt iedzīvotāju matemātikas kompetences sekmēšanas iespējas, nosakot Baltijas valstu iedzīvotāju izglītības vajadzībām (pēc iepriekšējās izglītības, vecuma struktūras, kompetences jomas, uzņēmuma profila u.c.) un izvērtējot matemātikas lomu profesionālajā/personības attīstībā. Pētījumā tika noskaidroti arī vairāki pieaugušo matemātikas tālākizglītības organizatoriskie jautājumi.

Jāatzīmē, ka šis ir pirmais pētījums Baltijas valstīs, kurā tiek izvērtētas iedzīvotāju pamatzināšanas matemātikā. Līdz šim šādi pētījumi nav tikuši veikti.

Pētījuma metodoloģija *Methodology of research*

Pētījums sastāvēja no divām daļām: iedzīvotāju aptaujas un darba devēju aptaujas. Anketas tika veidotas, lai noteiktu matemātikas zināšanu un prasmju prasības darba tirgū un ikdienas darbībām. Abas aptaujas anketas tika veidotas līdzīgi, ietverot septiņus diagnostikas blokus: informācija par respondentu, matemātikas zināšanu / prasmju / kompetenču, novērtējums, nepieciešamās matemātikas tālākizglītības jomas, motivācija mācīties matemātiku, matemātikas tālākizglītības organizācija, attieksme pret matemātiku, priekšlikumi, kā uzlabot/sekmēt matemātika kompetenci sabiedrībā. Šajā rakstā analizētas iedzīvotāju un darba devēju atbildes uz jautājumiem par matemātikas pamatzināšanu novērtējumu. Jāatzīmē, ka pētījumā izmantota pašnovērtējuma metode, tāpēc rezultāti ir balstīti uz respondentu uzskatiem.

Aptaujā piedalījās 883 Baltijas valstu iedzīvotāji, aizpildot elektronisko aptaujas anketu, kas pieejama <http://www.iipc.lv/mathpro/>. 668 anketas satur atbildes uz visiem jautājumiem, kas tiek izmantotas kā šī pētījuma bāze. Iedzīvotāju aptaujas respondentu raksturojums dots 1.tabula.

1. tabula. Iedzīvotāju aptaujas izlases raksturojums
Table 1. Characteristic of the population survey sample

	% LV	% EE	% LT	% Kopā
Respondenti	57.3%	53.9%	58.4%	56.9%
Pilnas atbildes	42.7%	46.1%	41.6%	43.1%
Dzimums				
Sievietes	76.1%	56.4%	61.6%	65.7%
Vīrieši	23.9%	43.6%	38.4%	34.1%
Vecums				
Jaunāki par 18	1.6%	4.8%	1.6%	2.3%
18 - 25	29.4%	23.3%	28.7%	27.7%
26 - 30	11.0%	29.6%	18.3%	18.1%
31 - 40	18.7%	23.3%	23.0%	21.4%
41 - 50	18.1%	11.6%	13.2%	14.7%
51 - 60	15.5%	6.9%	9.5%	11.2%
Virš 61	5.8%	0.5%	5.7%	4.5%
Dzīvesvieta				
Lauki	23.2%	10.1%	7.3%	14.0%
Mazpilsēta	14.5%	14.9%	12.9%	14.0%
Vidēji liela pilsēta	26.5%	35.6%	11.0%	22.6%
Lielpilsēta	35.8%	39.4%	68.8%	49.4%
Kad pabeidzāt pēdējo mācību iestādi, kurā mācījāties?				
Pirms 1-5 gadiem	42.6%	41.5%	43.0%	42.5%
Pirms 6-10 gadiem	21.3%	29.8%	14.6%	20.6%
Pirms 11-20 gadiem	18.4%	18.1%	17.4%	17.9%
Vairāk kā pirms 20 gadiem	17.7%	10.6%	25.0%	18.9%

Respondentiem ar augstāko izglītību, maģistra vai doktora grādu bija jāatzīmē kompetences joma, bet respondentiem ar pamata, vidējo vai profesionālo izglītību – profesionālās darbības joma.

Kopumā pētījumā piedalījās 50,7% darba ņēmēju, 22,8% studentu, 9,5% pašnodarbināto, 4,2% bezdarbnieku un 2% māsaimnieču u.c. Visvairāk bezdarbnieku bija Lietuvā (7,5%), bet vismazāk Latvijā (0,3%). Studenti veidoja gandrīz vienu ceturto daļu respondentu Latvijā un Igaunijā - attiecīgi 27.1% un 25.1%, bet Lietuvā - tikai 17,3%.

Aptaujā piedalījās arī 227 darba devēji. 224 no viņiem sniedza pilnas atbildes, kas tiek izmantotas kā pētījuma bāze. Darba devēju izlases raksturojums ir dots 2.tabulā.

2. tabula. Darba devēju aptaujas izlases raksturojums
Table 2. Characteristic of the employers' survey sample

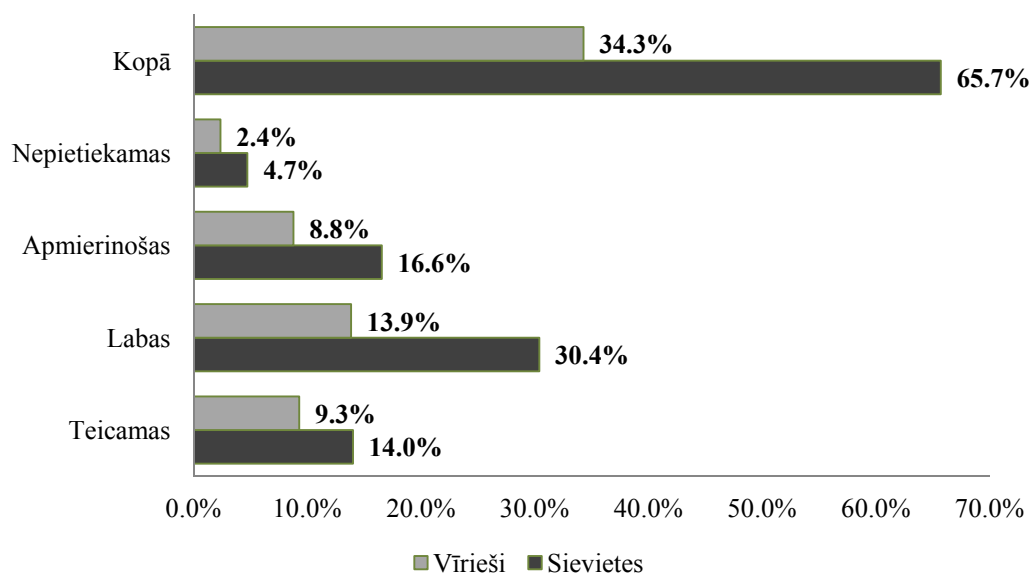
	% LV	% EE	% LT	% Kopā
Juridiskais statuss				
Privāts uzņēmums	58.9%	58.8%	27.4%	43.5%
Valsts iestāde	15.8%	26.5%	46.8%	32.4%
Publiski atvasināta persona	11.6%	8.8%	25.8%	18.2%
Cits	13.7%	5.9%	0.0%	5.9%
Uzņēmuma/ iestādes lielums				
1-25	61.1%	32.4%	20.2%	37.2%
26-50	16.8%	32.4%	29.8%	25.3%
51-100	10.5%	11.8%	25.8%	18.2%
> 100	11.6%	23.5%	24.2%	19.4%
Respondenti pēc uzņēmuma/ iestādes lieluma				
	1-25	26-50	51-100	> 100
Arhitektūra	0.0%	0.0%	0.0%	0.0%
Biofizika, bioķīmija	0.0%	0.0%	1.1%	0.0%
Mežsaimniecība	1.1%	0.0%	1.1%	0.0%
Būvniecība	0.0%	0.0%	0.0%	0.0%
Datorzinātne, IT	1.1%	0.0%	1.1%	0.0%
Ražošana	4.2%	0.0%	2.1%	0.0%
Elektronika	0.0%	0.0%	0.0%	0.0%
Inženierija	1.1%	2.1%	0.0%	0.0%
Ekonomika, bankas	3.2%	1.1%	0.0%	1.1%
Pakalpojumi, tirdzniecība, uzņēmējdarbība	20.0%	1.1%	1.1%	1.1%
Publiskā pārvalde	0.0%	2.1%	1.1%	0.0%
Vide	3.2%	1.1%	0.0%	0.0%
Pārtikas rūpniecība	0.0%	0.0%	0.0%	0.0%
Medicīna	0.0%	0.0%	0.0%	2.1%
Lauksaimniecība	12.6%	1.1%	0.0%	0.0%
Izglītība	8.4%	6.3%	3.2%	5.3%
Cits	6.3%	2.1%	0.0%	2.1%

Rezultātu analīze **Analysis of the results**

Aptauja ietvēra jautājumu: *Kā Jūs novērtējat savas pamatzināšanas matemātikā?* Iespējamās atbildes bija: teicamas, labas, apmierinošas un nepietiekamas. Lielākā daļa respondentu (67%) savas pamatzināšanas matemātikā vērtē kā teicamas vai labas, un tikai 7% respondentu atzīst, ka pamatzināšanas matemātikā ir nepietiekamas (skatīt 1.attēlu). Tas, ka 69% respondentu bija ar augstāko izglītību, varētu būt iemesls, ka respondenti savas pamatzināšanas matemātikā ir novērtējuši tik augstu. Jāatzīmē, ka pozitīvs pašvērtējums izvirza jautājumu, vai cilvēki izprot un spēj adekvāti novērtēt savas kompetences.

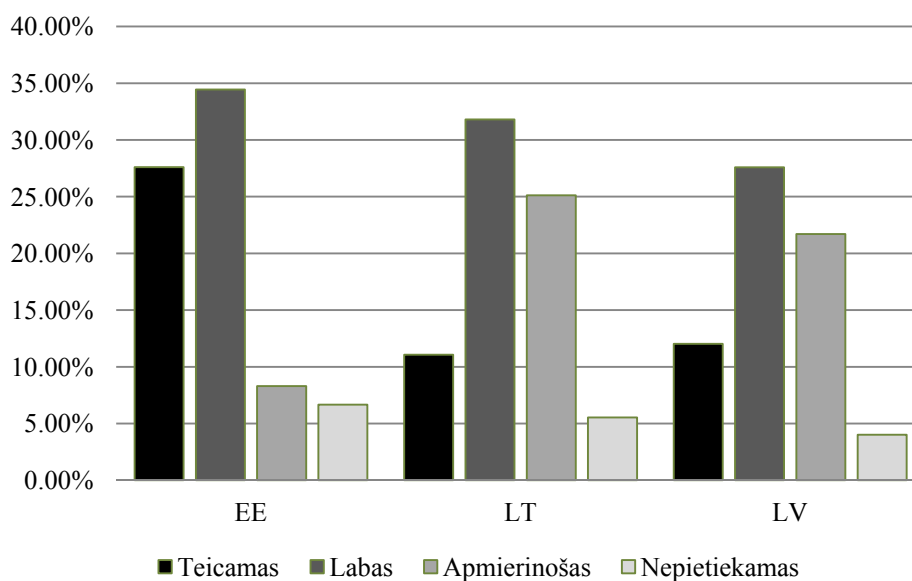
Pētījuma rezultāti rāda, matemātikas pamatzināšanas ir atkarīgas no respondentu vecuma un izglītības līmeņa. Pētījums parādīja, ka 71% aptaujāto ir ar zinātnisko grādu (bakalaura, maģistra, doktora), un 73% no viņiem ir novērtējuši savas pamatzināšanas matemātikā kā teicamas vai labas. Der atzīmēt, ka 36% darba devēju un 38% pamatzināšanas matemātikā novērtē kā teicamas, kas ļauj domāt, ka matemātika atver durvis uz karjeru. Kā rāda aptaujas rezultāti, uzņēmīgiem cilvēkiem ir labas matemātiskās prasmes.

Izvērtējot pašvērtējumu atkarībā no vecuma, respondenti vecuma grupās 26-30; 50-60; 61 un vecāki (attiecīgi 74%, 74% un 86%) savas pamatzināšanas matemātikā vērtē augstāk nekā citu vecuma grupu respondenti (jaunāki par 18 gadiem; 18-25; 31-40; 41-50). Respondenti vecuma grupā 26-30 tikko ir pabeiguši studijas un sagaidāms, ka viņu matemātikas pamatzināšanu pašvērtējums varētu būt ļoti augsts, taču liela daļa (26%) no viņiem novērtē savu kompetenci matemātikā kā nepietiekamu.



1. attēls. Matemātikas pamatzināšanu izvērtējums pēc dzimuma
Figure 1. Assessment of Basic competence in mathematics by gender

Salīdzinot trīs Baltijas valstis, Igaunijas respondenti ir novērtējuši savas pamatzināšanas matemātikā augstāk nekā pārējās valstīs. Apmēram trešdaļa Lietuvas un Latvijas respondentu ir apmierināti ar savu matemātikas pamatzināšanām (attiecīgi 27.59% un 34.44%). Par nepietiekamām matemātikas pamatprasmes uzskata 6.67% respondentu Igaunijā, 5.53% Latvijā un 4.01% Lietuvā (skatīt 2.attēlu).



2. attēls. Matemātikas pamatprasmju novērtējums pēc valstīm
Figure 2. Assessments of competence in mathematics by country

Pētījumi, ko veikuši Zviedrijas zinātnieki, parāda, ka t.s. skolu matemātikā sastopas matemātikas priekšmets un cilvēku attieksme, pieredze, sajūtas un domas, kas izglītībā dažreiz rada īpašas, sarežģītas problēmas. Attieksme pret matemātiku var būt divējāda. No vienas puses, matemātika ir pamats īpašam estētiskam piedzīvojumam, tā var radīt skaidrus un skaistus rakstus un eiforiskas sajūtas un negaidītu skatu punktu no baudījuma (Gustafsson, Ouwitz, 2004). Matemātika ir līdzīga apslēptajai zemei tālu prāta un fantāzijas kalnos. Visi cilvēki, kam izdevies apciemot šo valsti, apgalvo, ka šī zeme ir iespaidīga un noteikti apskatīšanas vērta (Kašuba, 2006).

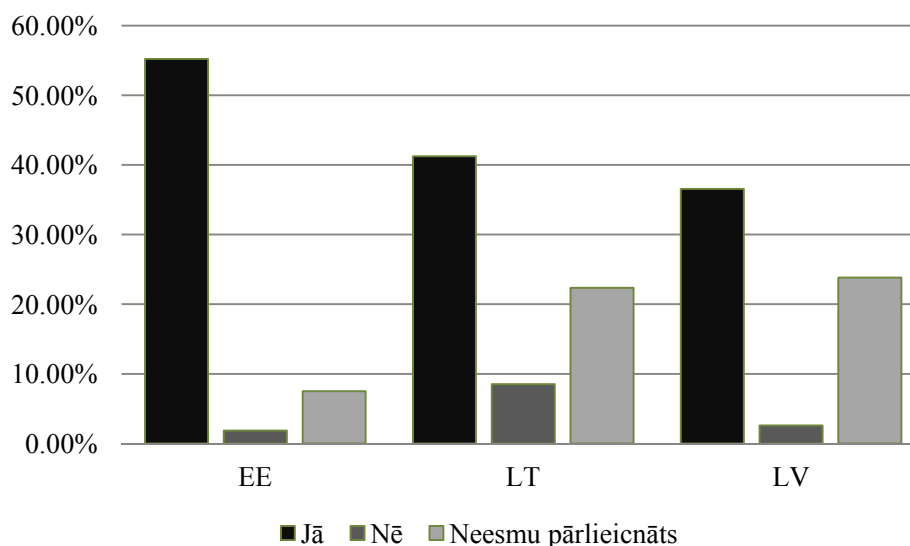
Ar nožēlu jāatzīst, ka daudziem cilvēkiem pieredze ar matemātiku ir tieši pretēja: tie saista matemātiku ar neizdošanās, nemiera, pazemojuma un aizdomu sajūtām. Skolu matemātikas pieredze kļūst par zīmogu visam mūžam, un dažreiz var pat izraisīt mācīšanās blokādes (Gustafsson, Ouwitz, 2004).

Līdzīgu situāciju atklāja arī šis pētījums. Respondenti tika aicināti atbildēt uz jautājumiem: *Kāda ir Jūsu matemātikas mācīšanās pieredze?* Vairākas situācijas tika piedāvātas kā atbildes: a) Matemātika vienmēr ir bijis mans mīļākais priekšmets; b) Matemātika, ko es mācījos skolā (universitātē, koledžā, profesionālajā skolā / vidusskolā...), varēja būt sarežģītāka; c) Man nepatīk matemātika; d) Lielāko daļu no matemātikas jēdzieniem, ko mācījos, es nesapratu; e) u.c. 40% no respondentiem, kuri novērtējuši savas matemātikas pamatprasmes kā teicamas vai labi, apgalvoja, ka matemātika vienmēr ir bijusi viņu mīļākais mācību priekšmets. No 25% respondentu, kas savas pamatprasmes matemātikā novērtējuši kā apmierinošas, 16% apgalvo, ka matemātika vienmēr ir bijusi viņu mīļākais priekšmets. Vairāki pētījumi rāda, ka matemātikas mācīšanās nesagādā problēmas tiem, kam tā patīk. Respondentiem ar

nepietiekamām matemātikas pamatzināšanām ir arī negatīva attieksme pret matemātiku. No dažādām vecuma grupām, respondenti vecuma grupā 31-40 visbiežāk apgalvo, ka viņiem patīk matemātika (28% respondentu), taču 31% respondentu vecuma grupā 18-25 matemātika nepatīk. Jāatzīmē, ka arī 30% respondentiem ar augstāko izglītību un 34% ar maģistra grādu, kuri savas pamatzināšanas matemātikā novērtē kā teicamas vai labas, matemātika nepatīk, kas apliecina, ka cilvēkiem var būt ļoti laba izpratne matemātikā, pat tad, ja viņi nav tajā ieinteresēti. Pētījuma rezultāti rāda, ka arī respondentiem ar augstāko izglītību un zinātnisko grādu var būt nepietiekamas pamatzināšanas matemātikā (17%, attiecīgi).

Otrs jautājums respondentu pamatzināšanu matemātikā novērtēšanai bija: Kā Jūs domājat, vai Jūs varētu izrēķināt matemātikas uzdevumu, ja būtu dots tēmas apraksts un formulas? Kopumā 46.33% respondentu atbild apstiprinoši, t.i., jā, viņi var atrisināt doto uzdevumu; 4,3% respondentu nevarētu tikt galā ar uzdevumu, bet 18% šaubās par savām spējām. Respondentu atbildes pēc valstīm dotas 3.attēlā.

Analizējot spēju atrisināt matemātikas uzdevumu pēc citiem faktoriem, izriet secinājums, ka spēja atrisināt matemātisku uzdevumu lielā mērā ir atkarīga respondentu matemātikas pamatzināšanu pašvērtējuma. 72% no respondentiem, kuri savas pamatzināšanas matemātikā ir novērtējuši kā teicamas, ir pārliecināti, ka viņi var atrisināt uzdevumu. Tajā pašā laikā, 20% nevar to izdarīt, lai gan viņi savas pamatzināšanas matemātikā novērtējuši kā teicamas. Interessants ir fakts, ka 36%, kas savas pamatzināšanas vērtē kā nepietiekamas, ir pārliecināti, ka viņi varētu atrisināt doto uzdevumu.



3. attēls. Spēja atrisināt matemātikas uzdevumu pēc valstīm
 Figure 3. Ability to solve a mathematical task by country

Analizējot atbildes uz jautājumu pēc izglītības līmeņa, cilvēki ar zinātnisko grādu (bakalaurs, maģistrs, PhD), neatkarīgi no pamatzināšanu līmeņa, ir pārliecināti par savām spējām atrisināt uzdevumu. 44% respondentu ar vidējo

izglītību, kam pamatzināšanas matemātikā ir teicamas vai labas, domā, ka viņi var atrisināt uzdevumu. Savukārt 26-50 gadus veci cilvēki ir visvairāk pārliecināti par savām spējām atrisināt matemātisku uzdevumu.

Arī darba devējiem tika jautāts, vai viņi ir apmierināti ar savu darbinieku pamatzināšanām matemātiskā. Neatkarīgi no uzņēmuma veida (privāts, valsts, valsts iestādes), 84% respondentu ir apmierināti ar savu darbinieku matemātikas pamatzināšanām. Jāatzīmē, ka šajā jautājumā nav atšķirības starp Baltijas valstīm.

Aplūkojot darba devēju apmierinātību ar darbinieka matemātikas pamatzināšanām pēc uzņēmumu profila, rezultāti liecina, ka lauksaimniecībā, biofizika, bioķīmija, inženierzinātnēs un ražošanā apmierinātība ir visaugstākā (skatīt 3.tabulu).

3. tabula. Darbinieku profesionālās kompetences novērtējums pēc uzņēmuma profila
Table 3. Employee's professional competence assesment by company profile

Uzņēmuma / iestādes darbības joma	“Es neesmu par to domājis”	Neapmierina	Apmierina
Arhitektūra	29%	0%	71%
Biofizika, bioķīmija	50%	50%	0%
Mežsaimniecība	25%	0%	75%
Būvniecība	33%	0%	67%
Datorzinātne, IT	33%	11%	56%
Ražošana	14%	0%	86%
Elektronika	33%	33%	33%
Inženierija	25%	50%	25%
Ekonomika, bankas	9%	18%	73%
Pakalpojumi, tirdzniecība, uzņēmējdarbība	25%	0%	75%
Publiskā pārvalde	25%	0%	75%
Vide	36%	27%	36%
Pārtikas rūpniecība	60%	0%	40%
Medicīna	20%	33%	47%
Lauksaimniecība	20%	0%	80%
Izglītība	19%	6%	75%
Cits	24%	16%	60%

27% darba devēju ir pārliecināti, ka viņu darbinieki kļūdās, jo viņiem ir nepietiekamas zināšanas matemātikā, bet 43% darba devēju piekrīt šim apgalvojumam. Darba devēji augstu vērtē darbiniekus, kas saprot matemātiku un uzskata, ka cilvēki, kas saprot matemātiku, viegli tiks galā ar darbiem, kas prasa domāšanu (skatīt 4.tabulu).

4. tabula. Matemātikas kompetences vērtējums darba devēju skatījumā
Table 4. The evaluation of the significance mathematical competence by employers

	Pilnīgi piekrītu	Piekrītu	Nepiekrītu	Pilnīgi nepiekrītu
Izvēloties jaunus darbiniekus, Jūs dodat priekšroku eksakto zinātņu absolventiem	37%	32%	23%	7%
Jūs esat ievērojis, ka Jūsu darbiniekiem trūkst pamata matemātisko prasmju	30%	36%	29%	5%
Darbinieki kļūdās, jo viņiem ir nepietiekamas zināšanas matemātiskā	27%	43%	22%	8%
Cilvēks, kas saprot matemātiku, viegli tiks galā ar darbiem, kas prasa domāšanu	34%	57%	7%	2%
Es augstu vērtēju cilvēkus, kuri labi saprot matemātiku	35%	55%	6%	3%

Pētījuma rezultāti rāda, ka kopumā Baltijas valstīs 66% - 91% respondentu dotajiem apgalvojumiem vai nu pilnībā piekrīt, vai piekrīt. Visaugstākais novērtējums ir apgalvojumam, ka persona, kas saprot matemātiku, viegli tiks galā ar darbiem, kas prasa domāšanu (91%) un augstu novērtēti cilvēki, kuri labi saprot matemātiku (90%). Tieši šos pašus apgalvojumus par nozīmīgākajiem atzīst arī darba devēji – privāto uzņēmumu, valsts iestāžu un publiski atvasināto personu pārstāvji.

Secinājumi *Conclusions*

Izvērtējot pētījuma rezultātus, var secināt, ka kopumā respondenti savas pamatzināšanas matemātiskā vērtē pietiekami augstu: 67% respondentu novērtējuši savas pamatzināšanas matemātiskā kā teicamas vai labas, tikai 7% tās vērtē kā nepietiekamas. Jāatzīmē respondentu pārliecība par savām spējām matemātiskā, jo pat tie respondenti, kas pamatzināšanas matemātiskā novērtēja kā nepietiekamas, apgalvo, ka varētu izrēķināt matemātikas uzdevumu, būtu dots tēmas apraksts un formulas.

Pētījums apliecina, ka matemātikai kā mācību priekšmetam Baltijas valstīs ir augsts statuss. Tiek uzskatīts, ka to ir grūti iemācīties, un bieži vien bez jebkāda pamatojuma, tā tiek uzskatīta par ļoti vērtīgu. Tikai nedaudz cilvēki pret matemātiku ir vienaldzīgi – viena daļa augstu vērtē matemātiku un matemātikas priekšmeta saturu, bet otrai daļai ar matemātiku asociējas nervozitātes sajūtas, kas radušās no skolas laikā iegūtām mācīšanās blokādēm (Gustafsson, Ouwitz, 2004).

Respondentu atbildes visās trīs Baltijas valstīs ir līdzīgas, lai gan 62% Igaunijas iedzīvotāju savas pamatprasmes matemātiskā vērtē kā teicamas vai labas, turpretim Latvijā – tikai 39.6%

Pētījuma rezultāti liecina, ka zināšanas matemātikā ir ļoti svarīgas darba devēju skatījumā. Izvērtējot darbinieku pamatzināšanas matemātikā, darba devēji Baltijas valstīs kopumā un katrā valstī atsevišķi (Igaunijā, Latvijā un Lietuvā) īpaši uzsvērt divus apgalvojumus: „Es augstu vērtēju cilvēkus, kas saprot matemātiku labi” un „Persona, kas saprot matemātiku, viegli tiks galā ar darbiem, kas prasa domāšanu”. Kopumā ņemot, darba devēji ir apmierināti ar savu darbinieku esošo matemātikas zināšanu līmeni.

Atbildes uz aptaujas atvērto jautājumu sniedz atbildes uz jautājumu, kā sekmēt iedzīvotāju matemātikas prasmes. Respondenti uzskata, ka izglītības sistēmā un skolas mācību programma ir tādas, ka pēc skolas beigšanas jaunieši nav gatavi praktiskajai dzīvei, nevar pamatot viedokli. Skolā ir tikai sausa teorija, mācīšanās no galvas bez izpratnes, kas izraisa jauniešos riebumu par mācību procesu, un nav saiknes ar reālo dzīvi. Lai sekmētu iedzīvotāju matemātikas prasmes, būtu jāveic vairākas aktivitātes gan valsts jeb sistēmas, gan institucionālā un individuālā līmenī. Svarīgākais uzdevums valsts līmenī būtu pilnveidot mācību programmas, izmantojot diferencētu pieeju gan attiecībā uz saturu un apjomu, gan zināšanu novērtēšanu. Veidojot standartus vai vadlīnijas, vēlams pieaicināt praktiķus (t.i., skolotājus). Uzlabojumi institucionālā līmenī nosaka izglītības iestāžu sadarbību ar darba devējiem, kā arī sadarbības stiprināšanu starp skolu un ģimeni, vecākiem. Pārmaiņas individuālajā līmenī skar galvenokārt skolotājus, viņu profesionalitāti un metodisko nodrošinājumu.

Summary

EU directives distinguish 8 key competencies should be developed for lifelong learning, one of them is for mathematical literacy and competence. The definition of “mathematical competence” is based on the ability to solve problems in everyday contexts, and places emphasis on aspects of the process and the habit of using models of thinking (logical and spatial) and presentation (formulas, constructs, graphs, charts, etc.). It consists in the ability to identify structures and connections, repetitions and systematicity. Moreover, positive attitude in mathematics is based on the respect of truth and willingness to look for reasons and so assess their validity (European Recommendation, 2006). In other words, the focus is on what individuals can do.

The authors working together have shared their research and practical experience in the field of mathematic competence development in the Baltic States. The main objectives of this article to make comparative analysis of the assessment the use of the basic mathematics knowledge/ skills/ competence made by the Baltic States inhabitants and employers as well as outline the main directions of the math competence improvement.

Evaluating the results of the study it can be concluded that, overall, respondents assessed their basic knowledge in mathematics sufficiently high: 67% of respondents rated their basic knowledge in mathematics as excellent or good, only 7% of respondents assessed as insufficient. It should be noted the respondents' confidence in their mathematical abilities, because even those respondents who have a basic knowledge of mathematics is assessed as insufficient, argues that mathematics could figure out the task should be given a description of the themes and formulas.

The respondents' answers in all three Baltic countries are similar, although 62% of the Estonian population valued their basic skills in mathematics as excellent or good, while Latvian - only 39.6%.

Employers were asked whether they are satisfied with their employee's basic knowledge in mathematics. Regardless of the type of company (private, public, public authorities), 84% of respondents are satisfied with their employees' basic knowledge of math. However 27% of employers believe employees make mistakes because of the lack of basic mathematical knowledge, but 43% of employers agree with this statement. The research results show that knowledge of mathematics is very important for the employers' perspective. Employers highly valued employees who understand mathematics and believe that people who understand the math, will easily deal with work that requires thinking.

The answers to the open question outlined the measures to strengthen inhabitants' math skill to be done at national, institutional and individual level.

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JŪRMALAS PILSĒTAS SABIEDRISKĀ TRANSPORTA ATBILSTĪBA UNIVERSĀLĀ DIZAINA PRINCIPIEM

Jurmala City Public Transport Compliance with the Universal Design Principles

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LU P.Stradiņa medicīnas koledža

Abstract. *Integration of humans into society as the full members of it is to take active part in social activities, but not for all people it is possible due to physical barriers that limit integration. People, who are facing different environment related obstacles - integration problems, are people with disabilities, elderly, mothers with small children and prams. Successful integration is based on adapted environment that is based on principles of the universal design. Public transport is an important resource of integration, therefore it is important to ascertain its availability. In order to ascertain the views of the universal design principles about providing public transport services, the study has been carried out. The aim of the study was to examine implementation of the universal design principles in accessibility of public transport services.*

Keywords: *integration, adapted environment, universal design, disabled person, elderly, mothers with small children.*

Ievads

Cilvēka iekļaušanās sabiedrībā kā tās pilnvērtīgam dalībniekam nozīmē būt aktīvam sabiedriskajās aktivitātēs, tomēr ne visiem cilvēkiem tas ir iespējams, jo pastāv fiziskās barjeras, kas ierobežo integrāciju. Iedzīvotāji, kuri visvairāk sastopas ar dažādiem vides šķēršļiem, līdz ar to arī integrācijas problēmām, ir - cilvēki ar funkcionāliem traucējumiem, veci cilvēki, mātes ar maziem bērniem un bērnu ratiņiem. Veiksmīgas integrācijas pamatā ir pielāgota vide, kas balstās uz universālā dizaina principiem. Nodrošinot vides pieejamību, cilvēks var izmantot piedāvātos produktus vai pakalpojumus, savukārt universālā dizaina koncepcijas īstenošana nodrošina vienlīdzību. Sabiedriskais transports ir nozīmīgs resurss integrācijai, tādēļ būtiski ir noskaidrot to pieejamību (nokļūšana līdz pieturai, salasāms sabiedriskā transporta kustību saraksts, iekļūšana un izkļūšana no transporta, pakalpojuma sniedzēju zināšanas par dažādām iedzīvotāju grupām). Vides pieejamība vienmēr ir pilnveidojama un

uzlabojama, tāpēc svarīga katra atsaucība un iesaistīšanās vides pilnveidē. Lai noskaidrotu iedzīvotāju viedokli par universālā dizaina principu pielietojumu sniedzot sabiedriskā transporta pakalpojumu, tika veikts pētījums, kura mērķis bija izpētīt universālā dizaina principu īstenošanu sabiedriskā transporta pakalpojumu pieejamībā. Izvirzītā mērķa sasniegšanai, izstrādāja uzdevumus, kas ietvēra literatūras analīzi un Jūrmalas iedzīvotāju diskusiju par iegūtajiem rezultātiem un secinājumu formulēšanu.

Pētījumu īstenošanai pielietotas vairākas pētniecības metodes- literatūras un normatīvo aktu analīze, kvantitatīvā pētniecības metode ar pētniecības instrumentu anketu, aprakstošās statistiskās metodes (vidējā vērtība mediāna moda), secinošās statistiskās metodes, divu vai vairākas neatkarīgu grupu salīdzināšanai pēc vairākiem mainīgajiem- Pearson Chi-square tests, Pīrsona korelācijas koeficients, izmantojot SPSS 21 datorprogrammu.

Universālā dizaina pamatprincipi

Universālais dizains Latvijā ir jauns jēdziens, kas tikai pamazām iegūst popularitāti. Ar to saprotam pieejamas, drošas un humānas vides veidošanu, kurā komfortabli jūtas ikviens cilvēks, neskatoties uz iespējamām uztveres vai veselības problēmām. Universālais dizains ir jauns domāšanas virziens, kas nosaka, ka pati galvenā vērtība sabiedrībā ir cilvēks, un tikai cilvēka ērtības un drošība ir galvenie humānas vides veidošanas kritēriji. Tas nenosaka īpašas prasības kādai konkrētai sociālai grupai, bet padara ikvienu pakalpojumu, infrastruktūru, kā arī vidi pieejamu ikvienam. Universālais dizains ir stratēģija, kuras mērķis ir izstrādāt un radīt dažādus pakalpojumus, produktus, informāciju un vidi, lai tie pēc iespējas lielākā mērā un neatkarīgāk būtu pieejami, saprotami un lietojami ikvienam, bez nepieciešamības veikt adaptāciju vai radīt speciālu dizainu. Tā nolūks ir vienkāršot dzīvi ikvienam, izveidojot radīto vidi, produktus un komunikācijas, kas vienlīdzīgi pieejamas, izmantojamas un saprotamas par zemām izmaksām vai bez jebkādam papildu izmaksām (Ministry of the Environment Norway, 2007).

Universālā dizaina septiņi principi:

1. Ērta lietošana ikvienam- sabiedriskajā transportā ar zemo grīdu ir vienlīdz ērta iekāpšana un izkāpšana gan vecākiem ar bērnu ratiņiem, gan cilvēkiem ar kustību traucējumiem vai redzes traucējumiem, gan pārējiem cilvēkiem.
2. Daudzveidīga izmantošana- lai iekāpšana un izkāpšana būtu ērta visiem cilvēkiem, lai atbilstošā augstumā būtu piestiprināti rokturi un STOP poga.
3. Viegli izprotams pielietojums- objekta vai vides pielietojumam ir jābūt viegli izprotamam. Piemēram, informācija tiek attēlota ar piktogrammas palīdzību.
4. Viegli uztverama informācija- informācija par konkrēto objektu tiek

sniegta katram pieejamā veidā, neskatoties uz lietotāja uztveres spējām vai traucējumiem un tā ir pieejama visiem. Piemēram, informāciju par sabiedriskā transporta pienākšanas laikiem ir iespējams pasniegt vizuāli, audio un taktīlā formā vai Braila rakstā.

5. Samazināt iespēju kļūdīties- dizains līdz minimumam samazina kļūdu un nepareizas rīcības sekas. Piemēram, kontrastējošā krāsā marķētas stikla sienas pasargā no ieskriešanas stiklā.
6. Minimāla fiziskā piepūle- objekts un vide ir ērti izmantojami, nelietojot fizisku spēku. Piemēram, automātiskās durvis, kuru atvēršanai nav nepieciešama fiziska piepūle.
7. Kustībai un lietošanai atbilstošs izmērs un telpa- atbilstoši telpu izmēri nodrošina, ka lietotājs neatkarīgi no ķermeņa pozas, izmēriem vai mobilitātes, spēj tuvoties objektam, aizsniegt to, manipulēt un izmantot visas objekta funkcionālās iespējas. Universālajam dizainam un pieejamībai ir būtiska loma cilvēktiesību un pamatbrīvību veicināšanā (Liepājas neredzīgo biedrība, 2012).

Katrai pašvaldībai veidojot detālplānojumus un būvprojektus, būtu jāpievērš īpaša uzmanība vides pieejamībai un universālā dizaina pamatprincipu ievērošanai. Lai uzlabotu vides pieejamību, nepieciešams labiekārtot teritorijas, aprīkot ceļus un ielas, nodrošināt iekļūšanu sabiedriskajā transportā un ēkās. Visi labiekārtojuma risinājumi jāizstrādā atbilstoši universālā dizaina principiem.

Pētījuma metodoloģija

Atbilstoši pētījumā izvirzītajam mērķim un uzdevumiem, tika izveidots pētījuma stratēģiskais plāns un eksperimentāli stratēģiskais plāns, kuri norādīja uz pētījuma ievirzi, cēloņu- seku sakarību, pētāmo kopu, sākotnējās informācijas

Rakstura, datu ievākšanas metožu izvēli un pētniecības instrumenta noteikšanu, kā arī savāktās informācijas datu apstrādes metožu izvēli. Izveidotais plāns sastāvēja no vairākiem posmiem- problēmas identifikācijas un definēšanas, problēmas risināšanas stratēģijas izveles un īstenošanas, kā arī rezultātu novērtēšanas un popularizēšanas. Izvirzītās pētījuma problēmas izpētei tika izveidots pētniecības instruments-anketa, kurš tika testēts pilotāžas pētījuma laikā. Par pētījuma instrumentu izmantoja strukturētu anketu, kura sastāvēja no vairākām daļām un ietvēra jautājumus par respondentu statusu(vecums, dzimums, pilsētas daļa, kurā biežāk pārvietojas, transporta līdzeklis, ar kuru biežāk pārvietojas), ietves un pieturvietas raksturojumu un sabiedriskā transporta aprīkojuma raksturojumu. Dati tika iegūti rakstveida aptaujā, izmantojot neklātienes un klātienes datu ieguves formu. Anketā tika izmantoti daļēji atvērtie jautājumi, kas deva iespēju respondentiem sniegt savus komentārus vai papildinājumus.

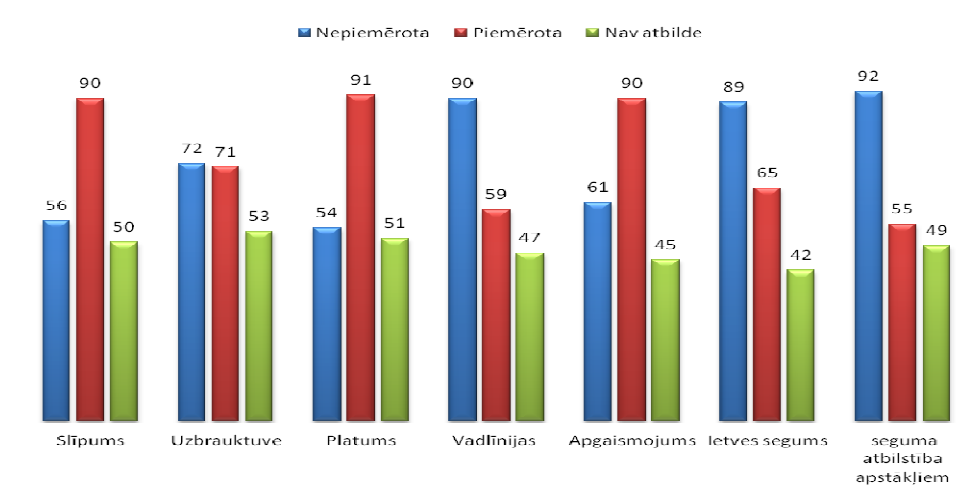
Problēmas raksturošanai izmantota dokumentu kontentanalīze, kā rezultātā tika apkopoti zinātniskie fakti un atziņas par vides raksturojumu, pieejamību, universālā dizaina pamatprincipiem un to pielietojumu praksē. Lai noskaidrotu respondentu viedokli, tika izmantotas empīriskās metodes-izlases veidošana, datu ieguve un statistiskā analīze, kuru pielietošana deva iespēju iegūt datus, kas tika analizēti un interpretēti. Lai aprakstītu kopas struktūras vienības, tika izmantotas vidējās variantes- moda un mediāna. Moda un mediāna ir visvairāk lietotie struktūras vidējie lielumi (Kristapsone, 2008.).

Iegūto datu analīzei tika izmantotas secinošās statistiskas neparametriskā un saistību noteikšanas metodes, kur izmantoja divu vai vairāku neatkarīgu grupu salīdzināšanu pēc vairākiem mainīgajiem un sakarību noteikšanu- hī kvadrāta (Chi-square Test) tests, Pīrsona korelācijas koeficients, izmantojot *Microsoft Excel* un SPSS 21 datorprogrammu. Korelācijas novērtēšana deva iespēju secināt, vai sakarības ir statistiski nozīmīgas. Pīrsona korelācijas koeficients mēra sakarību ciešumu lineāru savstarpējo sakarību gadījumā. To vērtē pēc aprēķinātā koeficienta vērtības, kas liecina, ka sakarība ir vāja ($r \leq 0.3$), vidēji cieša ($0.3 < r \leq 0.7$) vai cieša ($r > 0.7$). Hī kvadrāta testu izmanto kategoriju biežuma salīdzināšanai starp nodalītām grupām un sakarību noteikšanai starp divām pazīmēm. Tā ir visbiežāk izmantotā neparametriskā metode (Mārtinsone, Pipere, Kamerāde, Kristapsone, Mihailovs, Sīle, Sīlis, Lazda, Zakriževska, Olsena, 2011.). Iegūtie dati tika variēti katras vienības ietvaros, salīdzināti starp vienībām un atspoguļoti tabulās un grafiskajos attēlos histogrammu veidā, kas ļāva izteismīgāk parādīt pazīmju sadalījumu. Balstoties uz iegūto datu analīzi, pētījuma beigās izvirzīti secinājumi un priekšlikumi.

Pētījuma uzsākšanai, izmantojot statistiskās pētīšanas metodi, tika izveidota ģenerālā jeb statistiskā kopa. Statistiskās kopas izveidei, tika izvirzīti vairāki kritēriji - vismaz viena kopēja pazīme (visi respondenti bija Jūrmalas iedzīvotāji), vismaz viena variējoša pazīme (respondentu vecums, atrašanās dažādās kopas vienībās) un masveidīgums (pētījumā iesaistīto respondentu plānotais skaits vismaz 100). Statistiskā kopa tika sadalīta vairākās individuālās novērošanas vienībās - iedzīvotāji pēc 65 gadu vecuma, mātes ar bērnu ratiņiem un iedzīvotāji ar invaliditāti. Pētījuma laikā tika ievēroti universālie pētniecības principi- dalībnieku aizsardzības konfidencialitātes, ieguvuma, godīguma, dalībnieku informētības, nozīmīguma, vispārināšanas, vienkāršības, uzticamības un atsauču norāžu principi.

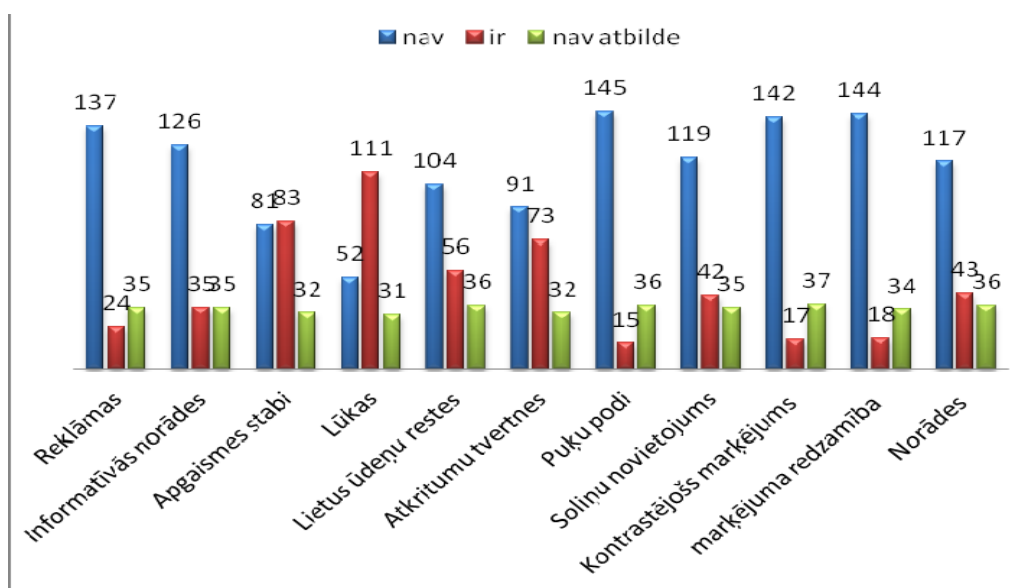
Rezultātu analīze

Lai izvērtētu sabiedriskā transporta pieejamību, respondentiem bija jāatzīmē savs viedoklis par ietves slīpumu, uzbrauktuvēm, platumu, vadlīniju esamību, apgaismojumu un seguma kvalitāti.



1.att. Ietvju piemērotība
Figure 1. Characterize suitability of pavement for your needs

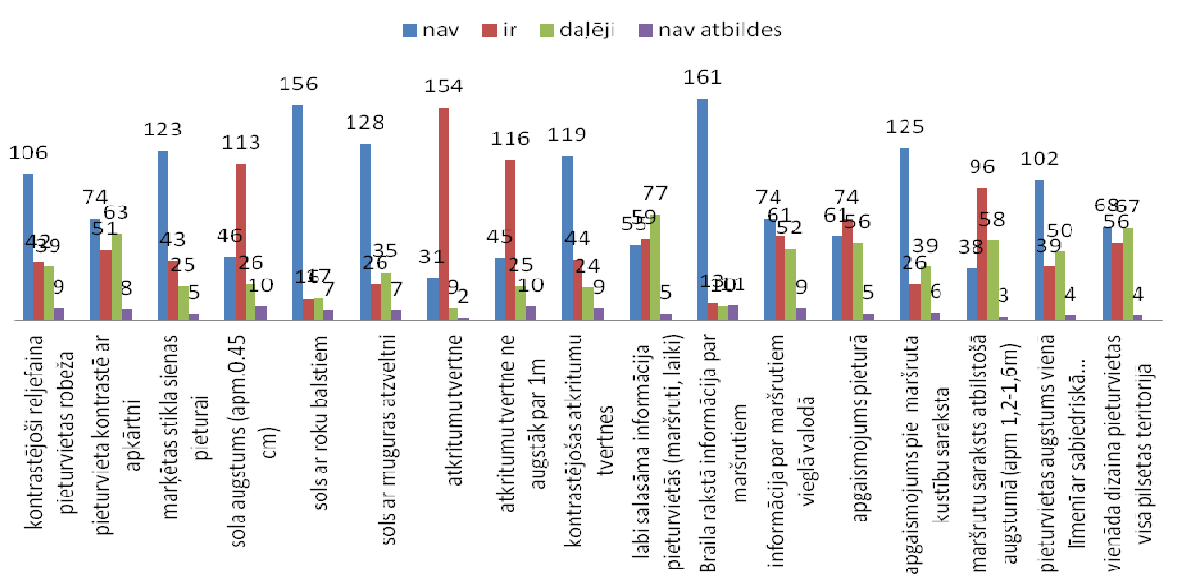
Analizējot ietves piemērotību, kā tās raksturojošie faktori tika apskatīti ietves slīpums, uzbrauktuve, platums, vadlīnijas, apgaismojums, ietves segums. Attēlā redzams, ka universālā dizaina principi, izbūvējot un aprīkojot ietves, ir ievēroti daļēji, jo par piemērotiem tiek atzīmēti tikai daļa no kritērijiem- ietvju slīpums, platums un apgaismojums. Par nepiemērotu iedzīvotāji atzīmē vadlīniju esamību ietvēs, ietves segumu un tā kvalitāti dažādos laika apstākļos.



2.att. Šķēršļu izvietojuma uz ietves diagramma
Figure 2. Obstacles on the pavement

2. attēlā redzams respondentu viedoklis par šķēršļu izvietojumu uz ietves. Lai noteiktu iedzīvotāju viedokli uz šo jautājumu, tika izvirzīti kritēriji pēc kuriem iedzīvotājiem bija jānovērtē šķēršļu izvietojums uz ietvēm- reklāmas, informatīvās norādes, apgaismes stabi, lūkas, lietus ūdeņu restes, atkritumu tvertnes, soliņi, norādes, kontrastējošs marķējums. Lielākoties respondenti atzīmēja, ka uz ietvēm netiek izvietoti šķēršļi, kas varētu radīt grūtības

pārvietoties- reklāmas, informatīvās norādes, lietusūdeņu restes, atkritumu tvertnes, puķu podi un soliņi. Tomēr tika atzīmēts, ka reizēm grūtības rada apgaismes stabi, kas vietām tomēr ir novietoti uz ietvēm. Vissliktākā situācija parādās analizējot šķēršļu marķējumu un to redzamību arī diennakts tumšajā laikā, jo respondenti atzīmēja, ka marķējuma uz šķēršļiem nav un tas rada grūtības pārvietoties. Līdzīga situācija ir apskatot respondentu viedokli par informatīvo norāžu izvietojumu par remontdarbu veikšanu, jo šādas norādes nav izvietotas.



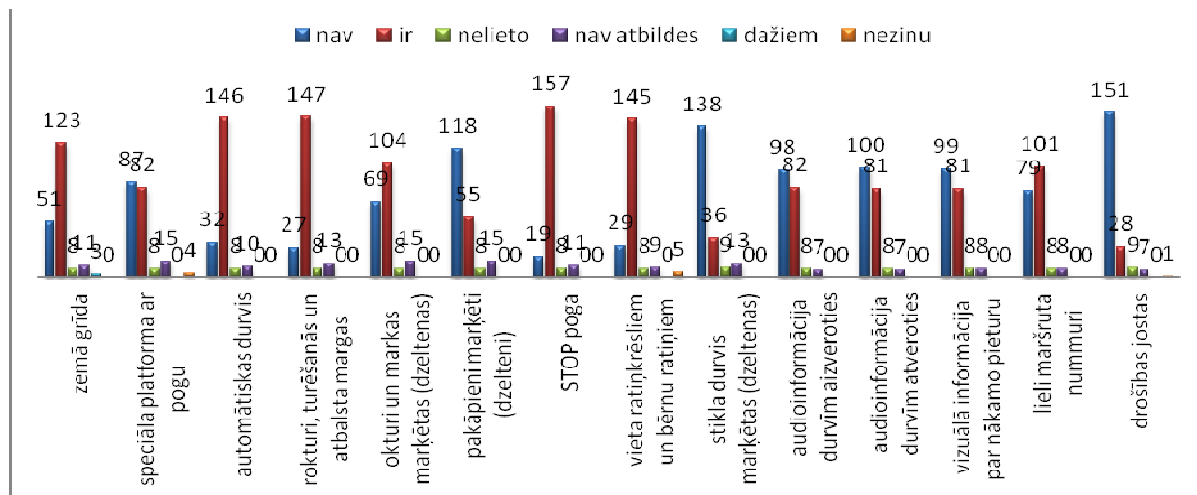
3. att. Visbiežāk izmantoto pieturvietu novērtējums

Figure 3. Evaluate the public transport stop you use more often

3. attēlā redzams respondentu atbilžu sadalījums novērtējot pieturvietu, kuru tie izmanto visbiežāk. Šajā attēlā redzams pieturvietas novērtējums pēc vairākiem kritērijiem- pieturvietas robežas reljefainā kontrastēšana ar apkārtni, pieturvietas kontrastēšana ar apkārtni, pieturvietas sienas un to aprīkojums, sola atbilstība, sola roku balsti, solu muguras atzveltnes, atkritumu tvertņu izvērtējums pieturvietās, informācija par kustību laikiem pieturvietās, apgaismojums pieturvietās, pieturvietas augstuma līmenis attiecībā pret sabiedriskā transporta līdzekļa grīdu, dizains un pamanāmība apkārtējā vidē.

Izvērtējot sabiedriskā transporta pieturvietu aprīkojumu, var secināt, ka pieturvietas ir aprīkotas ar piemērota augstuma soliņiem, atkritumu tvertnēm un sabiedriskā transporta kustību sarakstiem atbilstošā augstumā. Respondenti atzīmē, ka pieturvietās trūkst marķētas stikla sienas, soliņiem nepieciešami roku balsti un muguras atzveltnes, atkritumu tvertnēm nepieciešams kontrastējošs marķējums, informācija Braila rakstā, apgaismojums tieši pie kustību sarakstiem, kā arī nepieciešams uzlabot pieturvietu augstumu, lai tās būtu vienā līmenī ar sabiedriskā transporta grīdu. Pilnveidojams vēl būtu sabiedriskā transporta kustību saraksta dizains, lai informācija būtu salasāmāka un

pārskatāmāka, pieturvietu apgaismojums un pieturvietu dizains, lai tas būtu vienots visā Jūrmalas teritorijā.



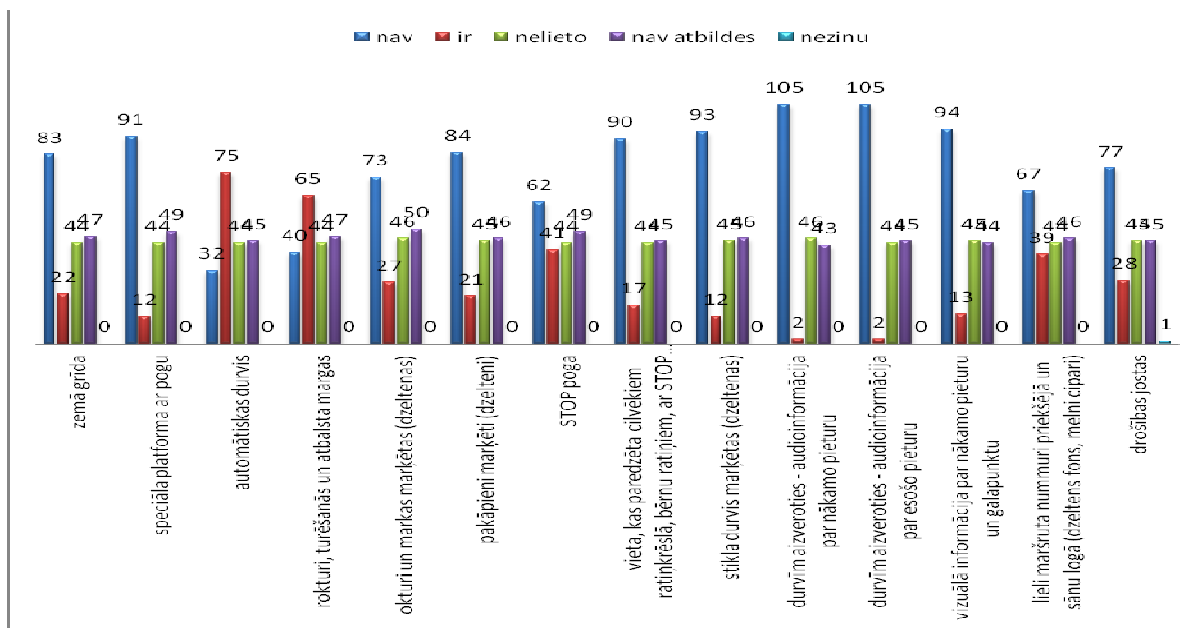
4. att. Sabiedriskā transporta-autobusa novērtējums

Figure 4. Evaluate the public transport –bus

4. attēlā redzams respondentu viedoklis par Jūrmalas pilsētas autobusu novērtējumu. Lai izvērtētu autobusu piemērotību universālā dizaina principiem, tika izvērtēta autobusu zemā grīda, speciālās platformas ar pogu esamība, automātiskās durvis, rokturi, turēšanās un atbalsta margas, pakāpienu marķējums dzeltenā krāsā, STOP pogas un vietas, kas aprīkota ar STOP pogu un drošības jostu un paredzēta cilvēkiem ratiņkrēslā un mātēm ar bērnu ratiņiem, audio informācija durvīm atveroties un aizveroties, vizuālās informācijas esamība par nākamo pieturu un galapunktu, drošības jostu esamība autobusos.

Var secināt, ka izvērtējot kritērijus, pēc kuriem tika novērtēti autobusi, to esamība bija tikai daļēja, jo respondenti atzīmēja, ka autobusos ir zemā grīda, durvis atveras automātiski, ir rokturi, turēšanās un atbalsta margas un tās ir atbilstoši marķētas dzeltenā krāsā, STOP poga, vieta, kas aprīkota ar STOP pogu un drošības jostu un paredzēta personām ratiņkrēslā un mātēm ar bērnu ratiņiem. Respondenti atzīmēja ka autobusos nav marķēti pakāpieni, durvju stikla marķējuma, audioinformācijas durvīm atveroties un aizveroties un drošības jostas.

Izvērtējot mikroautobusu piemērotību universālā dizaina principiem, tika vērtēta zemās grīdas esamība, speciālās platformas, durvju atvēršanās veids, rokturu, turēšanās un atbalsta margu esamība, pakāpienu marķējums, STOP pogas esamība, vieta, kas aprīkota ar STOP pogu un drošības jostu un paredzēta cilvēkiem ratiņkrēslā un mātēm ar bērnu ratiņiem, audio un vizuālā informācija par nākamo pieturu un galapunktu, maršrutu numuru dizains un novietojums mikroautobusu priekšējā un sānu logā. Secinājums, mikroautobusus netiek ievēroti universālā dizaina principi, jo no visiem kritērijiem par atbilstošiem var atzīmēt tikai automātisko durvju un rokturu, turēšanās un atbalsta margu esamība.



5. att. Sabiedriskā transporta-mikroautobusa novērtējums

Figure 5. Evaluate the public transport minibus

Lai uzlabotu sabiedriskā transporta sniegto pakalpojumu kvalitāti, respondentiem bija vairāki ieteikumi. Kā biežāk minēto ieteikumu, var atzīmēt papildreisu ieviešanu maršrutos, kas aptver sabiedriskās iestādes un Jūrmalas pilsētas centrālo daļu. Bija arī ieteikumi nodrošināt un uzlabot sabiedriskā transporta kustību vakara stundās un nodrošināt to kursēšanu ilgāk vakaros. Ieteikumi bija saistīti arī ar vizuālās un audioinformācijas uzlabošanu, autobusu un mikroautobusu aprīkošanu ar drošības jostām, braukšanas stila uzlabošanu.

Secinājumi

Analizējot anketēšanā iegūtās respondentu atbildes, var secināt, ka:

1. Universālā dizaina principi, izbūvējot un aprīkojot ietves, ir ievēroti daļēji, jo par piemērotiem tiek atzīmēti tikai daļa no kritērijiem- ietvju slīpums, platums un apgaismojums;
2. Par nepiemērotu iedzīvotāji atzīmē vadlīniju esamību ietvēs, ietves segumu un tā kvalitāti dažādos laika apstākļos, šķēršļu marķējumu un to redzamību;
3. Pieturvietas ir aprīkotas ar piemērota augstuma soliem, atkritumu tvertnēm un sabiedriskā transporta kustību sarakstiem atbilstošā augstumā, bet trūkst marķētas stikla sienas, soliem nepieciešami roku balsti un muguras atzveltnes, atkritumu tvertnēm nepieciešams kontrastējošs marķējums, informācija Braila rakstā, apgaismojums tieši pie kustību sarakstiem, kā arī nepieciešams uzlabot pieturvietu augstumu, lai tās būtu vienā līmenī ar sabiedriskā transporta grīdu;
4. Pilnveidojams kustību saraksta dizains, lai informācija būtu salasāmāka un pārskatāmāka;

5. Mikroautobusu piemērotība universālā dizaina principiem ir slikta, jo nav zemās grīdas un speciāla platforma ar pogu, nav rokturu, margu un pakāpieni netiek marķēti, trūkst vieta ratiņrēsliem un bērnu ratiem, kas aprīkota ar STOP pogu, stikla durvis nav marķētas ar dzeltenu krāsu, nav audioinformācija par pieturvietām un nepietiekama vizuālā informācija;
6. Lielākajā daļā autobusu ir zemās grīdas, durvis atveras automātiski, ir turēšanās un atbalsta marga un rokturi, rokturi un margas tiek marķēti, ir vieta cilvēkiem ar ratiņkrēslu un mātēm ar bērnu ratiem, vizuālā informācija par autobusa maršrutu;
7. Sabiedriskā transporta sniegto pakalpojumu kvalitātes izmaiņas ir ar tendenci uzlaboties, bet joprojām ir nepilnības;
8. Analizējot iegūtos datus, var secināt, ka statistiski nozīmīgi korelē visi kritēriji, tādēļ svarīgi ir visi kritēriji un ja nav ievērots kaut viens kritērijs, tad universālā dizaina pielietojums praksē ir tikai daļējs.

Summary

Universal design is a new thinking tendency that define that the value of society is a man, and only a human comfort and security is the main criteria for the humane environment. Universal design does not set specific requirements for a particular social group, but makes any service, any infrastructure, as well as the environment available to every member of the public.

Universal design is available environment, products, services and information for all people.

Universal design is intended to simplify the life of everyone, creating environment, products and communications that are equally available and understandable for low cost and without any additional payment. Universal design and accessibility has played an important role in the promotion of human rights and fundamental freedoms. Respondents were divided into the three groups - people older than 65 years, people with disabilities and people with prams. The survey results reflect the view of Jūrmala residents about conformity of public transport, public transport stops and sidewalks to the universal design principles.

Evaluation of obtained results shows that the aim is achieved. Viewpoint of Jūrmala residents about the application of the universal design principles in public transport is clarified. Study concludes that suitability of the universal design principles in public transport is only partial, because the coverage of pavement is of a poor quality, there are many obstacles on pavements, no information available to people with vision problems, vehicles have no labels, no audiovisual information about stops, etc.

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EDUCATIONAL ACTIVITIES FOR OLDER ADULTS DEVELOPMENT IN LITHUANIAN SOCIAL CARE INSTITUTIONS

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Abstract. *The article reviews educational activities for older adults in social care institutions. The growing numbers of older people in the society create an imperative to keep reviewing and adapting for the newly emerging needs societal resources in the areas of social security, economics, education, and health care. Recent discussions about the potential of institutional social care to meet societal needs are gaining momentum in Lithuania and the challenge is to offer alternative, equally agreeable, forms of social care as, for example, social care of the adults at their own homes, involvement of non-governmental organisations into the provision of social and educational service provision. However, it is broadly accepted that social care provided for older adults in the social care institutions plays an important role in the provision of social and educational services and will continue to play this role in future.*

Keywords: *educational activities, older adults, social care institutions.*

Introduction

Demographic convergences of the recent decades impact population age structures and result in the ageing of the society in Lithuania. The growing numbers of older people in the society create an imperative to keep reviewing and adapting for the newly emerging needs societal resources in the areas of social security, economics, education, and health care. In 2012 in Lithuanian in social care institutions there lived around 4,5 thousand people older than 60. Key challenges that face social gerontology and educational acceleration are management and provision of social and educational services in compliance with the older adults' needs as well as supporting conditions for active and healthful ageing.

S. Mikulionienė (2011) views population ageing as a predictable result of demographic evolution of the society. Though in Lithuania this process is often approached through its negative aspects, in S. Mikulionienė's opinion it is „not only an imminent outcome of demographic transition, but it is also a desirable outcome (population life span gets longer)“ (Mikulionienė, 2011, p. 224). This goal – to ensure longer and complete human life– calls for no objections. Changing population age structure – from the young age dominated society to the society with an equal distribution of different age groups, in S. Mikulionienė's (2011) opinion, is and will continue to stay a challenge to the development of social, economic and cultural life in a society. Because of the scope and of the irreversible character of the phenomenon, population ageing

critically impacts upon societal needs structures and at the same time challenge social institutions that are designed to meet those needs. In the opinion of V. Lukamskiene and A. Budejiene (2013) ageing society conditions the change in the role of the family as a social institution. The researchers make a proposition that in future the care of older adults might be handed over to social service organisations for the provision of social services. The situation touches upon the issue of social inclusion, when each member of the society is given an opportunity to take an active part in the society's life no individual encounters obstacles in search of an activity meaningful for the society (Gray, 2000). Social inclusion of older adults means enhancing access to educational activities and supporting participation in such activities (Zemaitaityte, 2014).

The paper seeks to discuss the types of educational activities offered to older adults in social care institutions; the ways older people engage themselves with these activities; the challenges that social workers meet in managing and providing these educational activities.

Research is based on national statistical data, the data of the focus group interviews carried out to answer research questions.

Social care institutions for older adults

2012 was the European year of active ageing and solidarity of generations. In the attempt to match the requirements of older adults and to provide conditions for active and dignified ageing, it attracted greater attention to the provision of social services, educational stimulation, activity organisation and provision. Since the society is ageing and a lifespan is becoming longer it is likely that the need for a continuous care and nursing in future will only grow, and as a consequence the demand for social care institutions will grow as well. Social care institutions are the institutions whose primary goal is to support vital activities of individuals and of social groups and to deal with social problems as they arise in managing the provision of services and secure environment (Zalimiene, 2003). Social services form an integral part of a national welfare and assist society in dealing with social issues. Fast changing social and economic environment, globalisation, economic changes stimulate interest in the most effective service provision. According to Lithuanian Statistics Department (2013) 102 social care institutions were providing social care services in 2012, 4,5 thousand older adults received these services. The majority of the above institutions function within the regulatory supervision of local municipalities; others are public enterprises or private institutions. Stationary care institutions for older adults are the following types: care houses for older people, geared for people, who are in need of permanent nursing and care and for people who because of their old age and deterioration are unable to live on their own at home; independent residences, which are mainly for older people, who are in no need of permanent care and nursing, but may require minor assistance or some

social services. Stationary care institutions provide the following types of services for older adults: supply of information and consulting, social work, provision of abode, personal health services and arranging of nursing services, leisure and social activities and the like. Older individuals have a choice of moving to a stationary care house with either a long-term or a short-term social care. Short –term social care is an opportunity for an older adult to mix with one's own age group, to establish new social connections, to apply for the leisure and educational activities offered by professionals (Kuzmickienė, 2011). Recent discussions about the potential of institutional social care to meet societal needs are gaining momentum in Lithuania and the challenge is to offer alternative, equally agreeable, forms of social care as, for example, social care of the adults at their own homes, involvement of non-governmental organisations into the provision of social and educational service provision. However, it is acknowledged that social care provided for older adults in the social care institutions plays an important role in the provision of the social and educational services and will continue to play this role in future.

At present the measurement and assessment of the quality of social services to diverse groups of clients in Lithuania are at their initial stage. Pursuing the goals of social service quality in Lithuania, the attempts are made to define and describe the quality of social services and criteria for quality assessment. In other words, currently, the concept of the social service quality is under discussion. This discussion is of extreme importance for social workers, who provide social and educational services for elderly clients, since the occupational quality is associated with the growth of the professional prestige in the society.

Educational activities as leisure activities for older adults

The Catalogue of Social Services (2006, 2013) does not list educational activities as such, but in practice they are organised as sociocultural, educational services, which are defined in the Catalogue as leisure activity planning, provided as a mediational means for avoiding social conflicts (prevention activities), for bridging the social exclusion gap and activating the community. In the process of the provision of these services individuals (families) can communicate with each other, take part in group activities, spend time on one's favourite pastimes. J. Šinkūnienė (2005) describes leisure as time span devoted for dealing with personal requirements, for personal development, accumulation of knowledge, personal growth. Leisure activities are an individual right to make choice by which an individual reveals one's attitude to the value system. In planning educational activities and managing leisure time for older adults it is important to mind the needs of the participants of these activities. J. Kuzmickiene (2011) holds the view that every elderly person has one's favourite activities and makes independent decisions of how much time and energy to spend on them. Some are interested in a single type of activity, others

spread their time, skills and knowledge over several types of activities: they get involved in work or community organisations, give time to family and social function, show interest in arts, theatre, books, music. J. Miezyte-Tijusiene and L. Bulotaite (2012) observe that though an expanding amount of leisure time should cause satisfaction, this is not always the case. In some cases appropriation of the augmented free time may evoke unpleasant feelings and this causes boredom for older people, a feeling of senselessness. Therefore, educational activities and leisure time organisation are an important aspect of the subjective welfare of older adults. D. Staniuleviciene (2002) states that leisure time can become a source for personal growth, experience, calmness, happiness, self-expression. V. Cernius (2006) remarks that mandatory old age leave at work may cause faster ageing, while older adults who continue their work function have a better quality of life. „The longer older people stay active, occupied, the happier their old age is” (Cernius, 2006, p. 261). J. Miezyte-Tijusienė, L. Bulotaitė (2012) also note that social activity help old people to deal with emotions and this enhances their psychic balance. Social activity also provides the opportunity to contact to other people and receive support.

Lithuania has no profession designated to organise leisure and educational activities, these services are most often provided by social workers, who apart from social work organise and provide sociocultural and educational services. A social worker in one’s function of providing leisure and educational activities to older people often acts as an *analyst* who seeks to identify the inclinations, needs and interests of an elderly person, is aware of the leisure development trends for older people, of typical features of diverse leisure activity types; an *organiser*, who plans educational activities, prepares and implements activity plans, organises educational and cultural events; an *enabler* who seeks to interest older people in new leisure and educational activities, encourages active participation; a *mediator* who assists in establishing social contacts during educational activities; a *consultant* a social worker who helps to overcome failures, gives attention and empathy; a *creator* – often social workers themselves work on projects, social programmes to help older adults in self-realisation (Leliugiene, 2003). M. Spierts (2003) also admits that education is a mandatory part of a sociocultural work, but educational work may be an entirely independent function. It can be oriented towards forming an opinion, acquiring and developing knowledge, augmenting social and cultural skills.

Attitudes of social workers to the organisation of educational activities in social care institutions

While working on the international lifelong learning project “INNOMECE - Innovative Management and Educational Practices in Elderly Centres” in the period 2013-2015 (No. 539829-LLP-1-2013-1-IT-GRUNDTVIG-GMP) project partners: Speha Fresia (coordinate, Italy); Inspire (Austria); EURO Idea

(Belgium), Mykolas Romeris University (Lithuania); Studi Centro Veneto (Italy); Hrafnista (Iceland) carried out a study of focus groups in the attempt to identify educational activities prepared for the older adults.

In order to reveal distinctive experience obtained by a social worker while working in social service for older people the phenomenological research method was chosen. From the phenomenological point of view experience emerges from the stream of daily life (Van Manen, 2014). Qualitative research intended to approach the world “out there” and to understand, describe and explain phenomena „from the inside“ by analysing experiences of individuals and groups; by reviewing interactions and communications in the making; by studying documents. Data elicited in focus groups was used to provide a window on subjective experience – but this was the least of what this approach enabled achieving (Barbour, 2007). Characteristics of the Lithuanian focus group participants are the following: ten social workers (each focus group participant – women) working in institutions for the elderly; the focus group age ranged from 30 to 45. The scope of research participants is targeted, i. e. the informants that are able to reflect and reason about the researched phenomenon responsibly were selected. Selection criteria: gerontology work experience in social service for older adults no less than 5 years; professional qualifications of the social work - university-level education.

The data was collected using the focus group interview method in order to answer the raised questions of the research. The data of the research were collected on May of 2014 after focus group meeting at Mykolas Romeris University (Lithuania); interviews were recorded using the dictaphone. Focus group interview lasted 2 – 2.5 hours. The researchers obligated themselves to the participants of the research to keep the information related to the concrete social service (institution) informant anonymous. The research was based on the principles of anonymity, voluntarism and goodwill. The social workers were acquainted with the goal of the research and its circumstances, interview questions and the importance of the reflection of their experience. The focus group of the participants comes from Vilnius region. The choice of setting can be considered as limited. The location has an influence on the discussion, and it is important to consider the connotations that a particular location may have for participants (Barbour, 2007)

By analysing a variety of educational and engaging activities for older people - how is this variety reflects upon a daily function of social workers, the focus group members noted that engaging activities for older people in social service institutions have time resources, e.g.: institutions that provide stationary service organise engagement activities every day, the clients are offered different activities, at the nursing hospitals engaging activities are organised 2 times per week 45 min. each (more time is dedicated to health support but not to sociocultural/educational service provision). Informants listed the engaging activities: handicrafts, application, paper cutting, clay work, logical activities,

reading (audio books, articles read out loud, fiction, news, novels, religious books). The focus group members mentioned that most clients have visionary impediments and reading out loud activities are popular.

The informants have noticed that older adults get tired after a short time, this situation has to be taken into consideration when organising sociocultural/educational activities. Another remark was that older adults are often passive, therefore, it is important to strengthen motivation for engaging them into activities.

When asked to list successful engaging activities for elderly clients, the informants stressed that singing folk songs, logical games, singing religious songs are activities related to the clients' past. In the informants' interpretation songs, religious singings are the activities that involve all the participants of the activity: some sing, others can listen. It is noticed that when working with the Alzheimer patients', folk song singing and listening affects them positively. It is important for the social workers to observe positive changes and positive emotions of the client. Through these activities the dynamics of regress is also observed when the client's recognition skill slows down.

In response to the question why do older adults choose activities they are familiar with and why do they learn something new, the informants answered that older people prefer activities which they are familiar with and have tried before in their lives since this gives them a sense of security. They are inclined not to trust new activities and are afraid to experiment. Therefore, when proposing new engaging activities social workers seek to strengthen clients' motivation to acquire new experience, to strengthen their trust in themselves and their capacities. It has been noticed that older people respond positively to routine activities and to repeating engaging activities. In the opinion of the informants their clients do not appreciate surprises but are satisfied with predictable things. In some cases it is difficult „to sell“ new activities for the individuals since they feel some sort of „loss of dignity“, in other instances the clients are keen on trying things out, so the situation varies in every separate case and is determined by a separate individual need.

Interviews with the focus group members revealed the fact that organising educational and engaging activities is part of social work but hospitals for the care of elderly allot less time and personnel resources than do social service institutions. Hospitals for the care of the elderly allot limited time because the character of work is dominated by filling out documents, mediating between doctors and client families and the engaging activities are arranged only for the special events.

The informants stressed the lack of social workers resources since in Lithuania there prevails an opinion that organising engaging activities is a part of social work. No professional appointments are planned for the organisers of engaging activities. The key obstacle in the informants' opinion is the attitude of the politicians that in dealing with the clients' needs the priority should be given

to the physical care and medical care but not to the social care needs. Because of the shortage of the financing only the basic human needs are the key objective in the social care institutions, cutting the development of the engaging activities and the required personnel resources.

The research revealed that oftentimes practice with the older adults is not quite targeted and is difficult to define, the practice shows many attempts and experiments, and therefore, social workers are on the lookout for a good training course that would introduce a good gerontological practice. The informants indicated that there are no reports of methodical work in gerontology or the samples of the methods of work especially for the organisation of educational, engaging activities. This function often depends on the individual experimentation of social workers, creativity, learning from the experience of their colleagues, but mostly within the enclosed situation of one institution. Prevailing methodical material is written for the work with children but not with older adults.

Social care institution workers admitted that they receive strong support from their administration representatives. It is important to say that they do not feel separated from the administrative decisions; on the contrary, they feel rather involved and participating in decision taking processes.

Conclusions

Lithuanian Catalogue of Social Services which is instructional to social workers does not include educational activity as such but social workers provide their clients sociocultural services, which in their contents embrace educational activities such as organising pastime, engaging activities, individual and group activities with regard to the clients' needs. Social workers implement educational activities in relation to previous experiences and inclinations of the clients, they also look for new forms of educational activities, and they involve and motivate clients to take part in this quest.

Social workers consider it their function to organise older clients' pastime, their function embraces educational activities such as organising events, excursions, readings, singing, putting up exhibitions in practice. Social workers are motivated and interested and feel support of the administration; therefore, they are free and creative in organising educational engaging services for their clients, after assessing their needs, financial and personnel resources of the organisations. Educational engagement is an important part in the programme, a systemic feature of the social care institution's work.

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IT IZMANTOŠANA IZGLĪTĪBĀ
INFORMATION TECHNOLOGIES IN
EDUCATION

ФОРМИРОВАНИЕ ИНФОРМАЦИОННОЙ КОМПЕТЕНТНОСТИ ПЕДАГОГОВ В УСЛОВИЯХ ЛИЧНОСТНО ОРИЕНТИРОВАННОГО ОБУЧЕНИЯ - КАК ВАЖНЫЙ ФАКТОР УСПЕШНОЙ ПРОФЕССИОНАЛЬНОЙ ДЕЯТЕЛЬНОСТИ

Formation of the Information Competence of Pedagogical Staff in the Conditions of Personality-based Training - as an Important Factor of Successful Career

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Abstract. *In this paper, the author considers the problems associated with the formation of information competence of students in personality-oriented education. There are considered the psychological and pedagogical possibilities of using modern information technology in the educational process. There were revealed three levels of ownership of ICT competences in the process of formation of the student's personality. There are considered practical measures for forming and developing ICT competence of pedagogical staff in the process of training and professional development.*

Keywords: *information competence, learning, personality-oriented education, system of continuous education, training, the process of informatization, vocational education.*

Введение Introduction

Внедрение современных информационно-коммуникационных технологий – необходимое условие для развития любого государства. Узбекистан, идущий по пути демократических реформ и развития рыночной экономики, не является исключением. Стратегия развития информационно-коммуникационных технологий в стране реализуется в соответствии с Комплексной программой развития Национальной информационно-коммуникационной системы Республики Узбекистан, рассчитанной на 2013–2020 годы. Большое значение в этом направлении придается развитию системы «Электронное правительство».

Информатизация сегодня рассматривается как один из основных путей модернизации системы образования. Это связано не только с развитием техники и технологий, но и, прежде всего, с переменами, которые вызваны развитием информационного общества, в котором основной ценностью становится информация и умение работать с ней.

Одной из главных задач современной системы образования является разработка проектов и программ, способствующих формированию человека современного общества. При этом имеется в виду решение ряда последовательных задач: техническое оснащение, создание дидактических средств, разработка новых технологий обучения и т.д., определяющих этапы процесса модернизации.

Развитие информационных технологий и средств телекоммуникаций создает основу для осуществления научных и образовательных программ на качественно новом уровне. Создание скоростных телекоммуникаций и разработка технологий реального времени дает возможность реализации моделей распределенной образовательной среды, построенной на технологиях удаленного доступа к информационным ресурсам и компьютерных средствах общения. Сегодня информационно-образовательные системы представляют собой комплексы, включающие в себя вычислительное и коммуникационное оборудование, программное обеспечение и персонал, который обеспечивает поддержку динамично изменяющейся информационной модели системы образования для удовлетворения информационных потребностей всех участников образовательного процесса. Речь идет о применении информационной системы обучения и об информационно-образовательной системе всего образования в условиях личностно-ориентированного обучения (Фалина, Мохова, 2005).

Особое внимание следует уделить ИКТ-компетентности (Сухов, 2013). В настоящее время не только педагогическое сообщество, но и общество в целом понимает, что владение компьютером (компьютерная грамотность) представляет собой важнейший элемент образования. Формирование информационной и коммуникационной компетентности рассматривается не только как формирование технологических навыков. Одним из результатов процесса информатизации должно стать появление у будущих педагогов способности использовать современные информационные и коммуникационные технологии для работы с информацией. Они должны уметь искать необходимые данные, обрабатывать, анализировать и оценивать их, а также продуцировать и распространять информацию в соответствии со своими целями.

Формирование информационной компетентности представляет собой процесс перехода к такому состоянию, когда педагог становится способным находить, понимать, оценивать и применять информацию в различных формах для решения личных, социальных или глобальных проблем.

Психолого-педагогические проблемы специфической деятельности педагогов в информационно-образовательной среде имеют существенные отличия; они практически не изучены. Однако должна оставаться главная

функция педагога - управление процессами обучения, воспитания, развития.

При широком внедрение информационно-коммуникационных технологий в учебный процесс педагог несет существенно большую физическую и психологическую нагрузку, чем педагог в традиционной системе. Поэтому педагогов для работы в новой виртуальной системе образования необходимо специально готовить.

В наших исследованиях мы поставили цель выработки методических рекомендаций по организации учебного процесса по направлениям подготовки педагогических кадров в системе высшего педагогического образования. На основе анализа учебных планов направлений бакалавриата разработали практические рекомендации по совершенствованию учебных программ. Провели опрос в виде анкетирования студентов по применению информационно-коммуникационных технологий в учебном процессе. Разработали рекомендации по совершенствованию содержания учебных программ с упором на формированию компетенций по применению средств современных информационно-коммуникационных технологий в учебном процессе. А также, разработали программу подготовки магистерских кадров по специальности «Информационные технологии в образовании».

В целях обеспечения непрерывности формирования и развития информационно-коммуникационных компетенций педагогов разработали содержание курсов повышения квалификации педагогических кадров «Информационно-коммуникационные технологии в образовании».

Формирование базовой ИКТ-компетентности в процессе подготовки педагогических кадров в вузе

Forming the basic ICT competence in the process of pedagogical staff training in higher educational institution

Сегодня в качестве одного из перспективных направлений развития непрерывного образования в Республике Узбекистан рассматривается ее информатизация, основанная в первую очередь на совершенствовании информационной среды образовательных учреждений. В соответствии с этим, серьезное внимание уделяется разработке и внедрению в педагогическую практику современных средств информационно-коммуникационных и передовых технологий обучения. По нашему мнению под последним следует понимать новую форму обучения, базирующуюся на применении широкого спектра традиционных и технических средств новых информационных технологий, которые используются для доставки учебного материала, его самостоятельного изучения, диалогового обмена между студентами и преподавателями. Вместе с тем, эта новая специфическая форма обучения имеет тот же

компонентный состав, что и любая система обучения - цели, обусловленные социальным заказом, содержание, во многом определенное действующими программами для конкретного типа учебного заведения, методы, организационные формы и средства обучения. Последние три компонента обусловлены спецификой используемой технологической основы. Как и в других формах обучения, особого внимания требует к себе этап педагогического проектирования ее информационной (содержательной) и технологической (в плане педагогической технологии) составляющих. При этом, целесообразно отметить, что проектирование и конструирование первой из них в настоящее время становится все более актуальной, поскольку уже сейчас явно просматривается острый дефицит педагогически обоснованных программных продуктов, позволяющих обеспечить качество усвоения обучающимися учебного материала.

Выработка подлинной информационной компетентности, прежде всего, предполагает формирование универсальных навыков мышления и решения задач (Anderson, Rutka, 2012). К ним относятся: умения наблюдать и делать логические выводы, использовать различные знаковые системы и абстрактные модели, анализировать ситуацию с разных точек зрения, понимать общий контекст и скрытый смысл высказываний, неуклонно самостоятельно работать над повышением своей компетентности в этой сфере.

По нашему мнению формирование информационно-коммуникационной компетентности охватывает три компонента:

- технический;
- методический;
- содержательный.

Первый охватывает обеспечение учебного процесса компьютерной, мультимедийной, коммуникационной техникой и соответствующей инфраструктурой. Второй компонент представляет собой процесс восстановления методической стороны учебного процесса с использованием компьютерной, мультимедийной, коммуникационной техники. Содержательная сторона информатизации – это освоение новых источников информации, прежде всего с Интернет, для обучения по всем дисциплинам. Эти компоненты фактически являются этапами информатизации. Первый этап – технический: вводится предмет «Информатика» и изучается компьютер с минимальным учетом специализации, как печатная машинка, как чертежный инструмент или способ представления табличной информации. Второй этап – методический, предполагает более глубокое внедрение возможностей компьютера в методику преподавания, контроля уровня знаний по различным дисциплинам. На третьем этапе используются новые ресурсы информации и способы оперирования ею в различных дисциплинах. Эти

этапы взаимосвязаны, потому что даже применение компьютера уже влияет на методику.

Проведенные нами исследования показывают, что результатами внедрения информационных технологий в учебно-воспитательный процесс является повышение качества и углубление содержания обучения за счет распространения новых педагогических методик, основанных на современных информационных технологиях, интеграция учебной, исследовательской деятельности обучаемых при условии наличия информационной компетентности участников образовательного процесса.

Учитывая темпы и направления информатизации целесообразно существенно пересмотреть традиционные методы, технологии и средства образования применяемые в обучении в направлении формирования и развития информационной компетентности. Другими словами, с помощью методов и средств информационно-коммуникационных технологий будущий специалист должен научиться получать ответы на вопросы о том, какие имеются информационные ресурсы, где они находятся, как можно получить к ним доступ и как их можно использовать в целях повышения эффективности своей профессиональной деятельности.

Одной из основных задач, стоящих перед системой педагогического образования, задача формирования основ информационной компетентности будущего педагога. Потребность в квалифицированных педагогических кадрах, владеющих арсеналом средств и методов информатизации, превращается в ведущий фактор образовательной системы.

Таким образом, информационно-коммуникационные технологии выдвигает одну из основных задач педагогическому образованию - формирование и развитие информационной компетентности обучаемых, призванной обеспечить информатизацию образовательных процессов в целом. В свою очередь, информационная компетентность педагогических кадров не сводится к знаниям и умениям работы с компьютером, а также предполагает развитое информационное мировоззрение, информационную направленность и креативность личности, способность к использованию и усвоению новых информационных знаний, умений и рассматривается как одна из граней личностного развития.

При этом, информационная компетентность педагогических кадров связана с социальной природой человека. Она является продуктом разнообразных творческих способностей человека, его креативного потенциала. В конкретных навыках по использованию технических устройств. Информационная компетентность педагогических кадров формируется в недрах информационно-образовательной среды образовательного учреждения, отсюда следует что современное образование немисливо без использования во всех его формах средств информационных технологий. Педагогические программные средства

применяются как с целью изучения собственно информационных технологий, так и при обучении другим областям знаний. Информационные технологии все шире применяются в планировании и организации внеучебных мероприятий и управлении учебными заведениями. Расписание занятий вуза, построенные с помощью компьютера, или электронный классный журнал за последнее время перестали быть редкостью. Информационные технологии позволяют поднять на качественно новый уровень образовательные процессы, связанные с измерением знаний обучаемых, тестированием и организацией на его основе принципиально новых подходов к формированию контингента для обучения в высших учебных заведениях. Внедрение информационно-коммуникационных технологий позволило создать новые формы педагогических взаимодействий, к числу которых, в первую очередь, относится распределенное во времени и в пространстве дистанционное обучение.

По нашему мнению, в лично ориентированном обучении большое значение придается организации информационно-коммуникационной среды. Одним из факторов, влияющим на совершенствование профессиональной подготовки, является характеристика той информационно-коммуникационной среды, в которой осуществляется профессионально-образовательный процесс. При создании информационно-образовательной среды в разных пропорциях присутствуют технологический и педагогический аспекты, она включает в себя доступность студента и преподавателя к ресурсам, которые находятся в пределах сервера конкретного вуза и системы Интернет в целом (Павлюк, 2014). Информационно-коммуникационная среда, основанную на современных ИТ, можно определить, как специфическую среду, включающую компьютерную, телекоммуникационную, методическую и организационную составляющие единого профессионально-образовательного процесса. Максимальный эффект от организации информационно-коммуникационной среды на основе ИТ может быть достигнут лишь при согласованном развитии психологической, технической, технологической, информационной, нормативной, методической и других составляющих этого процесса (Joseph, Lee, Ng Lai Hong & Ng Lai Ling, 2001).

Структуру любой педагогической системы можно представить взаимосвязанной совокупностью инвариантных элементов. Так, каноническая педагогическая система, в которой протекает традиционный образовательный процесс, состоит, например, из семи элементов: цель обучения, содержание обучения, обучаемые, обучающие, методы, средства и формы обучения. Это позволяет проводить исследование и разработку данного процесса как целостного педагогического явления.

Таким образом, для подготовки и реализации образовательных процессов в информационно-образовательной среде необходима новая педагогика – „электронная педагогика”. Ее предметом является педагогическая система в целом. Педагогическая система является моделью учебного процесса, независимо от парадигмы образования. В педагогической системе открытого образования содержание элементов существенно меняется.

На основе результатов научных исследований мы разработали содержание специальных дисциплин («Электронная педагогика», «Методики преподавания специальных предметов с помощью информационно-коммуникационных технологий») направлений бакалавриата в области знаний «Педагогика». А также, на основе наших рекомендаций разработаны нормативно-правовые документы (учебный план и программа) и начата подготовка магистерских кадров по специальности «Информационные технологии в образовании».

Развитие ИКТ компетентности педагогических кадров *Development of pedagogical staff's ICT competence*

Подготовка высококвалифицированных педагогических кадров - одна из ключевых проблем системы образования. Развитие информационных технологий и их повсеместное внедрение в систему образования требует от педагога мобильности, гибкости, способности идти в ногу со временем, в том числе при совершенствовании своей профессиональной компетентности (Бегимкулов, 2007). Система подготовки и переподготовки педагогических кадров постоянно совершенствуется и во многом проводимые нововведения связаны с внедрением различных информационно-коммуникационных технологий в образовательный процесс. Это не является случайностью, поскольку требуемого качества подготовки и переподготовки специалистов в современных условиях невозможно достичь без соответствующего уровня владения средствами информационно-коммуникационных технологий в профессиональной деятельности.

Если до сих пор повышение квалификации педагогических кадров происходило один раз в три года, то в настоящее время педагогам значительно чаще требуется повышение уровня профессиональной компетентности. При учете скорости осуществления реформ в системе образования становится очевидным, что существующая сегодня система дополнительного педагогического образования не в состоянии удовлетворить как требования государства к системе повышения квалификации работников образования, так и актуальные информационные потребности педагогов. Переход традиционной системы повышения квалификации педагогических кадров на личностно-

ориентированное основание, создание педагогических условий активизации профессионального развития и саморазвития педагога, повышение эффективного управления процессом повышения квалификации на основе новых информационных технологий является одним из путей преодоления трудностей в системе повышения квалификации. С одной стороны, педагог должен быть готов к постоянному совершенствованию и повышению своей квалификации, а с другой стороны – обществом должны быть созданы условия, при которых педагог может реализовать свою потребность в постоянном обучении и развитии. Для того чтобы в течение всего периода профессиональной деятельности соответствовать постоянно растущим квалификационным требованиям, педагогическим работникам необходимо обучаться на курсах повышения квалификации.

Переход традиционной системы повышения квалификации педагогических кадров на личностно-ориентированное основание, создание педагогических условий активизации профессионального развития и саморазвития педагога, повышение эффективного управления процессом повышения квалификации на основе новых информационных технологий является одним из перспективных путей в системе повышения квалификации. С одной стороны, педагог должен быть готов к постоянному совершенствованию и повышению своей квалификации, а с другой стороны – обществом должны быть созданы условия, при которых педагог может реализовать свою потребность в постоянном обучении и развитии.

В целях повышения общего уровня владения информационно-коммуникационными технологиями педагогических кадров вузов разработан и утверждён совместным Постановлением Минвуза, Государственного комитета связи, информатизации и телекоммуникационных технологий, и Государственного тестового центра минимальные требования к знаниям, умениям и навыкам по информационно-коммуникационным технологиям преподавателей высших образовательных учреждений. На основе минимальных требований разработаны и утверждены программы учебных курсов повышения квалификации педагогических кадров «Информационно-коммуникационные технологии в образовании».

Обучение по данной программе направлено на формирование базовой ИКТ-компетентности педагогов. Учебная программа представляет собой целостный, логически законченный тематический блок, предусматривающий возможность контроля за его освоением. Реализация программы предусматривает проведение лекций и практических занятий, в ходе которых организуются обсуждение и анализ учебных ситуаций, ознакомление с опытом коллег, работа в малых группах и др.

Особое место при реализации программы отведено целевой

практической деятельности для выполнения проектного задания, направленного на формирование педагогом своих учебно-методических материалов на основе приобретаемого в ходе обучения опыта использования ИКТ.

В обучении модуля используется учебник, учебные пособия, электронные версии лекционных текстов, электронные плакаты и другие электронные ресурсы. Занятия проводятся в форме семинар-тренинга с использованием интерактивных методов в малых группах.

Длительность обучения по настоящей программе – 72 часов, из них 52 - аудиторные занятия, 20 - для самостоятельной работы. В качестве защиты квалификационной работы слушатели в ходе самостоятельной работы формируют презентацию-портфолио на основе подготовленных ранее разделов в рамках выполнения проектных заданий.

По результатам обучения на курсах у слушателей формируются следующие компетенции в сфере ИКТ:

1. Наличие общих представлений о возможностях использования ИКТ в педагогической практике.
2. Наличие представлений о назначении и функционировании ПК, устройств ввода-вывода информации, локальных компьютерных сетей и возможностях их использования в образовательном процессе.
3. Владение приемами организации личного информационного пространства и графическим интерфейсом операционной системы (приемами выполнения файловых операций, организации информационной среды как файловой системы, основными приемами ввода-вывода информации, включая установку и удаление приложений).
4. Владение приемами подготовки методических материалов и рабочих документов в соответствии с предметной областью средствами офисных технологий.

Главным научно-методическим центром организован курс подготовки тренеров для преподавателей информационных технологий вузов республики. Для проведения курсов были привлечены ведущие специалисты Ташкентского университета информационных технологий и Ташкентского государственного педагогического университета. По итогам курсов сертификаты получили 176 слушателей. Каждый выпускник курсов обеспечен учебно-методическими материалами для проведения курсов на местах. С помощью подготовленных тренеров на курсах по информационно-коммуникационным технологиям обучались более 12,0 тысячи профессоров-преподавателей вузов.

Начиная с 2013 года в учебные планы курсов повышения квалификации педагогических кадров введены новые модули как “Электронная педагогика”, “Проектирование личного информационного

пространства преподавателя”, которые содействуют формированию знаний, умений и навыков слушателей по использованию средств и возможностей современных информационно-коммуникационных технологий в профессиональной деятельности.

Заключение *Conclusion*

Таким образом, информатизация образовательных процессов выдвигает одну из основных задач – формирование и развитие информационно-коммуникационной компетентности обучаемых, призванной обеспечить информатизацию общества в целом. В свою очередь, информационно-коммуникационная компетентность педагогических кадров не сводится к знаниям и умениям работы с компьютером, а также предполагает развитое информационное мировоззрение, информационную направленность и креативность личности, способность к использованию и усвоению новых информационных знаний, умений и рассматривается как одна из граней личностного развития. Исходя из этого, целенаправленное формирование и развитие креативного потенциала педагогических кадров, является одной из важных задач образования в условиях информатизации, обеспечивающего подготовку конкурентоспособных высококвалифицированных специалистов отвечающих требованиям современности.

Внедрённые специальные курсы «Электронная педагогика», «Методики преподавания специальных предметов с помощью информационно-коммуникационных технологий» послужат формированию ИКТ-компетентности и совершенствованию подготовки педагогических кадров. Подготовка магистерских кадров по новой специальности «Информационные технологии в образовании» является фундаментом по подготовке научных кадров в области информатизации образования.

Процессы формирования ИКТ-компетентности своего дальнейшего развития получили через введение новых модулей (“Электронная педагогика”, “Проектирование личного информационного пространства преподавателя”) в учебные планы курсов повышения квалификации педагогических кадров, которые способствуют формированию знаний, умений и навыков слушателей по использованию средств и возможностей современных информационно-коммуникационных технологий в профессиональной деятельности.

Summary

Thus, the informatization of educational process highlights one of the main tasks is the formation and development of information and communication competence of the learners, designed to provide the informatization of society generally.

Information and communication competence of pedagogical staff is not only knowledge and skills of working on a computer itself but also requires developed information outlook, individual's information orientation and creativity, the ability to use and assimilate new information knowledge and skills, it is considered as one facet of personal development. On this basis, purposeful formation and development of pedagogical staff's creative potential is one of the important tasks of education in the conditions of informatization, providing competitive training of highly qualified specialists able to meet the modern requirements.

Implemented special courses „E-pedagogy”, „Methods of teaching special subjects using information and communication technologies” will contribute to the development of ICT-competence and improvement of pedagogical staff training. Master's degree specialists' training on a new specialty „Information technologies in education” is the foundation for the training of scientific personnel in the field of informatization of education.

ICT competence development processes are enhancing through new modules introduction („E-pedagogy”, „Designing teacher's personal information space”) in the curricula of pedagogical staff's professional development courses aimed to listeners' knowledge and skills formation on using means and possibilities of modern information and communication technologies in their professional activity.

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AUTONOMOUS ENGLISH ACQUISITION IN BLENDED E-STUDIES FOR ADULTS FOR SUSTAINABLE DEVELOPMENT: IMPLEMENTATION OF THE SYNERGETIC SYSTEM MODEL

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Abstract. *Researchers' attention has moved from solving a problem to united methodology for solving different problems. It resulted in paradigm shift in the science and using system approach in social researches. The topicality of „Autonomous English acquisition in blended e-studies for adults for sustainable development” follows from results of the previous part of the research. They show that vertical hierarchy of responsibility has stucked together and learners' interest towards methodological factors increased in virtual English acquisition. Next research problem is how to facilitate transformation of horisontal values from directed English acquisition to self-organised its acquisition in virtual learning environment. Hypothetically, it is assumed that there are sensitive factors, facilitation of which can call a resonance and transformation of other factors according to synergetic system model for facilitation the transformation of values in blended e-studies in adult nonformal education. The article presents reinterpretation of the results of the active research according to system approach of the whole research. The aim - to work out recommendations for implementation of the research model is reached in it.*

Keywords: *autonomous English acquisition, methodological factors, synegetic system model.*

Introduction

The topicality of „Autonomous English acquisition in blended e-studies for adults for sustainable development” follows from results of the previous part of the research. They show that vertical hierarchy of responsibility has stucked together and learners' interest towards methodological factors increased in virtual English acquisition. Next research problem is how to facilitate transformation of horisontal values from directed English acquisition to self-organised its acquisition in virtual learning environment. The article aims to work out recommendations for implementation of the synergetic system model for facilitation transformation of values.

The results of active research *Autonomous English acquisition in blended e-studies for adults for sustainable development* were presented in the article (Bojāre, 2014), but, after the revision of their interpretation, it was concluded that interpretation of the data according humanistic approach does not fit to the system approach and synergetic methodology choosen for the research.

It allows to present a human being as a system, a whole of which includes the intellect, emotions and will. They are presented as self-regulated learning,

self-directed learning and self-determined learning in the context of education. Hypothetically, it is assumed that there are sensitive factors, facilitation of which can call a resonance and transformation of other factors according to synergetic system model for facilitation the transformation of values in blended e-studies in adult nonformal education.

Theoretical background

Platos (Platons, 1997) and ecological philosophy is the background of weak ecological paradigm of sustainable development. The direction of its implementation has been changing from its opposition to strong technological paradigm to their compatibility and integration. It expresses as technological support of the learning process and virtual learning environment in education. Nowadays it is the fourth direction of educational reforms beside the reforms of standarts; teaching methods and teachers' professional development and learners' development (Fullan, 2006).

Historically, the levels of the system has developed from the first to the third level with appropriate understanding of the whole and the model of education. The third level of open system follows from the General Systems Theory (von Bertalanffy, 1968) and examines a biological system which exchanges with the environment with substance, energy and information.

There are three system models used in the literature devoted to education. They are shown in figure 1. Structural model has a vertical and horizontal dimension. It shows the process as well, but processual model has a vertical hierarchy and particularly shows the structure. Functional model shows the structure, hierarchy and functionality or intercommunication. The resonance mechanism acts in it instead of reflexive connection and changes in one element transform the whole system.

Traditionally system approach is used for linear investigation of development or for investigation of stable forms of educational process. Nevertheless, changes include nonstability and they are complex where individual is equal to group (Fulans, 1999) and make a dynamic system for practical realisation of the idea of changes (Stacey, 1992). Essential is the characteristic of the whole of the states of the system. Directed learning is considered to be a stable and structural in this research.

Autonomous English acquisition in blended e-studies is structurally divisible and functionally undivisible synergetical learning process and its organisational form where transformation of learner's values from directed English acquisition towards its self-organised acquisition is facilitated. Autonomous English acquisition is based on Rodger's approach of adult education (Роджерс, 2004) and the approach of learning of foreign languages (Holec, 1981) where learning process includes collaboration with a facilitator

and group. Blended e-studies present classroom technically supported learning environment.

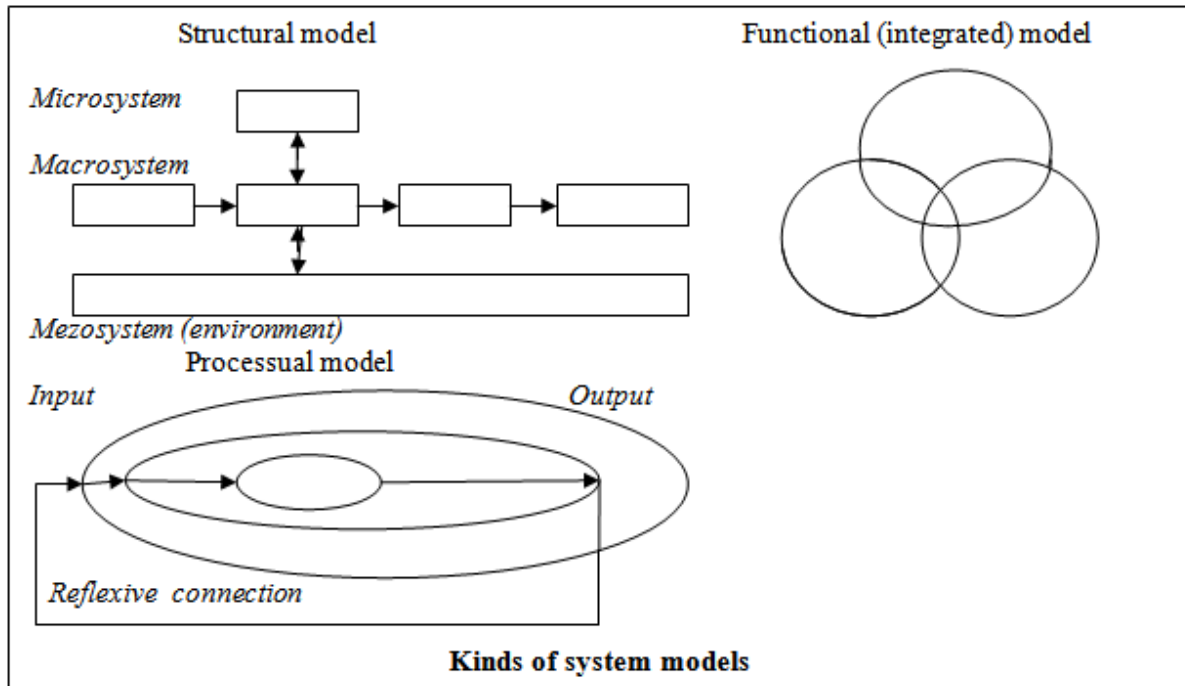


Figure 1. **Kinds of system models**

The functionality expresses the quality levels in education: directed learning, autonomous learning and co-learning of autonomous learners. Autonomy and the co-activity do not exist one without other. The boundary between the complex system and the environment is considered to be a layer where not only planned, but also emmergetical changes occur.

In nowadays cross-section, three didactic models based on actualisation of values are realised by systemapproach in education: cybernetic, synergetic, and holistic didactic model. The first reflects flow of investments (HEPS [Higher Education Partnership for Sustainability], 2004) to learner, for example, programmes for unemployed, and communicational flow to educator. The second – flow of investments to educational programme and communicational flow to learner. Holistic didactic model should ensure flow of investments and communication in both directions and is the mean of reaching learners' participation and integration in holistic model of sustainable learning society for person's creative development in and with the environment (Lāslo, 2011).

It is supposed that a value, in general, is a whole of the phenomena with positive characteristics and learner's behaviour depends on his/her attitude towards values. A dynamic tension between adults' experience of directed learning and a new value of self-organised learning is a precondition of transformation of values. The attitude towards different levels of responsibility and methodological factors of learning English in classroom and in virtual

learning environment is investigated in the quantitative part of the research. The methodological factors of learning English express learner's competence of English acquisition.

The synergetic system model for facilitation of transformation of values in autonomous English acquisition in blended e-studies includes learner's inside system, the outside system of organization and the environment. It is created for reflecting the structure of vertical values - the levels of learner's responsibility exposed by the process of self-directed learning, the process of self-regulated learning and the process of self-determined learning in group and the process of developing horizontal values: learner's experience of directed English acquisition, facilitated learning in blended e-studies and developing towards metalearning in self-organised learning in virtual learning environment as a new formation, value and experience of English acquisition, figure 2.

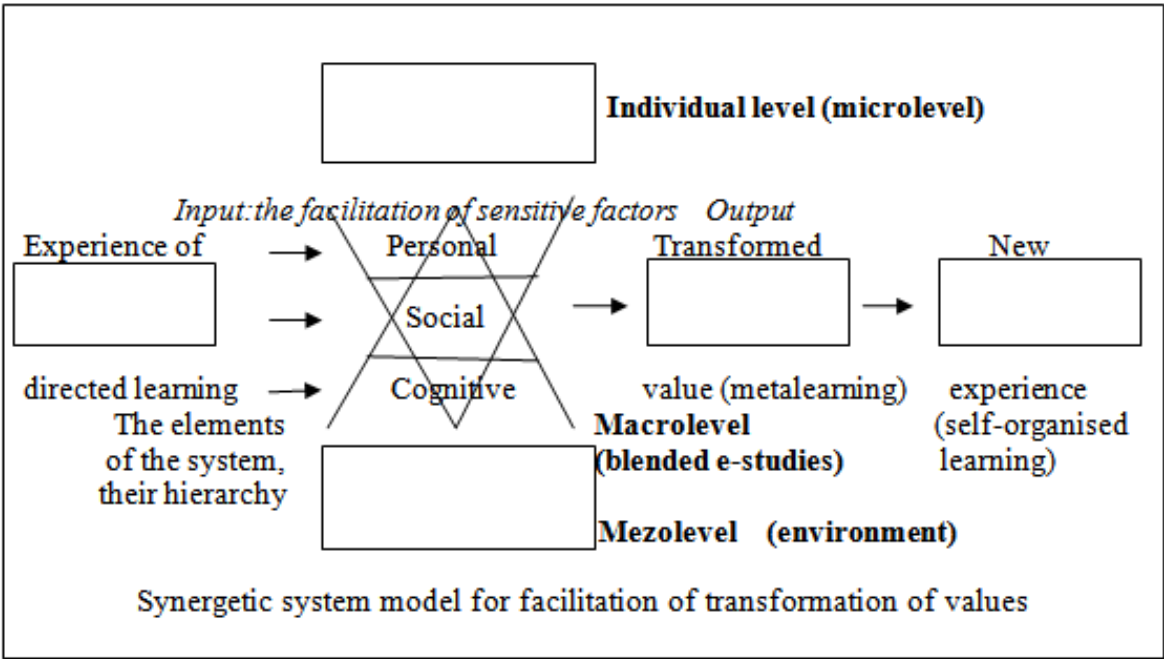


Figure 2. Synergetic system model for facilitation of transformation of values

Autonomous English acquisition in bended e-studies includes collaboration with the facilitator and group and blended learning environment. The model shows that the values of responsibility can transform vertically by changing their hierarchy. Newertless, results of quantitative research show that vertical hierarchy of responsibility has sticked together and learners' interest towards methodological factors increased in virtual English acquisition.

The synergetic system model is suitable for facilitation of transformation of values in English acquisition programmes of nonformal education by developing learners' experience from tradicional directed English learning in the classroom

learning environment to self-organised its acquisition in open virtual environment.

Facilitator's input in transformation of horizontal values depends on methodological criteria of the research reflecting different aspects of learning English. They are exposed in the questionnaire and evaluated by participants of the quantitative part of the research. They are united in groups as F1= the personal factor, F2= the factor of participation, F3= the factor of organisation, F4= the factor of evaluation, F5= the factor of knowledge, F6= the factor of skills and F7= the factor of development.

The weak characteristics of methodological factors were removed by factorial analysis in quantitative part of the research, but strengths were included in the working sheets for SOT (Strengths, Opportunities and Threats) analysis in action research. Determination of sensitive factors allow to reduce the amount of factors for facilitation.

Methodology

Researchers' attention has moved from solving a problem to united methodology for solving different problems. It resulted in paradigm shift in the science and using system approach in social researches. Using of SPSS programm is an example of using mathematical analysis and modelling in education, but united methodology for investigation of dynamic processes in self-organised systems is proposed by synergetics. It follows, that unification of language is necessary for convergence of natural, social and humanistic sciences and system approach in interpretation of the data is appropriate for that.

The revision of the results of the action research as a part of the research about autonomous English acquisition in blended e-studies for adults for sustainable developments showed that their interpretation according humanistic approach does not fit to the system approach of the whole research. Their reinterpretation is done in this article. The methodology of action research has already described by the author (Bojāre, 2014), but synergetics in educational researches will be discussed in this article.

Prigogine (Пригожин & Стенгерс, 1986) connects a new transdisciplinary paradigm with transformation from being to becoming. So the accent is moved from investigation of invariants of balanced system to investigation of the mechanism of transformation and holistic investigation of appearance of new structures and their reconstruction. It means investigation of the evolution of open dynamic system, its self-organisation and its way out of chaos of changes.

Beside the world outlook and the science, synergetics is a method used in researches about self-developing systems. It has been recognised and denied by critics. It is recommended for using in education by Budanow (Буданов, 2007) and adapted for researches in education by Marulevska (2011). Prieditis (2011) connects its value with recognising the chaos, nonstability and nonlinearity as a

part of the process and the beginning of a new situation. This point of view is created by the new concept of the progress which should maintain the order during changes and the opportunity to transform in the phase of order. Irreversibility is another important characteristic of the process and show that it is not possible to get exactly the same results by recurrence the research.

Language learners' self-evaluation about readiness to learn English in virtual learning environment show their attitude to way of learning that is different from their learning experience and to necessity to transform their attitude and values. Quantitative and qualitative characteristics of the process determined by inside conditions of the system and outside impact on it (Буданов, 2007) are important.

Outside impact is described in the model for project work (Marulevska, 2011), but it is substituted by facilitation in implemetation of synergetic system model in this research. The accent from phenomena moves to research resources in synergetic methodology. Creating of alternatives, examples of forms and patterns of behaviour, synthesis, horisontal relationships, assumptions and modelling of solutions of the problems are general methods of synegetic methodology. Special methods follow from principles of synergetics, perspectives of observation and point of bifurcation.

Orientation towards general scientific methodology allows researcher to avoid of too narrow specialisation of different theories of education because of their lingvistically close terms and aims of education as it happens in a case of orientation to the problem and the task when a researcher choice of the method depends on the task.

The direction of choosen educational theory in the area of English acquisition is kept by analysis of general and didactic models and choosing of the prototype (Liepa, 2011) for creating a new research model. The interpretation of obtained research data depends on the method of synergetics and synergetic system model for facilitation of transformation of values in blended e-studies of adult nonformal education.

Respondents

The action research was conducted in autumn and early winter, 2013. Its first cycle participants are ($N_1=46$) learners of EA programmes of nonformal education organised for unemployed. Thirty-two participants ($N_2=32$) of 46 have taken part in the second cycle and four their facilitators ($N_3=4$) took part in the third cycle of the action research. Out of all respondents 59% have professional education, 9% - basic education, 17% - general secondary education, 13% - higher education, 2% - master's degree. 67% of them evaluate themselves as beginners and 33% - as independent users of the English language.

The choice of the participants depends on the results of the quantitative research. They show that the most abstained from virtual EA are the participants

of EA programmes of nonformal education organised for unemployed. They make 61% of the distinguished group (Bojāre, Ignatjeva, 2014). This group is not homogenous. Their decision depends on their education and their language proficiency level. In general, participants with positive attitude towards virtual learning environment show more interest about methodological factors of English acquisition.

Results

The whole research consists of qualitative research what resulted in working out a scale for the quantitative research. The scale was shortened in it for practical uses. Its pedagogical function is to facilitate learners' self-reflection in English acquisition programmes of adult nonformal education. It can be used for nontraditional completing groups according to learners' occupation and education based on *Sagacious competence* (Bernstein, 1996) of holistic education. It includes freedom in a psychological sense, self-governance, self-development, social abilities, values and metalearning.

Quantitative research also showed that transformation of values from directed English acquisition to self-organised its acquisition in virtual learning environment is horizontal because vertical hierarchy of responsibility has stucked together and learners' interest towards methodological factors increases in virtual English acquisition.

Methodological criteria - factors of the research were exposed in quantitative part of the research. The participants were inquired by short form questionnaire (Bojāre, Ignatjeva, 2014) in the first cycle of action research. It confirmed, that participants of nonformal English acquisition programmes prefer self-regulated learning directed by teacher.

Their attitude towards methodological factors is variative in different organisational forms of learning process. A facilitator can get the information about acquired competences of English acquisition and directions of facilitation from that (Bojāre, 2014). Mean value of understanding of methodological factors are given in figure 3.

In total, the best understood in directed learning is the factor of skills with total mean value – 3,58 where the best understood is translation (3,69 points) and less understood is using learning materials and acquisition of listening skills. The factor of skills is less understood factor in virtual learning where acquisition of listening skills has got the highest estimation – 3,09 points. The factor of knowledge is close to understanding of the factor of skills (3,56), but the highest absolute estimation is given for readiness to enjoy learning English, translation and reading.

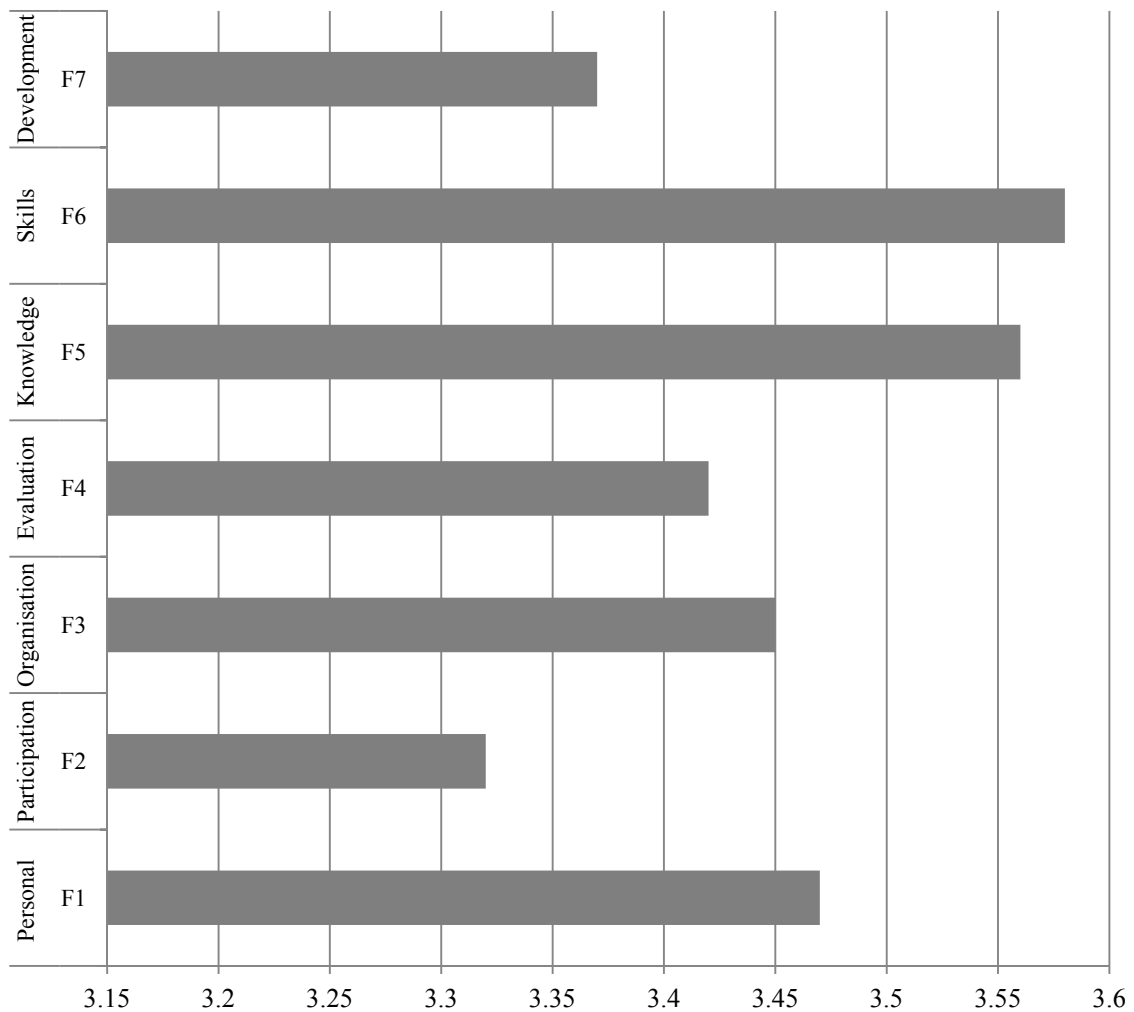


Figure 3. Understanding of methodological factors

The less understood is the factor of participation where more understood is making mind maps and tables about acquainted topics and grammar laws (3,35), but less understood is choosing strategies for doing the task (2,28). Priority is given for directed learning. The factor of participation is the less understood factor in virtual learning, but it shows that a new formation in the form of metalearning has appeared in the stable state of the system – directed learning.

The necessity arises to investigate the understanding of sensitive border factors - the factor of skills and the factor of cognitive participation - in details for facilitation the paradigm shift in individuals and in the group. It is assumed that it can be done by strenghtening the competitive factor of skills and/or by developing the factor of participation. The facilitation of sensitive factors could call a resonance in other factors and promote their transformation.

Participants of the research analysed proposed methodological factors by a SOT (Strengths, Opportunities and Threats) analysis in the second cycle, but for data analysis only sensitive factors are used according to synergetic research

methodology. Sensitive factors were analysed by 16 participants of the research (12 learners and 4 their facilitators).

Strengths of the factors follow from the short form of the questionnaire because their weak sides were excluded by factor analysis. It can be considered as structured SOT analysis where strong sides are partial restrictions because they do not reflect all language skills. Working lists of SOT analysis were prepared. Participants of the research analysed opportunities of using strengths and threats why those opportunities could not be used.

Strengths of the factor of skills are: using of learning materials, acquisition of listening skills and translating the text. Strengths of the factor of participation are: choosing strategies and methods for doing tasks; making tables about the acquainted topics/ grammar rules; making mind maps about the acquainted topics/ grammar rules. As the less understood factor, it shows a new cognitive formation for paradigm shift from learning exposed by the factor of skills to metalearning exposed by the factor of participation.

The summarization of the results show that learners and their facilitators consider their role in nonformal education as continuing of school learning tradition. The recognised value is correctness of information and doing tasks what depends on facilitator's authority. Learners wait outside learning stimulation from the facilitator. Facilitator's role has been connected with encouragement – motivation to learn, explanation, supplying by appropriate learning materials, control. Learner's role has been connected with attending lectures, doing tasks and independent work at home for memorizing given information and looking for additional information.

It can be concluded from data analysis that blended e-studies are not enough used in English acquisition programmes of adult nonformal education for communication in virtual environment because participants of the research suppose learning in virtual environment as independent and without facilitator.

They do not connect virtual learning environment with opportunities of pair and group work regardless of wide using virtual communication in general and the created opportunities of virtual learning communication. Cognitive relief expresses in the opportunity to connect entertainment with learning, for example, to learn English by playing games and watching videofilms.

Nevertheless, e-studies are desirable because they give the opportunity to get tutorial and mutual help in acquisition of English not only in the classroom, but also individually and in group in virtual learning environment. It could change the point of view about learning English alone in virtual learning environment and change the understanding of learner's and facilitator's new role where learner's performance is diminishing and self-organisation increases, but facilitator's leadership is substituted by facilitation. It refers to acquisition of any foreign language.

Research factors expose transformation of inside values to self-organised learning. Sensitivity of the factor of skills show that acquisition of English for

adults is important for practical its using. Technological support is appropriate because different technological devices give different training opportunities. The factor of participation show learners' readiness to widen learning self-experience and develop the competence of English acquisition.

The pedagogical facilitation is important here because the factor of participation is connected with the skill of systematisation of knowledge. Pedagogical function of SOT analysis is to facilitate the conciousness of opportunities of learning in classroom and virtual environmet and threats of not using given opportunities. The method of SOT analysis consits of doing it individually, discussion in pairs, groups and with the facilitator. Filling of working sheets of SOT analysis in the mediator language or in English depends on the level of proficiency and supplements the content of the topic about learning languages.

Further transformation of values, depending on the factor of skills, traditionally would be based on making an individual plan of acquisition the language. The method of modelling gives the opportunity to facilitate making an individual model of acquisition English or other foreign language. One of such models is described in qualitative part of the research (Bojāre, 2013). Nevertheless, facilitators' points of view show that learning strategies is more admitted method of facilitation of learning. Involving learners in choosing strategies for doing tasks, making mind maps and tables about different acquainted topics and grammar rules is the way how to facilitate by activation of the factor of cognitive participation.

Next task of the research is verification of the model in another groups of English acquisition programmes of adult nonformal education.

Conclusions

1. Complecting groups is a sensitive moment for facilitation of transformation of values.
2. The implementation of synergetic system model for facilitation of transformation of values from in autonomous English acquisition in blended e-studies of adult nonformal education is recommended in five steps:
 - investigation of learners attitude towards different forms of organisation of learning process depending on different levels of responsibility and towards learning methods in classroom and virtual learning environment by making a survay;
 - nontraditional complecting groups that depends on learners' occupation and education because of similar learning needs and experience of learning foreign languages;
 - determination of sensitive methodological factors for facilitation of transformation of values from directed English acquisition in the

- classroom learning environment towards self-directed its acquisition in virtual learning environment;
- autonomous English acquisition in blended learning environment is convenient for increasing learners' understanding of different learning opportunities and removing threats of not using available opportunities by doing SOT analysis individually, in pairs and in group and discussion with a facilitator;
 - facilitation of competitive factor of skills by working out an individual model for autonomous English acquisition or facilitation of less understood factor of participation as a new formation of value by involving learners in using different strategies of English acquisition.
3. The questionnaire and working sheets of SOT (Strengths, Opportunities and Threats) analysis is the mean of facilitation of transformation of values according to synergetic system model. Their pedagogical function is to develop learners English acquisition competence and learning experience by changing learning habits and behaviour on the base of their attitude towards the new value of self-organised English acquisition in virtual learning environment.

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MĀCĪBU PRIEKŠMETA MĀCĪŠANĀS VEICINĀŠANAS IESPĒJAS ANALĪZE

Subject Learning Options Analysis

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Abstract. *In the article the author considers the problem of the reducing of number of surrendered individual works by educational subject. Analyzing the possible causes of this problem, the author of the work explores the needs of age of the students, didactic principles, which are mainly used by the teacher in teaching practice. The author of this article studies the impact of new technology on the thinking of young people as well. At result of research the hypothesis of individual work division into smaller parts is proposed and tested. This article presents the results of testing this hypothesis.*

Keywords: *students' needs; didactic principles; impact of technology.*

Ievads

Darba autors pasniedz Profesionālās izglītības kompetences centrā „Rīgas tehniskā koledžas” (turpmāk tekstā – PIKCRK) vairākus mācību un studiju priekšmetus. Viens no tiem – profesionālas vidusskolas mācību priekšmets „Biznesa procesa vadības modeļi”. Priekšmets tiek lasīts mācību programmā „Programmēšana”, apgūstama kvalifikācija „programmēšanas tehniķis”. Mācību priekšmetu sāk lasīt 3. kursā. Šajā kursā audzēkņu vidējais vecums ir 18 gadi.

Viena no prasībām mācību priekšmeta „Biznesa procesa vadības modeļi” sekmīgai nokārtošanai ir visu patstāvīgo darbu izpildīšana. Šo mācību kursu darba autors lasa 8 gadus. Pa šo laiku prasības bija mainījušās, taču pirmo 3 patstāvīgo darbu izpilde tiek prasīta 7 gadus. Šie darbi ir saistīti savā starpā. Tas nozīmē, ka katru nākamo darbu nav iespējams izpildīt, ja nav izpildīts iepriekšējais darbs.

Patstāvīgo darbu izpildei un nodošanai ir uzstādītas papildus laika prasības: darbs iz jāizpilda divu nedēļu laikā, par katru nokavētu nedēļu no darba atzīmes tiek atņemta viena balle. Pēc 6 kavējuma nedēļām – maksimālā atzīme par patstāvīgo darbu ir 4.

Pēdējos gados darba autors ir novērojis patstāvīgo darbu nodošanas kritumu, it sevišķi, sākot ar 2. patstāvīgo darbu.

Šajā rakstā autors izklāsta šīs problēmas pētījuma un risinājuma meklējuma rezultātus.

Problēmas analīze

Cenšoties pārbaudīt, vai darba autora minējums par patstāvīgo darbu nodošanas kritumu ir patiess, tika sastādīta tabula (sk. 1. tab.), kurā tika apkopoti pirmo triju patstāvīgo darbu nodošanas dati. Katra darba nodošana sadalīta trijās kolonnās: 1. kolonnā norādīts darbu skaits, kas nodoti pirmajās 4 nedēļās pēc nodošanas termiņa, 2. kolonnā – to darbu skaits, kas nodoti vēlāk (darbi varēja būt nodoti arī 4. kursa beigās (maijā vai pat jūnija sākumā), 3. kolonnā – nenodoto darbu skaits. Darbu skaiti ir norādīti absolūtos un relatīvos skaitļos.

1. tabula. Patstāvīgo darbu nodošanas skaits 2007. – 2014. m.gg.

Table 1. The number of submitted individual work in 2007-2014.

Mācību gads, grupa un audzēkņu skaits			1. patstāvīgais darbs						2. patstāvīgais darbs						3. patstāvīgais darbs					
			4 – 10		„4”		Darbs nav nodots		4 – 10		„4”		Darbs nav nodots		4 – 10		„4”		Darbs nav nodots	
			Au.	%	Au.	%	Au.	%	Au.	%	Au.	%	Au.	%	Au.	%	Au.	%	Au.	%
2007/08	P	22	16	73	3	14	3	14	6	27	13	59	3	14	8	36	11	50	3	14
2008/09	P1	17	10	59	7	41	0	0	5	29	12	71	0	0	1	6	16	94	0	0
	P2	19	9	47	7	37	3	16	6	32	10	53	3	16	3	16	13	68	3	16
2009/10	P1	15	9	60	5	33	1	7	7	47	5	33	3	20	6	40	6	40	3	20
	P2	18	6	33	8	44	4	22	5	28	4	22	9	50	5	28	3	17	10	56
2010/11	P1	18	12	67	3	17	3	17	11	61	3	17	4	22	5	28	9	50	4	22
	P2	19	13	68	2	11	4	21	10	53	4	21	5	26	9	47	5	26	5	26
2011/12	P	23	14	61	3	13	6	26	7	30	10	43	6	26	6	26	11	48	6	26
2012/13	P1	19	9	47	6	32	4	21	6	32	8	42	5	26	3	16	11	58	5	26
	P2	19	7	37	3	16	9	47	4	21	5	26	10	53	3	16	6	32	10	53
Vidēji 2007. – 2013. m.gg. (%)			55		26		19		36		39		25		26		48		26	
Kopā 2007. – 2013. m.gg. izpildīto darbu (%)			81						75						74					
2013/14	P1	13	9	69	2	15	2	15	3	23	8	62	2	15	3	23	9	69	1	8
	P2	13	2	15	8	62	3	23	1	8	5	38	7	54	0	0	4	31	9	69
Vidēji 2013./ 2014. m.g. (%)			42		39		19		16		50		35		12		50		39	
Kopā 2013./ 2014. m.g. izpildīto darbu (%)			81						66						62					

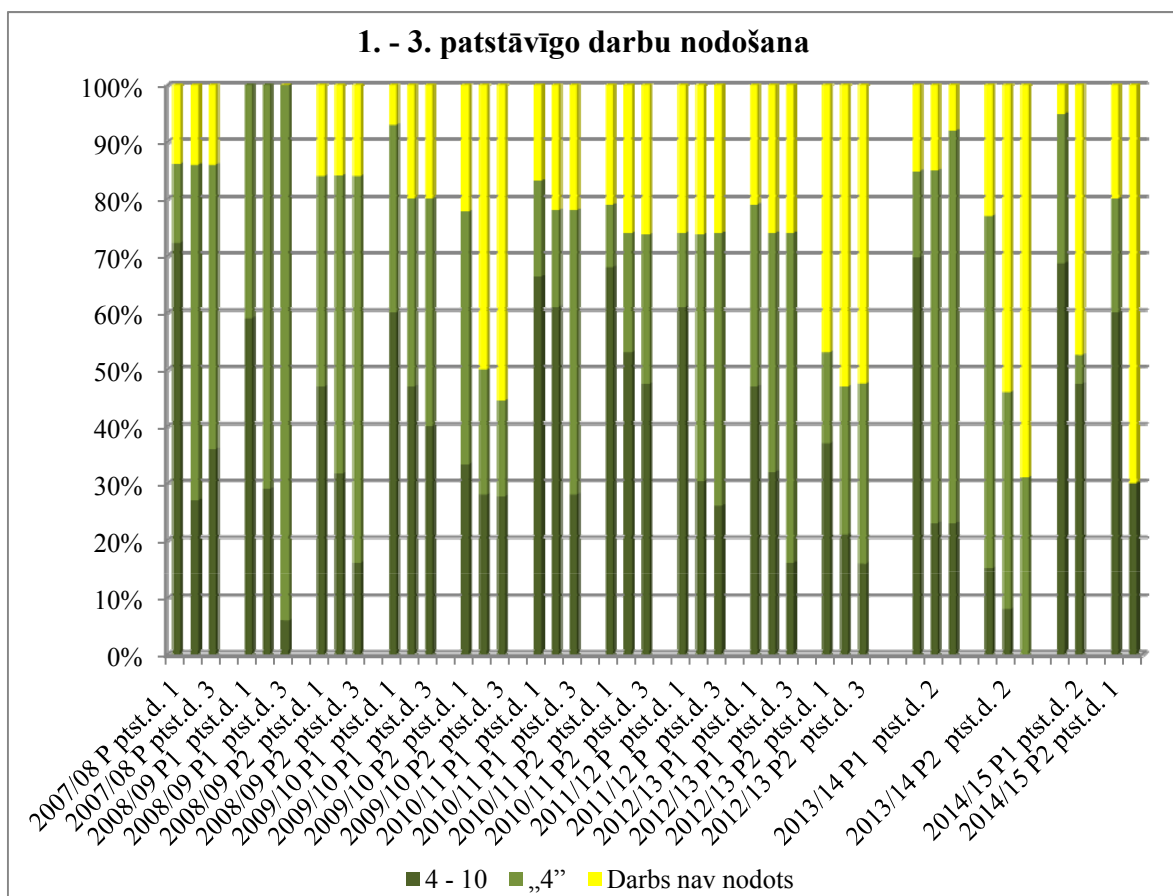
Kā jau tika minēts augstāk, viena no šī mācību priekšmeta sekmīgās nokārtošanas prasībām ir visu patstāvīgo darbu izpildīšana. Tas nozīmē, ka tie audzēkņi, kas nenedeva šos patstāvīgos darbus, mācību priekšmetu „Biznesa procesa vadības modeļi” ierastā kārtībā nebija nokārtojuši. Parasti šādiem

audzēkņiem tiek piedāvāta iespēja kārtot šajā priekšmetā pēcpārbaudījumu vai arī palikt uz otro gadu.

Pēc pārbaudījumu kārtošanas atbalsts 2009./2010. mācību gadā noveda pie tā, ka audzēkņi bija mazāk motivēti pildīt patstāvīgos darbus. Vienā no tā mācību gada grupas (P2) audzēkņi vēl otrajā kursā bija izteikuši viedokli, ka patstāvīgos darbus nav jēgas pildīt, jo pēc tam varēs nokārtot pēcpārbaudījumu un tādā veidā nokārtot mācību priekšmetu/-us. Līdz ar to, šajā grupā var novērot ļoti zemu darbu nodošanas līmeni. Jāpiebilst, ka tās grupas audzēkņiem tika atļauts kārtot pēcpārbaudījumus, taču pārbaudījuma rezultāti, ka jau bija sagaidāms, bija ārkārtīgi zemi, tāpēc lielai daļai no šiem audzēkņiem bija jāapgūst mācību viela atkārtoti.

Turpinot analizēt 1. tab. datus, var vērot, ka 2012./2013. mācību gadā P2 grupā arī bija zems nodošanas līmenis. Tas izskaidrojams ar to, ka grupā bija ārkārtīgi lielas disciplīnas problēmas un zema motivācija mācīties. Tā mācību gada nesekmīgiem audzēkņiem arī bija iespēja kārtot pēcpārbaudījumu, bet pārbaudījuma rezultāti arī bija ļoti zemi. Liela daļa no šiem audzēkņiem izvēlējās mainīt skolu vai uzsākt darba gaitas bez diploma.

1. tabulā 2013./2014. mācību gads ir izcelts atsevišķi, jo audzēkņi mācās šobrīd 4. kursā un ir iespējams, ka nodotu darbu skaits būs lielāks.



1. att. Nodoto patstāvīgo darbu skaits 2007. – 2015. m.gg.
Figure 1. The number of submitted individual work in 2007 - 2015.

Datu uzskatāmībai, 1. tabulas dati tiek attēloti stabiņu diagrammā (1.att.). Šajā diagrammā var apskatīt nodoto darbu skaita tendenci no 2007./2008. mācību gada līdz 2014./2015. mācību gadam. 2013./2014. un 2014./2015. mācību gadu dati, ka jau iepriekš tika minēts nav pilni, tāpēc tie diagrammā ir atdalīti no iepriekšējo mācību gadu datiem. Turklāt, 2014./2015. mācību gadā audzēkņiem uz pētījuma brīdi nebija uzdots 3. patstāvīgais darbs. Šajā diagrammā ir skaidri redzama nodoto darbu krišana no gandrīz 90% 2007./2008. mācību gada līdz knapi 50% 2012./2013. mācību gadā.

Analizējot un meklējot risinājumu nodoto patstāvīgo darbu skaita krišanas problēmai, autors pētīja audzēkņu vecuma vajadzības, didaktikas principus un tehnoloģiju ietekmi uz jauniešu domāšanu.

Audzēkņu vecuma vajadzības

Audzēkņi kā personību un noteikta vecuma cilvēku raksturo kritēriju komplekss:

- **bioloģiski** – nervu sistēmas darbības tips, instinkti, refleksi, ķermeņa fiziskie parametri. Šajā līmenī dominē pārsvarā iedzimtie nosacījumi, bet noteiktā mērā arī dzīves apstākļu maiņa;
- **psiholoģiskie** – personības procesu, īpašību un stāvokļu kopums. Pamatā psihiskas īpašības (temperaments, raksturs, spējas utt.), kas prasa konkrētu katra studenta individuālu personības analīzi;
- **sociāli** – studenta dzīves darbības sabiedrisko attiecību izpausme, kuru veido tā piederība pie noteiktām sociālām grupām.

Šo cieši saistīto pušu analīze dod iespēju pētīt audzēkņa personību kā vienotu veselumu, atklāt viņa individuālās un vecuma īpatnības.

Ir divu veidu faktori, kas nosaka audzēkņa sociāli psiholoģisko portretu un ietekmē veiksmīgākas mācības:

- vērtības un dzīves orientācija, attieksme pret mācībām, priekšstati par izvēlēto profesiju, informētības pakāpe par mācību iestādē notiekošajiem procesiem – faktori, kas jau ir audzēkņa rīcībā iestāšanās laikā;
- mācību iestādes mācību vides kvalitāte un īpatnības – pedagoģiskā procesa organizācija, pasniedzēju un audzēkņu mijiedarbības formas, pasniegšanas līmenis utt.

Pirmā veida faktoros nosaka galvenokārt sabiedrības makrovides apstākļi, kā arī topošā audzēkņa komunikācijas kanāli. Ietekmēt šos faktoros var tikai pastarpināti, tiešam spiedienam tie nepakļaujas.

Ar laiku noteicošie ir otra veida faktori, mācību iestādes mācību vide. Jaunības un agrā brieduma vecuma personības īpašību raksturojums (Bulanova un citi, 2006): briedums intelektuālā un tikumiskā nozīmē; patstāvība; optimisms; orientācija uz jauno un radošo; stabils redzesloks; drosme, neatlaidība; aizrautība; atklātums; kritiskums un paškritiskums; personības

pašvērtējums ir pretrunīgs, kas veido iekšēju nepārlicinātību, dažreiz arī asumu un atraisītību; maksimālisms, skeptiska, ironiska attieksme pret vecāku cilvēku viedokļiem un dažām dzīves parādībām; intelektuālo un izziņas spēju virsotne; divkosības, rupjības, citu cilvēku dominantes uzvedības noraidīšana; atbildīgo lēmumu pieņemšana; profesionālās karjeras, dzīvesveida un stila izvēle, savas vietas meklējumi pasaulē; dzīves partnera izvēle, savas ģimenes veidošana, seksuālā aktivitāte.

Psiholoģijā, kā arī gerontoloģijā šo posmu apzīmē kā agrā brieduma stadiju, kuras pamatmērķis ir cilvēka iekļaušanās intensīvā personīgajā dzīvē, kā arī profesionālā darbībā (Ž. Godfrua u.c., 1996). Š. Bjulers, izmantojot kā personības dzīves ceļa kritērijus dominanto motivāciju un dzīves aktivitātes apjomu, paplašina šī posma rāmjus: no 16 – 20 līdz 25 – 30 gadiem. Speciālists konstatē, ka personības dzīves mērķi bieži ir mainīgi un ne pārāk reālistiski. Pazīstamais amerikāņu zinātnieks D. Levinsons vispār attiecina personības iestāšanos pieaugušo pasaulē uz 23 – 28 gadu vecumu. H. Gudjons secina, ka mūsdienās ar jaunību lielākoties tiek saprasta noteikta vecuma fāze (kurai ir nenoteikta robeža, parasti domāts vecums no 13 līdz 20 gadiem). Tāpēc šā autora desmit nozīmīgākās tendences jaunatnes pētīšanā kādā mērā attiecas uz 3.kursa audzēkņiem.

Pēc fiziskās attīstības rādītājiem šis posms ir galvenais cilvēka dzīves ciklā. Muskuļu spēks, reakciju ātrums, veiklība, izturība – visi galvenie cilvēka organisma fiziskie parametri atrodas visaugstākajā līmenī. Tomēr atzīmēsim, ka tieši studenti savā vecumgrupā, pēc starptautisko organizāciju datiem, ir līderi tādās slimībās kā hipertoniya, tahikardija, diabēts un nervu-psihe saslimšanas. Šādu pretrunīgu situāciju nosaka vesela sociālo faktoru grupa, kuru analizēsim, runājot par audzēkņiem kā sabiedrības specifisku sociālo grupu.

Šajā personības attīstības posmā ir konstatēts arī maksimums augstāko psihe funkciju darbībā: uztverē, uzmanībā, domāšanā, runāšanā, emocijās un sajūtās.

Kopumā var teikt, ka pētāmā audzēkņu personības vecumā notiek rakstura veidošanās un stabilizācija, kas atklāj iespēju pilnvērtīgi apgūt nobrieduša cilvēka sociālo lomu repertuāru visās dzīves sfērās, sākt savu „ekonomisko aktivitāti”. Motivācijas sfēras, vērtīborientāciju sistēmas pārveidošana no vienas puses, un speciālo spēju saistība ar profesionālizācijas procesu formēšanu, no citas puses, ļauj izdalīt šo vecumu kā rakstura un intelekta veidošanās centrālo posmu.

Varbūt pats galvenais personības attīstības rezultāts šajā posmā ir indivīda „Es” – tēla („Es” – koncepcijas) veidošanās visās dzīves sfērās: izziņas, emocionālajā un uzvedības. Šajā laikā veidojas personības vērtību un nostādņu sistēma, savas unikalitātes izjūta, dzīves koncepcija, sociālo lomu repertuārs un galveno statusu profils. Galveno lomu indivīda izziņas darbībā sāk spēlēt abstraktā domāšana, veidojas vispārināts priekšstats par pasauli, personība kļūst

spējīga noteikt dziļas likumsakarības starp pētāmās realitātes dažādām sfērām (Eriksons, 1998).

Nopietnas izmaiņas notiek arī personības emocionālajā sfērā – pēc iepriekšējā socializācijas posma dziļajiem emocionālajiem pārdzīvojumiem un vētrām notiek zināma stabilizācija. Dažos gadījumos emocionālo krīžu un grūtību sekas ir īpaši infantiliem audzēkņiem ar personiskās attīstības traucējumiem. Rezultātā var veidoties destruktīva, devianta uzvedība.

Audzēkņu vecumā ir noteikta pretruna starp intelektuālo un fizisko spēku optimumu, augstām, reālām iespējām un to praktisko realizāciju. Ilūzijā, ka viss labākais vēl ir priekšā, ka nepārtraukta, pozitīva attīstība turpināsies nepārtraukti kontaktā ar dzīves realitātēm, var izraisīt nopietnu krīzi.

Eriksona skatījumā sociālo un individuālo izvēļu, identifikācijas un pašnoteikšanās krīze var izpausties šādi (Eriksons, 1998):

- psiholoģiskās intimitātes, tiešu starppersonu attiecību noraidīšana;
- problēmas laika uztverē, nespēja izvirzīt dzīvesplānus, pārmaiņu un attīstības bailes;
- nespēja mobilizēt savus iekšējus resursus, radošās spējas, noteikt darbības prioritātes;
- „negatīvas identitātes” formēšana, pozitīvas pašnoteikšanās noraidīšana, negatīvu uzvedības paraugu atdarināšanas izvēle.

Izmantojot pārsvarā klīniskus datus, Eriksons nemēģināja aprakstīt pētāmās parādības kvantitatīvi. Kanādas psihologs Dž. Marša, kompensējot šo trūkumu, izdalīja identitātes attīstības četrus posmus, kuru pamatā ir personības profesionālās, reliģiskās un sociālās pašnoteikšanās pakāpe:

- „nenoteikta identitāte”. Individīdam pagaidām nav precīzas nostājas un pārliecības, kā arī profesionālās karjeras plānu izvēles. Identitātes krīzes nav;
- „priekšlaicīga identitāte”. Individīds iekļaujas attiecību noteiktā sistēmā, nevis patstāvīgi, pārbaudījuma un krīzes dēļ, bet svešu cilvēku viedokļu ietekmē, sekojot citu indivīdu autoritātei vai piemēram;
- „moratorijs posms”. Individīds pārdzīvo normatīvas pašnoteikšanās krīzi, izmēģina savu, vienīgo attīstības variantu no daudziem iespējamiem;
- „sasniegta, realizēta identifikācija”. Krīze ir pārvarēta, indivīds pāriet no meklējumiem pie praktiskās pašrealizēšanās.

Atzīmēsim, ka mūsu pētījuma audzēkņiem ir arī raksturīga šāda tendence – audzēkņi sāk apšaubīt profesijas, specialitātes, mācību iestādes izvēles pareizību. Speciālistu skatījumā lielākoties tikai pēc 3. kursa beigām profesionālās pašnoteikšanās problēma ir galīgi atrisināta.

Audzēkņa personības attīstībā katrā kursā ir sava specifika (Stoļarenko, 2001).

Pirmais kurss. Galvenie uzdevumi – adaptēties jaunajā mācību vidē. Audzēkņu rīcība bieži ir izteikti konformistiska, nav diferencētas pieejas lomu repertuāra izpildē.

Otrais kurss. Adaptācijas process ir principiāli pabeigts. Sākas intensīvs mācību periods, kurā aktīvi iesaistās visāsmācību un audzināšanas formās. Audzēkņi veido kopīgu sagatavošanās bāzi, formē plašus kulturālus pieprasījumus.

Trešais kurss. Specializācijas procesa sākums, audzēkņu profesionālo interešu attīstība un padziļināšanās. Specializācijas nepieciešamība var izraisīt audzēkņa personības interešu loka sašaurināšanos.

Ceturtais kurss. Mācību prakse dod pirmo iespēju reāli iepazīties un sajūst izvēlētajā specialitātes realitātes. Audzēkņu uzvedību raksturo speciālās sagatavotības racionālo formu un līdzekļu meklējumi, notiek dažādu dzīves vērtību un orientācijas izvērtēšana no jauna, veidojas stingras, praktiskas nostādnes savas turpmākās profesionālās darbības uztverē unvērtējumā. Audzēkņi pamazām sāk atdalīties no mācību iestādes dzīves kolektīvajām formām, jo lielāka uzmanība ir pievērsta vērtībām, kas saistītas ar darbavietu, ģimenes dzīvi, materiālo labklājību.

Pēc attieksmes pret mācībām speciālisti audzēkņus iedala šādās kategorijās (Bulanova, 2006):

- **pirmā** – audzēkņi, kas vērtē savu mācību darbu kā svarīgu, nepieciešamu priekšnosacījumu izvēlētajā profesijā apgūvē, aktīvi meklē patstāvīgas darbības formas, mācību darba racionalizācijas metodes;
- **otrā** – šauras profesionālās ievirzes audzēkņi, kas pievērš lielu uzmanību priekšmetiem, kas viņu skatījumā cieši saistīti ar turpmāko darbu un karjeru. Labi mācās iemīļotās disciplīnas, lasa papildus speciālo literatūru, pārējie mācību programmas priekšmeti viņus ne pārāk interesē;
- **trešā** – audzēkņi, kas grib iegūt zināšanu un informācijas nepieciešamo minimumu, bez īpašām pūlēm un centieniem iedziļināties dažu priekšmetu būtībā. Minimāliem spēkiem dabūt pozitīvas atzīmes, pagaidām nedomājot nopietni par profesionālo nākotni;
- **ceturta** – audzēkņi, kas pievērš lielāku uzmanību un labi mācās tikai priekšmetus, kuri viņiem patīk. Bieži nesistemātiski apmeklē nodarbības, profesionālās karjeras perspektīvas vēl nav nopietni apdomātas un noformulētas;
- **piektā** – audzēkņi – sliņķi. Nejauši, kopā ar skolas draugiem vai pēc vecāku norādījuma iestājušies mācību iestādē.

Veiksmīgas mācīšanās mācību iestādē priekšnosacījums ir personības kopīgās intelektuālās attīstības relatīvi augstais līmenis, tajā skaitā uztveres, uzmanības, atmiņas, domāšanas, izziņas, interešu plašuma, kā arī noteikta

loģisko operāciju loka kvalitatīva izmantošana. Gadījumā, kad kādu faktoru attīstības līmenis nav pietiekami augsts, students spēj kompensēt trūkumus, izmantojot paaugstinātu motivāciju, cītību, neatlaidību un centību mācībās. Bet ir arī tādas pazemināšanās robežas, kad kompensācijas mehānismi vairs nedarbojas, un audzēknim grūti mācīties.

Topošo inženieru vadošie elementi ir: augsts telpisko priekšstatu attīstības līmenis, praktiski lietišķā (neverbāla) intelekta pakāpe, atbilstoša darbības uzdevumiem, kā arī, domāšanas ātrums. Speciālisti konstatē, ka tehnisko specialitāšu audzēkņi raksturo pozitīva attieksme pret pieņemtajām sociālajām normām, kas dažreiz apvienojas ar izziņas interešu šaurumu. Atšķirībā no humanitāro specialitāšu audzēkņiem, viņi mazāku uzmanību pievērš politiskajiem notikumiem, abstraktām, filozofiskām problēmām. Vēl viena nopietna starpība: zems specialitāšu audzēkņu inženieru sociabilitātes (sabiedriskuma) līmenis, nozīmīgs intravertu skaits kopējā audzēkņu masīvā. Pētnieki norāda uz vēl vienu specifiku īpatnību – neadekvāts savas personības pašvērtējums (īpaši runājot par savām sociālajām īpašībām). Dažreiz viņi slikti zina un saprot paši sevi, un viņiem ir nepieciešama palīdzība šīs problēmas risināšanā.

Mācības, profesijas izvēles process mūsdienu specialitāšu audzēkņiem bieži ir pragmatisks, lietderīgs, utilitārs pasākums. Izglītība kā tāda, kā noteicošā dzīves vērtība, kā patstāvīgs sociāli kulturālais fenomens, kā personības pašrealizēšanās izpausme un forma šodien atrodas otrajā plānā.

Tomēr abstrakti konstatēt kādu, kaut arī pareizu tendenci, bez konkrētas problēmas analīzes, nebūs pārliecinoši, jo audzēkņi vienmēr un visur bija, ir un būs ļoti dažādi un atšķirīgi.

Didaktiskie principi

Sistemātiskuma un secīguma princips. Šis princips paredz, ka mācības tiek veiktas noteiktā kārtībā, stingri noteiktā loģiskā secībā. Tas nozīmē, ka mācību materiālam jābūt saplānotam, sadalītam gatavās nodaļās, moduļos, soļos. Katrai studiju priekšmeta tēmai jāveido „idejas centru”, pamatjēdzienus, pakārtojot tiem visas pārējās lekciju vai stundu daļas.

Lai nodrošinātu secīguma principu var izmantot shēmas, kas palīdz izprast jēdzienu hierarhiju, zināšanu sistēmu. Un lai gan jebkuras nodarbības panākumu galvenokārt nosaka tās stingrā loģika, nevar aizmirst, ka tomēr loģika ir jāapvieno ar emocijām un jūtām. Tāpēc ir ieteicams izmantot interesantus faktus, spilgtus attēlus, kas palīdz padziļināt un nostiprināt zināšanas.

Izskatot jauno mācību materiālu, var iet no iet no faktiem uz secinājumiem, no piemēriem uz likumiem, no vispārējā uz konkrēto. Mācību viela tiek uzskatīta par apgūtu, ja cilvēkam veidojas asociāciju sistēma, ir veidojušies attiecības starp jauno un veco vielu. Smadzenes darbojas efektīvāk, ja slodze tām dota mazās porcijās, bet sistemātiski un regulāri.

Mācību saistījums ar dzīvi, ar praksi. Šis princips paredz, ka mācību process veicina audzēkņus un studentus izmantot iegūtās zināšanas, lai risinātu praktiskas problēmas, analizēt un pārveidot apkārtējo vidi, attīstot savus uzskatus un viedokļus. Viens no svarīgākajiem šī principa aspektiem ir aktīva audzēkņu un studentu iesaistīšana sabiedriskajos pasākumos skolā un ārpus tās.

Mācību uzskatāmības princips. Šis princips ir viens no vecākajiem un svarīgākajiem didaktikā. Un nozīmē to, ka mācību efektivitāte ir atkarīga no mērķtiecīgās uztveres orgānu iesaistīšanas mācību materiāla uztveres un apstrādes procesā. Uzskates materiālu izmantošanai jābūt tik lielā apmērā, cik lielā mērā tas veicina zināšanu un prasmju veidošanos un domāšanas attīstību.

Teorētiskās domāšanas attīstības princips. Princips paredz, lai mācību saturs iepazīstinātu studentus ar objektīviem zinātniskiem faktiem, teoriju, likumiem, atspoguļotu pašreizējo situāciju zinātnē. Šis princips ir ietverts mācību programmās un mācību grāmatas, pētāmā materiāla izvēlē. Audzēkņiem un studentiem tiek rādīti zinātniskā pētījuma elementi un metodes, zinātniskās darbības organizācijas metodes.

Audzēkņu apzinīguma, intelektuālās aktivitātes un skolotāja vadošās lomas princips. Šis princips ir viens no galvenajiem principiem mūsdienu didaktikas sistēmā. Saskaņā ar šo principu, mācības ir efektīvas tad, kad audzēkņi un studenti izrāda aktivitāti izziņas procesā, ir ieinteresētās personas. Skolotājam šajā gadījumā ir iespēja motivēt un veicināt audzēkņu un studentu vēlmi mācīties konkrēto priekšmetu.

Tehnoloģiju ietekme uz jauniešu domāšanu

Daudzu valstu zinātnieki ir pētījuši tehnoloģiju ietekmi uz bērnu un jauniešu domāšanu. To darījuši gan psihologi, gan neurologi un ir savākti interesantu eksperimentu rezultāti un izdarīti secinājumi. Tos Marks Prenskis (*Marc Prensky*) publicējis 2001. gadā grāmatā „*Digital Game-Based Learning*”, kurā apkopojis desmit secinājumus, kas atšķirīgi jaunās paaudzes domāšanas veidam no vecās paaudzes domāšanas veida. Prenskis pēta datorspēļu ietekmi uz domāšanas veida un mācību procesa izmaiņām. (Šteinberga, 2011)

Desmit atšķirības domāšanas veidā jaunajai un iepriekšējai paaudzei, kuras novērojis M. Prenskis un kas izraisa ietekmi un mācību procesa efektivitāti ir:

1. Nevienmērīgs ātrums pretstatā tradicionālajam (*Twitch speed vs. conventional speed*). Kā jaunā paaudze piemērojas saraustītam, lēcienveida uztveres ātrumam vislabāk var novērot skatoties MTV mūzikas klipus, kuros liels skaits attēlu mainās ātrā, neregulārā tempā. Tas pats notiek datorspēlē, kur nokļūstot jaunā līmenī, pēkšņi strauji mainās ātrums un ir jāpiemērojas un ne tikai jāvēro, bet arī jāspēj reaģēt. Ja iepriekšējā paaudze (televizora vērotāji) bija jau uztrenējusi savu uztveri lielākam ātrumam nekā viņu senči, tad jaunā paaudze jau vairs nevēlās tikai vērot. Viņi vēlās nekavējoties reaģēt, sadarboties, būt interaktīvi. Tam, protams, ir arī negatīvās puses – nepacietība, agresivitāte,

nemiers. Ja mācību process ir pārāk lēns un monotons, šīs negatīvās puses izpaudīsies. Ja mācību process būs pietiekoši dinamisks, ar mainīgu ātrumu un interesants, tad izpaudīsies atbilstošās pozitīvās īpašības – aktivitāte, interaktivitāte, ātri risinājumi. No šāda skatu punkta, galvenais uzdevums ir nebremzēt mūsdienu audzēkņu mentālo aktivitāti.

2. Paralēla datu apstrāde pretstatā lineārajai (*Parallel processing vs. linear processing*). Paralēlas darbības nozīmē, ka vairākām darbībām tiek veltīts aptuveni līdzīgs uzmanības daudzums pretstatā secīgai lineārai informācijas apstrādei. Ja jaunieši, masveidā spēlējot datorspēles, faktiski pārprogrammē savu domāšanas modeli daudz uzdevumu (*multitasking*) režīmā, tad var teikt, ka šobrīd notiek vispārējā civilizācijas smadzeņu pārprogrammēšana. Vai tas ir labi vai slikti un vai tas notiek pirmo reizi? Sociālie psihologi norāda uz iepriekšējo cilvēces masveida domāšanas pārprogrammēšanu – tas notika saistībā ar rakstītā teksta parādīšanos un vēlākā laika posmā – drukātā teksta masveida izplatīšanos.

Rakstīts teksts ir lineārs, secīgs informācijas izklāsts un ļoti ilgu laiku tas bija vienīgais informācijas tālāk nodošanas veids. Tas izveidoja atbilstošu informācijas apstrādes veidu domāšanā. Šodienas apstākļos informāciju iegūst ne tikai no vienas vai vairākām grāmatām vai skolotājiem. Informācija plūst un cilvēkiem no visām pusēm – piegādā ne tikai ikdienas dzīves un darba vide, bet arī masu mediji un internets savieno ar visu pasauli un piegādātā informācija ir dažādu autoru veidota un atspoguļo dažādas domāšanas struktūras. Datorspēļu pasaulē tas izpaužas kā daudz uzdevumu spēles, paralēlas darbības vairākos ekrānos, spēles ar vairākiem dalībniekiem u.c. veidi, kas prasa dalītu uzmanību.

3. Nejauša izvēle pretstatā secīgai (*Random access vs. step-by-step*). Iepriekš teiktais papildinās ar spēļu pieredzi, kurā neviens iepriekš nebrīdina par briesmām, bieži nav zināmi principi pēc kādiem darbojas viens vai otrs tēls spēlē.

Tāpēc spēlējot datorspēles attīstās spēja saprast situācijas, saprast tēlu uzvedības principus no novērotā, izvirzīt hipotēzes un pārbaudīt tās. Spēles likumu izzināšana attīsta induktīvo domāšanas veidu.

Nejauša izvēle nozīmē, ka tiek uztverts un apstrādāts nejauši izvēlēts informācijas apgabals, nevis notiek sekošana secīgai loģiskai ķēdei. Šādu no dažādām neatkarīgām daļām saliktu informācijas gabalu apstrāde, rezultātā ļauj izdarīt pašam savus slēdzienus un izvirzīt savas hipotēzes.

4. Vispirms attēls, nevis teksts (*Graphics first vs. textfirst*). Agrāk galvenā informācijas daļa izpaudās teksta veidā, ko papildināja attēli. Šobrīd situācija mainās tā, ka teksts tikai papildina un izskaidro pieredzi, kas iegūta kustīgu vai statisku attēlu veidā. Jaunajai paaudzei ir ļoti attīstīta piktoriālā, ikoniskā vai neverbālā saziņa, ko P.M. Grīnfilda sauc par vizuālo inteliģenci vai neverbālo IQ. Šim fenomenam ir arī negatīvās puses, saistītās ar literārās valodas un informācijas dziļuma problēmām.

5. Kontakti pretstatā savrupībai (*Connected vs. stand alone*).

Visaptverošā iespēja komunicēt pa visu pasauli vairs neierobežo cilvēkus ar to atrašanās vietu. Tāpat jebkuru jautājumu var uzdot internetā dažādos sociālajos tīklos un cerēt sagaidīt simtiem atbilžu. Komunikācija var būt gan sinhrona (tiešā laikā), gan asinhrona (ar laika nobīdi). Šīs iespējas stimulē jauno paaudzi meklēt dažādus ceļus, kā iegūt informāciju. Pozitīvs ieguvums ir iespēja veidot domubiedru grupas kopīgu projektu veikšanai. Elektroniskās saziņas anonimitāte var tiks uzskatīta gan par plusu gan mīnusu. Kautrīgi cilvēki, kas sabiedrībā baidās runāt, internetā var izpausties brīvāk. Turklāt, specifisku jautājumu risināšanai var nebūt domubiedru sasniedzamā apkārtnē. Internets šo problēmu novērš pilnībā.

6. Aktivitāte pretstatā pasivitātei (*Active vs. passive*). Daudzi uzskata, ka mūsdienu tehnoloģijas stimulē cilvēku aktivitāti. Ja iepriekšējā paaudze tika radināta vērot televizoru, tad datorspēles trenē tūlītēju reakciju, lēmuma pieņemšanu, interaktivitāti. Turklāt, virtuālā nāve un papildus dzīvības spēlēs samazina piesardzību, līdz ar to jauni cilvēki uzdrīkstas vairāk nekā viņu priekšgājēji. Tas gan ir pretrunā ar citu viedokli, ka piesardzības trūkums un „atjaunojamā dzīvība” var paaugstināt vardarbības risku reālajā dzīvē.

7. Spēle pretstatā darbam (*Play vs. work*). Jaunu informāciju var iegūt dažādi – darbā, spēlē, atpūtā un citādi. Jaunā paaudze noteikti dod priekšroku iegūt zināšanas patīkamākā veidā caur rotaļu, nevis smagā darbā. Daudzas spēles satur prātu attīstošus elementus – puzzles, dažādus ar telpiskām vai plāknām figūrām saistītus uzdevumus, loģiskās mīklas, stratēģiskās spēles u.c.

Jaunieši dod priekšroku vieglākiem informācijas iegūšanas veidiem un izvairās no tādiem, kas prasa piepūli (grāmatu lasīšana var būt smags darbs tiem, kam tas nepatīk) un nav interesanti. 2010. gada uzsāktajā pētījumā „Jauniešu dzīves darbības, nākotnes perspektīvas un vērtību sistēmas salīdzinošā analīze” tika konstatēts, ka skolēni informācijas ieguvē priekšroku dod internetam, draugiem un pat grāmatām, bet skolotājs un mācību stunda ir pēdējā vietā. Šī fakta ignorēšana problēmas Latvijas izglītībā nesamazinās un lai arī profesionālā vidusskolā mācību process atšķiras no pamatskolas mācību procesa, mācīšanās īpatnības, kas bijušas pamatskolā, noteikti skar arī turpmākās mācības un studijas.

8. Kas man par to būs? (*Payoff vs. patiente*).

Katrs, kas spēlē datorspēles zina, ka katra darbība tiek novērtēta ar punktiem, uzvaru, nokļūšanu nākošā līmenī, papildus dzīvību vai ko citu. Tātad, katrai darbībai seko kāds novērtējums un ieguvums (vai zaudējums). Jaunā paaudze grib to zināt un tas ir būtiski pirms katras jaunas darbības uzsākšanas, arī mācībās. Vai būs jāliek eksāmens? Kas sekos šai tēmai – mājas darbs, tests, projekts vai nekas? Tie visi ir jautājumi, kas izmaina audzēkņa attieksmi pret mācīšanos. Ja neliekas pietiekošs ieguvums, uzmanība krītas vai nav vispār. Būtiska ir proporcija starp ieguldīto darbu un saņemto ieguvumu. Tā tiem vienmēr novērtēta pirms darba sākšanas.

9. Fantāzija pretstatā realitātei (*Fantasy vs. reality*).

Mūsdienu tehnoloģijas aktivizē fantāzijas elementu vai arī, tieši pretēji – realitāti tur, kur tā nevar būt, piemēram, citplanētiešu sabiedrībā, kosmosā u.c. Cits aspekts ir anonimitāte, kas ļauj cilvēkam izdomāt sev citu identitāti – vecumu, dzimumu, izskatu, veidot dažādas izdomātas apvienības un domubiedru grupas. Jaunatnes spēja fantazēt sasiņās ar savas vides dizainēšanu, dažreiz vairāk digitālās, nevis reālās. Informācijas apmaiņas jaudas, iespēja lejupielādēt dažādas tehnikas un elementus, iespēja kompilēt materiālus no dažādām pusēm, iedvesmo radošas idejas un atvieglo to realizāciju.

10. Tehnoloģijas kā draugs nevis kā ienaidnieks (*Technology-as-friend vs. Technology-as-foe*). Šis punkts sasiņās ar to, ka jaunatne aug kopā ar tehnoloģijām no dzimšanas un uztver tās kā savas dzīves neatņemamu, dabīgu sastāvdaļu. Viņi viegli komunicē ar tām un ir tiešām „digital natives” – tas ir – digitālā tehnoloģiju valoda ir viņu otrā dzimtā valoda pretstatā vecākajai paaudzei, kurai katra jauna tehnoloģija tās apguves sākumā rada sarežģījumus.

Hipotēze

Ņemot vērā iepriekš minēto, tika izvirzīta hipotēze:

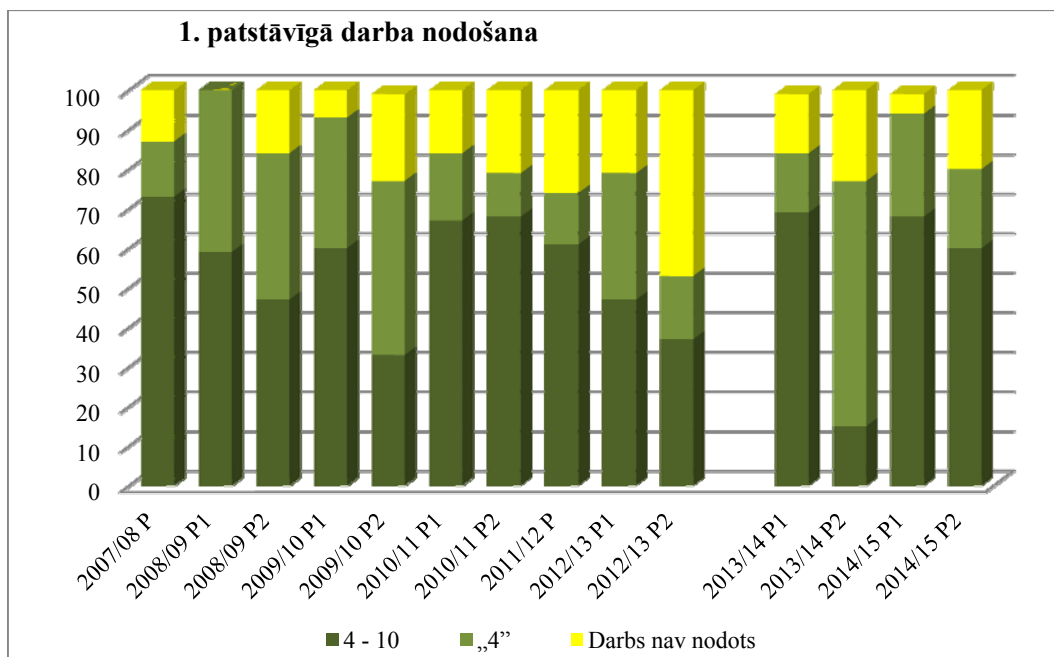
Ja tiks ieviests vēl viens starpposms (t.i., vēl viens patstāvīgs darbs), tad palielināsies izpildīto tam sekojošo darbu relatīvais skaits.

Hipotēzes pārbaudei 2014./2015. mācību gadā otrais patstāvīgais darbs tika sadalīts divos secīgos salīdzinoši vieglākos un mazāk darbietilpīgos darbos. Darbu nodošanas datus var apskatīt 2. tabulā.

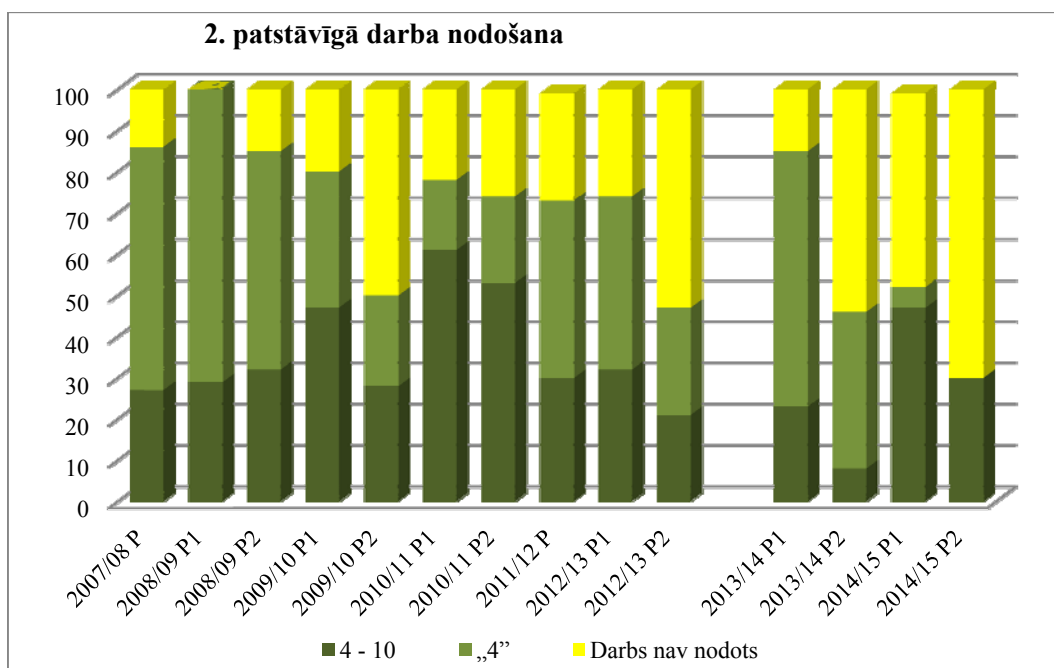
2. tabula. Patstāvīgo darbu nodošanas skaits 2014./2015. m.g.
Table 2. The number of submitted individual work in 2014/2015

		1. patstāvīgais darbs						jaunais patstāvīgais darbs						2. patstāvīgais darbs						
2014/15	P1	19	13	68	5	26	1	5	11	58	2	11	6	32	9	47	1	5	9	47
	P2	20	12	60	4	20	4	20	7	35	0	0	13	65	6	30	0	0	14	70
Vidēji 2014./ 2015. m.g. (%)				64		23		13		47		6		49		39		3		59
Kopā 2014./ 2015. m.g. izpildīto darbu (%)				87						52						41				

Analizējot 1. un 2. tabulu datus, var redzēt, ka 1. patstāvīgo darbu 2014./2015. mācību gadā vidēji nodeva par 6% labāk, nekā 2007. – 2013. mācību gados (pieaugums no vidēji 81% līdz 87%). 2014./2015. mācību gadā „uzreiz” nodotu darbu skaits arī ir augstāks nekā iepriekšējos mācību gados. 1. patstāvīgā darba nodošanas tendenci var apskatīt 2. att.



2. att. 1. patstāvīgā darba nodošanas skaits 2007.–2015. m.gg.
Figure 2. The number of submitted 1st individual workin 2007 – 2015



3. att. 2. patstāvīgā darba nodošanas skaits 2007.–2015. m.gg.
Figure 3. The number of submitted 2st individual workin 2007 – 2015

Jauno patstāvīgo darbu vidējais nodošanas skaits 2014./2015. mācību gadā ir mazliet mazāks nekā 2. patstāvīgā darba vidējais nodošanas skaits iepriekšējos mācību gados. Bet „uzreiz” nodoto darbu vidējais skaits ir par 13% augstāks, nekā 2007. – 2013. mācību gados (pieaugums no vidēji 26% līdz 39%). Ir jāņem vērā arī, ka 2014./2015. gada audzēkņu grupas vēl turpina mācīties un ir lielā varbūtība, ka kopējais vidējais darbu nodošanas skaits būs augstāks.

2. patstāvīgā darba nodošanas tendenci var apskatīt 3. diagrammā.

Līdz ar to, ņemot vērā pieejamos datus, var pieņemt, ka hipotēze ir pierādīta.

Hipotēzes pilnai pierādīšanai ir nepieciešami papildus novērojumi. Darba autors atbild par iespēju sadalīt arī trešo patstāvīgo darbu audzēkņu mācīšanās sekmēšanai.

Secinājumi

Darbā izvirzītā hipotēze tika pierādīta 2014./2015. mācību gada audzēkņu grupām.

Darbs ir turpināms, jo hipotēzes pārbaudei būtu nepieciešami tālāki novērojumi, jo ir jāņem vērā, ka

- audzēkņu aktivitātes, tajā skaitā arī attieksmi pret mācībām, nosaka faktoru sistēma – bioloģiskie, psiholoģiskie, sociālie personības raksturojumi;
- svarīgs nosacījums ir arī agrā brieduma un jaunības specifika un vajadzības;
- audzēkņa personība dinamiski mainās un attīstās mācību laikā;
- audzēkņu vērtību sistēma, orientācija, nostādnes arī nosaka attieksmi pret mācībām;
- orientēšanās uz humanitāra, sociāla vai inženierzinātniska, tehnoloģijas profila specialitātēm ir saistīta ar konkrētām, specifiskām personības iezīmēm un īpatnībām.

Jāņem vērā arī kādus didaktiskos principus pārsvarā izmanto pedagogs savā pedagoģiskā darbībā. Principi nav pretrunīgi, tie savā starpā ir saistīti un mācību procesā darbojas visi šie principi, lai mācību process būtu vienkāršāk saprotams, labāk paveikts un atrisināts. Skolotājs, un apkārtējā sakārtotā vide, arī skolēns ir atbildīgi par veiksmīga mācību procesa noritēšanu. Lai sasniegtu atbilstošās zināšanas un paveiktu noteiktos mērķus mācību procesa pilnveidē un tā īstenošanā.

Mācību principi nosaka pedagoga darbību un audzēkņa izzināšanas darbības raksturu. Mācību principi ir jāievēro, nosakot mācību mērķus, saturu un tā īstenošanas metodiku.

Jāņem vērā arī jauno informācijas tehnoloģiju ietekmi uz jauniešu attīstību. Jauno IT ietekmes raksturojums uz psihiskajiem procesiem (domāšanu, atmiņu, koncentrēšanās spējām, iztēli, uzmanības noturīgumu) un emocionālo attīstību, ietekmējot attiecību veidošanās un saglabāšanas procesu, pašnovērtējumu, individuālo motivāciju.

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EFFECT OF COMPUTER BASED VISUALIZATION ON STUDENTS' COGNITIVE PROCESSES IN EDUCATION PROCESS

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Abstract. Objectivized phenomenon in science education and their elements, revealed for students in the homogenized visual form, stimulate development of the Subject consciousness within the context of learning. Visualization is visual artefact represented in visual way aiming to code or decode information. By stressing this, the use of visualization during lessons of Biology, Physics, Geography and Mathematics becomes very important – it helps for perception, attention, memory and imagination that are needed during learning processes. This article encloses empirical data about effect of computer based visualization on students' cognitive processes. There were asked 2708 ninth and tenth form classes students in Lithuania. The results show that visualization is useful homogenously both for males and females, but females statistically significantly are sure about the positive effect of visual artifacts in the classroom.

Keywords: cognitive processes, science education, visualization.

Introduction

Visualization of the content of the science education is treated as the more simple representation of information of the lesson is demonstrated by images within models constructed by the epistemic nature. Usually the content of learning is represented by verbal or symbolic codes, therefore the information, gained in such manner always aggravates the work of cognitive processes – the attention is not concentrated, the lower perception is observed as well as the worse remembering of the read or heard information. As it is indicated by researches (Lee et al., 2006; Khalil et al., 2005), flows of information, presented in schools are high, and within the educational context of transformation of paradigms they change rapidly, therefore it is more and more difficult for learners to select the essential material and to link it with the object of learning, epistemically related to the reality. Externalized visual representations compress information – information, presented in words, by aids of images can be minimally reduced, therefore it will be easier to perceive, memorize and remember. The time is saved, which, in opposite cases is wasted in reading verbal texts and trying to link them with the information, available in consciousness.

There is enormous number of scientist who stated that visualization has positive affect to human *perception* (Jared, 2009; Chittleborough, Treagust, 2008; Ubuz, 2007; Williamson, José, 2008; Saprykina, 2008; Kim, Olaciregui,

2008; McCaffrey et al., 2008; Amundsen et al., 2008; Rogers, 2008; Tasker, Dalton, 2008; Ainsworth, 2008; Sengul, Cansu, 2010). Visual representations, presented during the learning, stimulate processes, responsible for the perception of information. Upon the domination of elements of verbal codes within the educational reality, the management of conceptions depends not only from the skill to memorise them exactly, but also from the depth of their assimilation, which is assessed after the successful implementation of practical tasks. The misperception of conceptions that appears due to the lack of experience and insufficient formal skills makes the thinking more difficult in later stages. As far as the verbal code is not perceived by learners, because it is sometimes too complex, its visual expression becomes more effective.

The visualization affects the *memory* of students (Cook, 2006; Card et al., 1999, cit. Folorunso, Ogunseye, 2008) implementation of regression within the consciousness due to factors of the progress through processes of perception is assessed as necessary for the perception of information only – for it to become clear. Visual materialisation of the content of the lesson strengthens the possibility to maintain the image in the memory for a long period of time and therefore to represent it in other form in any context or situation, e.g. in solving tasks or learning the new topic. Externalised visual representations, with the help of *imagination* (Rule, 2005), are internalised therefore processes of operation by images are implemented – rotations, spatial changes and development of the part of the world, which is subjectively perceived and objectively presented during the learning. Actualisation of imagination is linked with processes of visual thinking that are also activated, because, according to R. Arnheim (1998), the visual perception and imagination are its integral parts. Also, multidimensional visualization strengthens possibilities to activate the attention, because more sensual stimulus is included that effect centres of concentration (Kim, Olaciregui, 2008; Mason, 2006; Mammino, 2008; Tasker, Dalton, 2008).

The named psychological processes can be identified as *cognitive*, application of which affects the construction of more versatile mental models (Tasker, Dalton, 2008) in the memory, combining the verbal and visual schematic totality of codes, influencing the more effective assimilation of information of educational purpose as well as the formation of correct models in science education (Gilbert, 2008). It has been scientifically confirmed that application of visualization during lessons of Biology, Chemistry, Physics, Geography and Mathematics leads to the higher interest of students in educational content (Cook, 2006, Oller, 2006) and phenomenon of nature.

Theoretical factors are well known, but still, within changes of educational paradigm, *attitude of students towards visualization and its effect is not clear* because gradual introduction of technologies into educational process leads to the change in the understanding of the conception. New experience within transformation of culture is created, gradual transition to visual spaces is

observed and therefore possible effect assessment of the visual object from the point of Subjects is not analysed but relevant and important. Even though various experiments identified that concrete externalised visualizations, applied in researches, are useful for cognitive processes of children, there is a lack of information about *the possible effect of visualization, as the artefact, on the Subject* – especially on very heterogenic aspect of gender. This would reveal psycho-educational specific features of application of visualization for girls and boys and could affect more cognitively and socially constructive creation of the educational process, because homogenous and heterogeneous peculiarities of the applied artefact during lessons of Biology, Chemistry, Physics, Geography and Mathematics would be known.

Object of the research – the effect of computer based visualization on students' perception, attention, memory and imagination in education processes.

Research aim is to enclose the effect of computer based visualization on students' cognitive processes in Biology, Chemistry, Physics, Geography and Mathematics.

Methods of the survey

Data collection methods: Questionnaire. Analysis methods for the survey data are two 1) *descriptive statistics*: Index of popularity, was applied to calculate ratings of variables; 2) *analytical statistics*: Mann'ó Whitney U-test was applied for the comparison of variables from two independent samples; the test is applied on two independent samples with abnormal distributions of variables ($p < 0.05$). Hypothesis concerning the similarity of means of variables on the aspect of form and gender were verified by it.

Research Methodology

Description of Diagnostic survey and instrument. Diagnostics of the attitude of students was implemented with an aim to define the attitude of representatives of the population concerning psycho-educational aspects of applying visualization. On the base of results of the exploratory research, scientific literature and provisions of the researcher, the survey instrument was constructed and the diagnostic survey was implemented. All scales are interrelated and render psycho-pedagogical aspects of the survey object, obtained under evaluations of respondents and in this case, by the significant diagnostic data collection method. Scales of the questionnaire, sub-scales and statements have meanings and intervals (from 1 to 5, answer variant – from “always” to “never”).

Internal reliability of the scale was measured by the Cronbach alpha coefficient – almost all sub-scales have rather high internal reliability - Cronbach alpha is higher 0.7. According to this, it is possible to make a conclusion that questions of the questionnaire are appropriate to measure the object and are valid for some appropriate conclusions.

Characteristics of the survey and sample. The random independent sample was formed under the serial principle. Three inquiries were organized according to the object analysis in various disciplines. As far as subjects of Biology, Chemistry and Physics are interrelated on their content, it was treated that only one questionnaire is enough in order to analyze the attitude of students towards psycho-educational aspects of those subjects, identified as attributed to the science education. Geography and Mathematics, on their content are hardly interrelated. The low link with Biology, Chemistry and Physics is also observed; therefore in order to identify psycho-educational aspects of application of visualization within these disciplines, the additional number of students was to be interviewed for their attitude to be representative. 2708 students from 9-10 forms were interviewed, 728 from them expressed their attitude towards psycho-educational factors of applying visualization in Geography, 774 students expressed their attitude towards the same object in Mathematics and 1152 students – in science education subjects. The majority of respondents –15-16 years old students, dwelling in cities. More males if compared to females participated in the survey; however, with the high number of respondents it is believed that samples on aspects of gender and form are representative.

Results

The results of the research are presented in figures and explained in the below them.

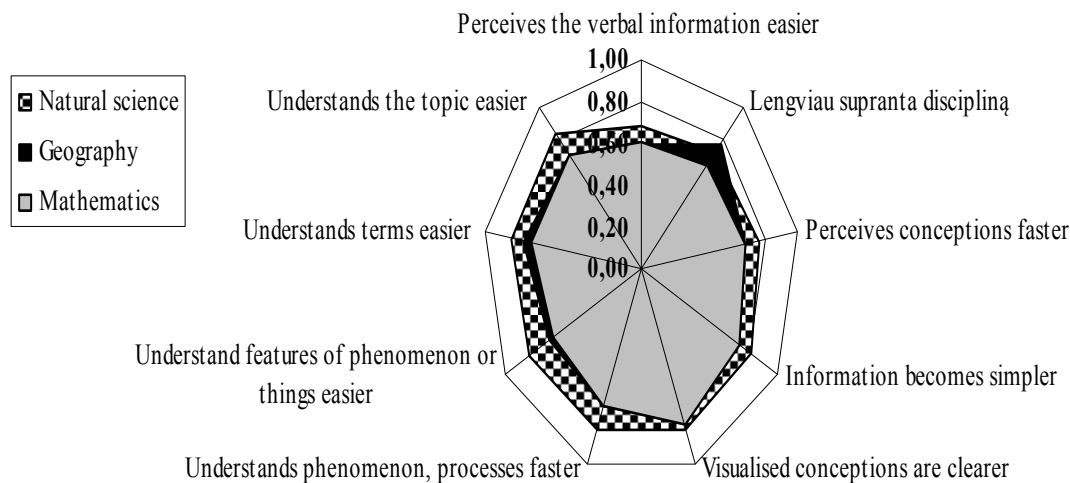


Figure 1. Effect of visualization on the visual perception upon learning / IP (N=2708)

The index of popularity means that the majority of variables was assessed by respondents as rather significant, because $PI > 0.8$ and it indicates the approach to 1 in the scale of links, where the last number means 100% positive attitude of all respondents. Visualization, applied together with the verbal information, helps in many operations of perception. The highest position of rating is occupied by the effect of visualization on students from 9-10 forms in

Lithuanian schools for the *facilitation of the perception of the topic* (PI = 0.84). Images facilitates *the perception of terms* (PI = 0.84) and *phenomenon or features of things, makes the perception* of phenomenon or processes from the process of science education *faster* (PI = 0.82). Learning new topics becomes easier upon application of the visual expression of representation of objects, when it is matched with the verbal experience. According to respondents, the visualization also *helps to perceive the information*, because it becomes simpler (PI = 0.81), implements the exploratory function of the complex verbal information. The last premise is confirmed by the high rating of the variable – the depicted *conceptions are clearer* (PI = 0.81).

The effect of visualization on perception was assessed similarly by respondents. Comparing the data on the aspect of gender it appeared that three statistically significant differences were found. Visualization statistically significantly for females ($p < 0.05$) more than for males helps to perceive the verbal information, topics of science education disciplines and conceptions. Also, females statistically significantly more ($p < 0.05$) than males perceive the topic, phenomenon and Geography if teachers of Geography during lessons apply the visualization. Females more than males ($p < 0.05$) think that the visualised conceptions during lessons of Mathematics are clearer for them.

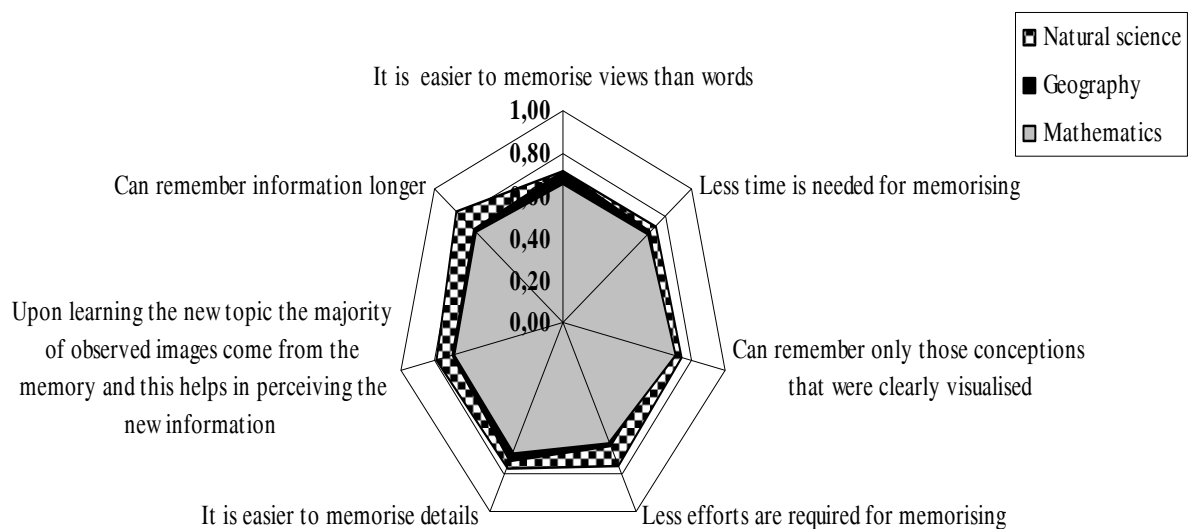


Figure 2. Effect of visualization on the visual memory upon learning / IP(N=2708)

The visual information, presented for the imaging of objects, can be useful for processes of memory: lower efforts are needed for memorising, the more correct mental models are formed that help in recognising similar objects, processes of selection become more rapid by selecting the memorised information as well as other processes. Figure XX presents ratings of statements, describing the help of the visualised information for processes of memory in science education. The highest index of popularity (PI = 0.83) was given to the statement, stating that the visualization helps *to memorise information and to*

maintain it in the long-term memory. It indicates that images, linked with the educational topic, help to memorise the information for a longer period of time; and the latter is very important, because they interlink with the majority of topics. The second position is occupied by the statement revealing *operation of possible visual mental models during the process of learning*, coded as *upon learning new topics, the majority of observed images come from the memory and this helps in perceiving the new information* (PI = 0.79). On the base of the latter it is believed that visual mental models are functioning in the consciousness that help to perceive and recognise similar codes, therefore the new information is matched to the available on and therefore the new cognition is formed.

The third position of ratings is occupied by *the effect of visual information in memorising details* (PI = 0.75). The rating of the fourth statement indicates the assent of respondents that visualization can help them in learning because then *lower efforts are required to remember information* (PI = 0.74). The majority of students remember complex phenomenon, objects and conceptions in science education only with the help of the visual information. It is likely that images, required for the perception and memorising of complex phenomenon implement *functions of additional information*. This premise is also likely to be liked with *the style of visual learning*, which is activated when the verbal information is too complex.

Females statistically significantly more ($p < 0.05$) than males remember conceptions that were visually depicted in science education. Also, females more than males ($p < 0.05$) believe upon learning of new topics the majority of images, observed during lessons of Geography come from the memory, therefore it is easier for them to perceive information. There was found another statistically significant difference – females more ($p < 0.05$) than males believe that they can remember information longer if it was presented not only verbally, but also by images in Mathematics.

Visual information is useful for the **concentration of attention**. The highest position is occupied by the statement linked with the *better orientation in information* (PI = 0.75) that reveals that the visual material helps to concentrate the attention to the totality and to learn more thoroughly. Dual data presentation is useful for students from ninth and tenth forms, because they can notice more details, rendered in the visual form. The lower positions are occupied by the *effect of information on concentration* (PI = 0.67), *lower distraction* (PI = 0.66) and *noise* (PI = 0.64). Those three statements have very similar index of popularity, therefore are similarly assessed by students, in this case, on the average level. The lowest rating is given to the statement that *visualization help to follow information closer* (PI = 0.59).

Effect of visual information on the concentration of attention on the comparative aspect of gender has two statistically significant differences. It is to be stressed that for females as well as for males, the verbal text, presented with

visualization, helps to concentrate the attention equally. It is easier for females than for males to get concentrated during lessons ($p < 0.05$), they are less distracted when the visualization is applied during lessons of science education.

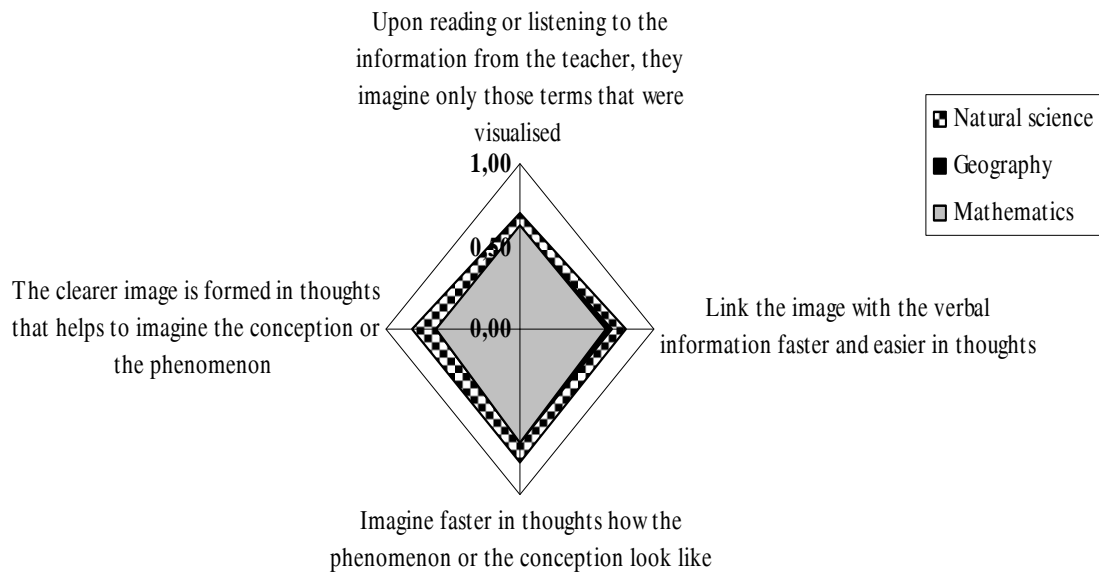


Figure 3. Effect of visualization on processes of imagination / IP (N=2708)

Visualization, applied within the process of the science education, Mathematics and Geography can activate the processes of imagination of respondents. It appeared during the survey that two variables, revealing processes of imagination, have the similar rating, because their $PI > 0.80$.

The comparative analysis reveals that there are two statistically significant differences, indicating the higher effect of applying the visualization together with the verbal information on imagination on the aspect of one gender. Visual representations are more useful for females ($p < 0.05$) because the clearer image is formed in their thoughts that helps to perceive the conception of the phenomenon, to imagine only visually observed terms when the teacher is talking about them or the student is reading by himself / herself. It is stated that visual representations for females help to form visual mental models on the base of which they use the decoded verbal conception and maintain the information longer in the memory. It is possible to state that visualization activates processes of imagination for females more than for males, important in learning disciplines of science education.

Conclusions

Students homogeneously identified the necessity of computer based visualization, as the artifact mediator in some particular subject, activity of cognitive processes is becoming more active: complex and abstract information is assimilated in a more easy and rapid manner, concentration is maintained for a longer period of time as well as concentration towards the educational content,

unseen object, which have previously been represented by verbal codes and their interrelations, are imagined, the learnt material is kept in the long-term memory.

Computer based visualization is more useful for girls than for boys, because the clearer image is formed in their thoughts that helps to perceive the conception of the phenomenon, to imagine only visually observed terms, to get concentrated during lessons, to remember conceptions that were visually depicted and to hold it for longer time in memory, when the teacher is talking about them or the student is reading by himself / herself.

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TOPICALITY OF COMMUNICATION TECHNOLOGIES AND INFORMATION (ICT) IN TEACHERS LIFELONG LEARNING AND TEACHING

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Abstract. *This work is an advance of research in process about how is the incorporation for the use of Information Technologies and Communication (ICTs) by teachers of basic education in Jalisco State in their educational practice. The problematical is delimited, by two factors: the level of infrastructure and equipment of schools and on the other hand, the attitudes of teachers towards ICTs.*

It seek investigate as the main purpose, how the teachers appropriated technologies from different programs for the use of ICTs that has implemented by the Secretary of Public Education in their teaching. It is assumed that the reforms are not hegemonic mechanisms that permeate the educational practices but are contexts, attitudes that enable to teachers of basic education the differentiated appropriation of ICT.

Keywords: *Information Technology and Communication, Teachers lifelong learning, Teaching Practice, Basic Education.*

Introduction

In recent years, we had witnessed about profound changes in everyday life that are being introduced by the Information and Communications Technology (ICTs); the ability to communicate in real time with audio and video to various locations anywhere on the planet, in search of information on almost all the known, sales and purchases online, to conduct financial transactions, perform searches and establish personal relationships through the network, among others.

Education is also influenced by advances in ICTs. To point out some background, correspondence education, which employed the postal sector and mailed the study materials (Federal Institute for Teacher Training 1945-1971). The various courses offered by radio and television, such as English, math, Channel 11, National Polytechnic Institute and channel 22 of the National Council for Culture and Arts. In the late 1970s, teaching machines were introduced, based on the theory of operant conditioning by the American psychologist BF Skinner, which passed almost unnoticed for the teachers.

Later work is the open and distance learning (ODL) start by various universities and institutions of higher education as the National Autonomous University of Mexico (1972) and the Instituto Tecnológico de Estudios Superiores of Monterrey (1997). Although the incorporation of ICTs into education has been consolidated in higher education, not so with other levels. Cesar Coll and Carles Monereo say:

„ICTs in general and the Internet in particular, provide an excellent opportunity to leap towards higher quality education based on principles of solidarity and equality. However if not graduated while the jump, if we do not start from different social and educational realities, with their successes and shortcomings, we can end up taking a leap into the void and expected educational advancement can remain an economic and commercial plus operation.” (Coll and Monereo, 2011; 49)

In reviewing what happens ICTs in basic education, it seems that by simply entering technological devices and refer to government plans, the desired effects is obtained. But so far, notably absent from the concerns to introduce ICTs in education are the elementary school teachers. With their attitudes and fears towards ICTs, knowledge, jobs that make them who have one or several pc, or tablets, in their classroom, whether they have or have not internet connection, etc. This research is part of the activities of the Research Unit of Collegiate Education, Cultural Development and Professional Advancement of the National Executive Committee of the SNTE. With this, will seek to provide elements to understand how teachers are incorporating ICTs into their daily practices, especially using them to get results in student learning.

Elements to think the differences in access to ICTs.

We can start problematize the issue of ICTs and their incorporation into educational practice by teachers in basic education, from the characterization of what some authors call the network society (Castells, Tubella, Sanchez and Roca: 2007). Other authors call knowledge society or information society (Sakaiya: 1995), which consists of:

„On four main elements: the revolution in information and communication technologies, also related to the revolution in genetic engineering; the model of network organization as the predominant form of human activity in all areas; the crucial role of knowledge generation and information processing as sources of power, wealth and cultural significance; and global interdependence of societies, including through integration into global communication networks strategically dominant activities in each society. Thus, the net society is a global social network, but with specific manifestations in each of the societies in which people from different cultures stories and lives”. (Mominó, Sigalés and Meneses: 2008: 21)

Currently one of the economic indicators of economic competitiveness of countries is related to the use and impact of ICTs, the Networked Readiness Index (NRI) of the World Economic Forum which is published annually since 2002. It measures both the regulatory environment and competition as the penetration and use of online services and hence it is said that:

„In 2010, Mexico ranked 75 globally and 12 of 25 for the Americas, below Argentina, Uruguay, Chile, Brazil, Venezuela, and Peru, and above Colombia,

Ecuador and Paraguay. The relative position of Mexico has not changed in recent years occupied places 77 and 74 in 2007 and 2008 respectively („Palacios, Flores-Roux and Garcia Zaballos, 2013; 17).

One of the main points so that they can incorporate ICTs in schools is the existence of computers and internet in schools, on this point in the study „Assessment of the ICTs sector in Mexico” a series of graphs are presented what show Mexico's comparative position relative to other countries, in relation to public access to computers, say:

„... In Mexico also remains a gap in access to computers. To give an idea of the country's position in this area, a basic comparison is the current penetration of computers per household, which in Mexico is equivalent to the European level that had 16 years ago (ITU, 2009), and it does not compare favorably with other countries in Latin America” (Palacios, Flores-Roux and Garcia Zaballos, 2013; 23).

So, that despite the size of the country and the economy of Mexico, there is a gap with respect to the countries of the Organization for Economic Cooperation and Development (OECD) of that we are part. Although some Latin American countries, for example Chile and Brazil. This difference is known as the digital gap, which can be referred to countries, regions and individuals.

„The OECD defines” digital gap „as the difference between individuals, households, businesses and geographic areas at different socioeconomic levels regarding opportunities to access ICTs and Internet use.” (Palacios, Flores-Roux and Garcia Zaballos, 2013; 57-58)

Then, first there is a digital gap between Mexico and the countries with they is a partner, mainly OECD, but that study also shows the gaps between different regions, groups and individuals for their income level. It is also important to note that the use of smart phones and computers is related to income levels and social position of individuals. The same report notes the high cost of telephony and Internet services, lack of competition in services as a company accounts for most of the market, and poor services in rural areas. In the case of the country in regard to having and using computers in education, include the statement by the INEE say that:

„There is a significant gap in the provision of computers to elementary schools: in the 2010/2011 school year, less than half of primary schools (49.1 percent) had available one computer for educational use ... In other words, it did not have computers for educational use little more than half of primary schools ... Neither the universality of this minimum access other service types is achieved” (INEE cited by Mendoza Sanchez, 2013; 35).

In the case of our state, in the report 2013 prepared by the Ministry of Education Jalisco (SEJ) based on data of the Certificate of Factors Associated with Learning (CEFAA in Spanish) it can be seen that there are differences if having a computer in home and Internet access, both teachers and directors of

basic education on middle and higher education, among Rural, Urban and private schools, where the lowest percentages are teachers of the rural areas, as shown in the following graph:

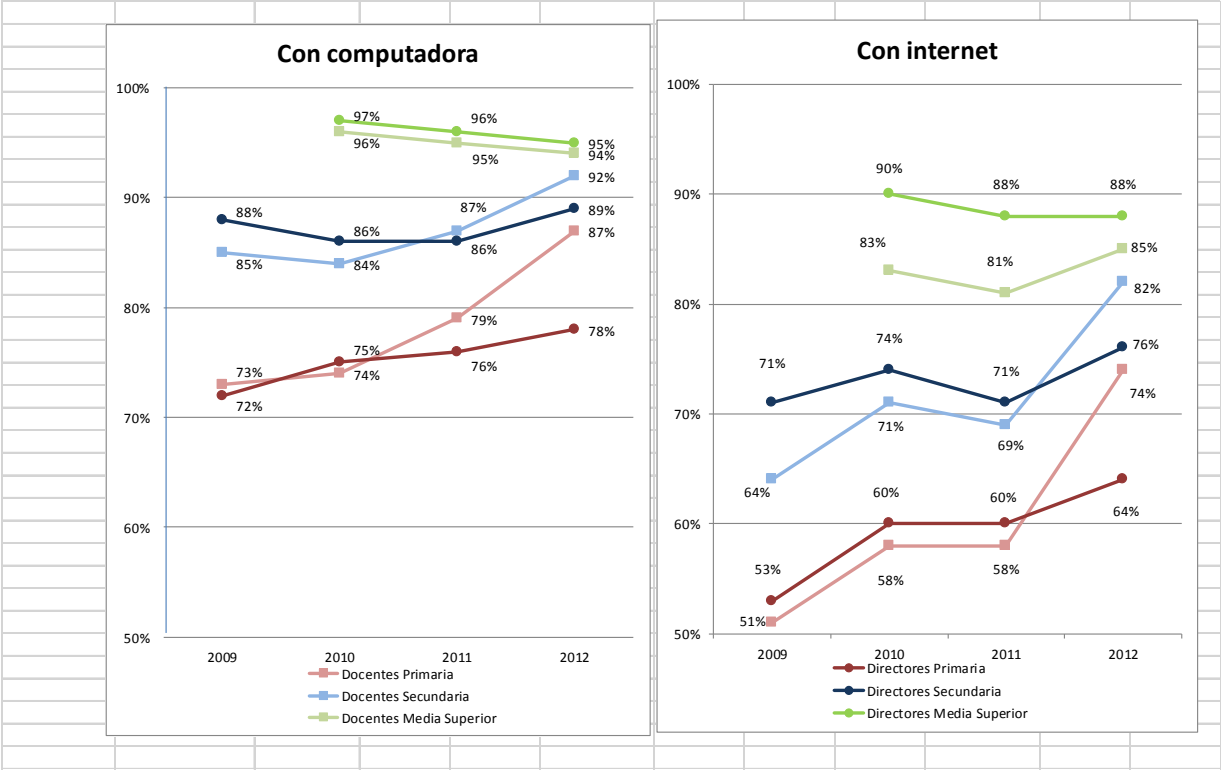


Figure 1. History headmasters and teachers with computer and Internet at home

Certificate of Factors Associated with Learning (CEFAA) (2013, 2) SEJ

In this contextual framework, concern for the subject field of ICTs that therefore the possibility of having a computer and the internet, there is not equality conditions and there is an unfavorable condition of basic education teachers, mainly in rural areas. Then it is necessary to take in account the characteristics of our country in terms of social inequality, inequity, cultural diversity and other elements that enable the use of computer equipment and their conditions to have, their ability to use and the little accessing internet.

Plans and Projects SEP referring to ICTs in Basic Education

Another key element is the set of policies and programs or projects for the incorporation of ICTs in public education by the government in turn. In this regard Tapia (2013) which presents the projects to introduce ICTs and digital technologies to public education and specifically in the Federal District, the author recounts, seen in the following table, which in part Final incorporate Digital Skills Program for All, proposed by the government of the Lic. Felipe Calderon Hinojosa and Mi compumx government program of Lic. Enrique Peña Nieto.

Table 1. Programs and projects implemented by the Ministry of Education

Year	Federal Program	Local Program
1983-1985	Galileo	
1990-1994	Coeeba	
1995-1996		Computer Laboratory of Education (LIE) (SSEDF)
1997	School Net	
2000		Media Classrooms (Iztapalapa)
2004	Enciclomedia	
2008	Digital Skills for All	
2013	My compumx	

Source: Adapted from a table drawn of Tapia Á (2013)

The SEP Curriculum 2011 contains significant differences compared to previous plans, just to point out four aspects; seeks to articulate the pre-school, primary and secondary, a second aspect is the competence-based approach, the introduction of curriculum standards and learning outcomes, academic foundations for the development of digital skills as a transversal axis in the curriculum.

An innovative aspect compared to previous plans and programs of study is the inclusion of a section on MANAGEMENT FOR DEVELOPMENT OF DIGITAL SKILLS, in which considerations about the importance of Information Technology and Communication point (TICs), which are based on the consideration that „The absence of an information and communication technology policy in public school increases inequality among countries and people” (SEP, 2011; 53)

In the same document cited the potential of ICTs in informal settings states: „Also, as UNESCO says...” one of the most notable phenomenon of the new education paradigm is the multiplication of the potential learning centers. If education becomes a continuous process, that is not limited to a determined space and time, it is important to value informal learning, whose potential is now reinforced by the possibility of access, offered by new technologies.

The context is clear, no educational reform can avoid the Standards of Digital Skills, they describe student knowledge and know how when using ICTs. They are fundamental to developing competencies throughout life and favor the insertion in the base information society.

The profiles of students competent in the use of ICTs must be related to the Basic Education school periods and to the equipment model”(SEP, 2011; 54).

To meet the standards of Digital Skills have been considered in the Plan 2011, two strategies: Media Classrooms and telematics Classrooms.

Table 2. Models of equipment implemented by the SEP (2011)

SCHOLL PERIOD	EQUIPMENT MODELS FOR THE ACHIEVEMENT OF THE STANDARDS FOR DIGITAL SKILLS
Second school period, at the end of the third year of primary.	Media room and computer laboratorios, where students interact with ICTs
Third school period, at the end of the sixth year of secondary.	Digital classroom 1 to 30 model, where students can interact with the ICTs. The state education authorities will add three devices pre classroom.
Fourth school period, at the end of the third year of secondary.	Digital classrooms 1 to 1 model, where students interact with the ICTs

Source: SEP, 2011, Agreement 592, Pags.54

Because of its importance to the issue, I will reproduce an extensive quote of reference document:

„The Standards of Digital Skills are aligned to the Unesco International Society for Technology in Education, and are related to the teachers competency standard „Learning projects integrated to the use of information technologies and communication „(2008), designed by the Committee for the Management of Competencies in Digital Skills in the Learning Process with the corresponding performance indicators.

The performance indicators for the use of ICT for teachers are:

- Use digital tools and resources to support the comprehension of knowledge and concepts.
- Apply acquired concepts to generate new ideas, products and processes, using ICTs.
- Explore questions and topics of interest, plan and manage investigations, using ICTs.
- Use communication and collaboration tools such as e-mail, blogs, forums and instant messages, to work in a collaborative way, exchange opinions, experiences and results with other students, as well as plan and use creative thinking.
- Use models and simulations to explore some topics.
- Generate original products with the use of ICTs, which use critical thinking, creativity and problem solving is used.
- Develop investigations or projects to solve authentic problems and/or meaningful questions.
- Use productivity tools, such as word processors to create documents or research; a software to present research activities and software for process data, communicate results and identify trends.

- Use social networks and participate in learning networks using the rules of digital etiquette.
- Use software and hardware in a responsible manner, working individually, in pairs or in teams.
- Use Internet and digital tools in an ethical, safe and responsible manner.

To integrate the actions for the use of ICTs, the strategy Digital Skills for All (HDT for its initials in Spanish), was created, whose origin can be found in the 2006-2012 National Education Plan (Prosedu for its initials in Spanish), that establishes as one of its strategic objectives „drive development and the use of information and communication technologies in the education system to support student learning, broaden their competencies for life, and enable their insertion in the society of knowledge.” (SEP, 2011; 54-55).

Some elements of the agreement are that an essential module in the use of technology in school is the connectivity of schools to high performance links.

In Mexico it was decided, as referenced in this document for more equipment and connectivity of schools, while developing a pedagogical model for the training and certification teacher (accompaniment) and promote the Instructional design from curricula and school management modules online.

„The Digital Skills Strategy considers the following components:

- Pedagogical. It includes the development of educational material: learning objects, suggested class plans and items that facilitate the management of standards stated in the Programs of Study.
- Operation. Its purpose is to organize, systematize and share information in the Digital Skills Program (classroom, school, state and country).
- Accompanying. Its objective is to support teachers, solve doubts and guide them to better take advantage of technology in education. It includes the use of technology in education and certification.
- Connectivity and infrastructure. It comprises all the equipment, connectivity and the necessary services for the classrooms to operate correctly, and enables a greater level of interaction between children and computers in order to decrease the gap in access to information.” (SEP, 2011; 57).

Through each of the periods indicated in the table mentioned above, are set out in detail, actions to achieve the performance indicators.

Thus, it is intended to seek to understand the articulation of a compromise between the subjective structures of the subject and the structural determinants of the social, cultural and educational system, at what they do together teachers and students. I believe that this point are the practices, which somehow structures express thoughts, ideas, attitudes, among others.

The Practices Teachers and their Conceptions about ICTs

Assuming as provisional definition that education is a set of actions and meaning by looking operate changes in others, in order to their transformations in their know, that they do or that they want. I will seek structures that enable educational practices and how they are articulated with the use of ICTs.

Mariano Palamidessi (2006; 10) says „ICTs are not neutral devices. They are frames of artifacts, techniques, skills and knowledge that are linked to social practices, knowledge and guidance systems and interpretation of the individuals and groups that use them. To a large extent, how the technologies overlap in the production of social practices depends on the ability of individuals, institutions and societies have to build and recreate knowledge and meanings around their potentialities and their uses.”

It is generally considered that there are two types of structures that has influence in the types of behavior of individuals, on the one hand, social structures and cultural order. This type of structures we mean when we think about how they are organized and regulated institutional practices, in this case, schools. These structures are mediated by frames or networks senses or meanings. The set of social actions at school are imbued with meanings and representations.

Diego Lizarazo Arias says:

„This is a density of meanings and representations that *anticipate* the use and define the kind of links and actions developed by the actors. The use of resources is steeped in stories, fears, expectations or opinions about technology that are circulate and exchange in the social space. All technology *is a* field of cultural representations; there are not in society with computers or electronic boards per se, technologically pure, because they only have status in human dynamics that incorporate them, reject or reused. Technology is always tech-culture and cultural representation is precisely that which is sought in this book.” (Lizarazo Arias and Andi3n Gamboa, 2013, 18)

As the authors point out, fear of teachers to be exhibited by their limitations to use ICTs, to decompose it and they have a liability for them or ask them for repaired, or they think that are very complicated and difficult to use artifacts, etc. They are some of the elements that come into play when wanting to use ICTs in school contexts.

Some politics think that the presence in classrooms of ICTs, will be sufficient to transform the pedagogical practices of teachers but is a misconception, in a study by the Center for Educational Studies, James B., Knight ., And M. G3mez Dominguez C, (2013) say

„... the relevance of ICT in education is result of the teaching methods and learning activities, as these motivate one kind of learning or another learning; for example, with expository teaching, ICTs promote reception learning; oriented with active and participatory construction of knowledge by the students

education, ICT facilitate discovery learning. In this sense, teachers use technology to substantially the same thing that they were doing, but faster attractive and dynamic. (Santiago Caballero Á, Gomez M and Dominguez C, 2013; 101-102)

The possibility of joint educational practices and relevant elements to educational purposes that are sought, result from the interaction of both the cultural elements in social order as the elements of thought, intelligence, perception, interpretation, decision making structure the teaching . Some of them settled based in schemes of practice that has built through his personal history as a teacher.

The purpose of the search, will find regularities in thought-representations-structures of meaning that are causing and promoting certain types of practices. In a genetic process those who have less educative results, and educational implications, whit the other that have best implications and educational outcomes process.

Elements for Problem Background

In the case of my research project assumption that there are different ways and reasons through which and by which, teachers approach, to know and use information communication and technologies in education. For teachers, it is likely that age, knowledge, attitudes, familiarity and usability of ICTs for their work, are factors that influence their incorporation in teaching, so that for a digital immigrant does not It is easy, nor is done automatically, while young teachers may be are more familiar, but not necessarily know and use technological devices for the purpose of educating. He said about Prenski

What should we call these “new” students of today? Some refer to them as the N-[for Net]-gen or D-[for digital]-gen. But the most useful designation I have found for them is Digital Natives. Our students today are all “native speakers” of the digital language of computers, video games and the Internet. So what does that make the rest of us? Those of us who were not born into the digital world but have, at some later point in our lives, become fascinated by an adopted many or most aspects of the new technology are, and always will be compared to them, Digital Immigrants. The importance of the distinction is this: As Digital Immigrants learn – like all immigrants, some better than others – to adapt to their environment, they always retain, to some degree, their „accent,” that is, their foot in the past.” (Prenski, 2001, 1-2).

However, despite the use of ICTs just joined in the plans and programs of study in our teacher training institutions, the fact is they have been various proposals for several years to incorporate ICTs into the educational process.

The Information and Communications Technology (ICT) are elements that permeate increasingly in everyday life of people. We can no longer ignore, or pretend to ignore its impact. The school, educational communities and

educational processes must take them as an opportunity and not with indifference or as a threat.

In the future, the teacher must develop skills to exploit them in their educational task. However, the complexity of features that teachers have the fully incorporate ICTs into teaching practice, it will not be an easy or short-term task. It will require a knowledge and appropriate to gradually introduce teachers in the knowledge and use of ICTs in their practice and professional development strategies.

At the present time is presented as necessary to know how teachers are appropriating ICTs and uses for them in their teaching.

The Problem

The reality of the educational process is complex, it's just looks like easy and simple the people say about it from outside. There are an assumptions that me as an educator and trainer of teachers have developed when seeking to explain, understand and comprehend educational phenomena and the role of ICTs in them.

- There is a fundamental difference between what say the official documents (laws, regulations, plans, programs and projects of governments) and how the content or was said in these documents is implemented in classrooms, in the practical, in the everyday actions of teachers, directors and students in classrooms and schools.
- We can think the elements that are introduce rapidly, the changes, innovated or new technological devices or processes for communication and information. But these are incorporated unevenly, by income, by cultural references, training or learning processes by aspects of the personality of the teacher who assumed. The diversity of how teachers are incorporating ICTs is as elements of context and personal environment who want to incorporate into the analysis.
- Is not an association of the educational process from technology, from hardware or software, from platforms and social networks, from the processor type or speed internet, I see from the practices and thoughts of teachers from characteristics of schools, classrooms, students. From the diversity of learning that students seek to achieve. Within the educational processes, technological devices are just a small part of what can be taken in count.
- Speaking this about the students in 5th and 6th grade in basic education, 1st, 2nd and 3rd secondary (basic education) we are thinking of children aged 10-11 years to 15-16 years. With features of the transition from childhood to adolescence. With the experience of change a teacher each hour during the school day, because in elementary school each

teacher for several subjects. With different times, with different modalities.

- Teachers from schools with different characteristics; educational background (normal school, university, technological), years of experience, to the attention of various subjects in primary, attention to one subject in secondary school education. Involved in different experiences with technology or devices (Red Escolar, Enciclomedia, Digital Skills for All, My compumx). Years of experience in teaching work, availability and infrastructure of computers and internet, etc.
- The main assumption is that I consider to educational practice as a series of deliberate and systematic actions through which someone searches transforms for another or others in their state or condition of what they know, can do or want to do, around some contents for learning. ICT will be used as an element that can articulate the practices to create, generate, enabling experiences and processes through which students learn.

In order to propose alternatives to improve training and professional development of teachers through ICTs, should be based on knowledge and use made of them, for which arise the following questions.

Guiding questions:

- What educational use give teachers to ICTs in Jalisco, mainly related to the development of learning experiences for students, identified in the plans and curricula of basic education?
- Is it possible to set different evolutionary stages, or levels that define the process of knowledge and incorporation of ICTs by teachers of basic education Jalisco in their teaching practice?

Questions arising:

- What is the knowledge and mastery which have teachers of elementary schools about ICTs in the Jalisco State?
- What are the attitudes of teachers regarding ICT and use by teachers and students in basic education schools in the State of Jalisco?
- What conceptions have Jalisco teachers in primary and secondary education about the impact and potential uses of ICTs in basic education?
- What knowledge have Jalisco teachers on skills and cognitive processes that occur in basic education students that using ICTs?
- What use the teachers of primary and secondary schools in Jalisco do of ICTs and how much students use them as a learning and finding information?
- What elements must contain an educational proposal for teacher training for the use and incorporation of ICTs in teaching, and for the new teachers to take a work place in basic education?

These questions need to be answered prior to the generation of proposals for development of ICTs in education by teachers. Several authors have pointed out the various myths about virtual education and the use of ICT in education. (Villegas and Restrepo, 2012)

Purposes Research

Main Purpose

- Search whether there is an evolutionary process, stages or levels through which teachers of basic education in Jalisco are incorporated ICTs in their daily practice, meaningful and educational purposes.

Secondary Purposes

To know the level of knowledge and use which teachers of primary and secondary schools in Jalisco on communication and information technologies.

Define the use forms of ICTs by teachers in primary schools of Jalisco.

To know if teachers use ICT in everyday practice performing in elementary schools in Jalisco.

Establish links that teachers in basic education established between ICTs and their teaching in basic education in the State of Jalisco.

Generate a pedagogic proposal for the use of ICT by teachers in primary and secondary education.

Methodology.

Develop a study by a representative sample of teachers in primary schools of the State of Jalisco. There will be select by their experience with their participation in some government programs (Enciclomedia, HDT).

Propose six variables and indicators for the study;

- Age of teachers;
- Time in teaching.
- Courses or knowledge among teachers of ICTs.
- The use that teachers make of ICTs in the classroom.

Teachers-conceptions of their income to the educational process with TICs.

- Use of ICTs by teachers according to (primary and secondary) education.

Context elements to take in account;

- Terms of school around the number of computers that have per pupil, if the teacher has a computer, internet connectivity and airtime for students.

The sample will be random and proportional to the population of teachers for 5o and 6o in elementary and 1o, 2o y 3er grades, according to primary and secondary schools in basic education of Jalisco. They are segmented according to primary and secondary levels. And their participation in programs with TICs.

Is established differences in the type of training in Normal schools at every educative level; source administrative control type (state or federal). According to the embodiment at; for example primary, telesecundaria, secondary general.

A questionnaire, or if necessary, it will be as a basis for an interview will be used. This for make a teacher's selection for the field work. There will be selected for; the participation in SEP programs with ICT (Enciclomedia, Digitals Skills for All, etc.), they knowledge and skills about ICTs, and the use in the teaching with their students.

This questionnaire after the selection for use the observation of teacher's practice in classrooms. For to observe the differences that they have in their think, their ICT skills and their use the teaching practice

The development of the research process will be adjusted if necessary.

So far I don't had found studies addressing the relationship of ICTs, knowledge, use in teacher training and competency development for educational use in everyday practice of teachers in elementary schools.

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CHILDREN AND ADOLESCENTS IN VIRTUAL SPACE: GIRLS' AND BOYS' BEHAVIOUR AND ATTITUDE TO PARENTAL CONTROL

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***Abstract.** The article deals with the problem of children's and adolescents' activity in virtual space and parental control with regard to this activity. The question is raised what children and adolescents are most often doing in virtual space, for what goals they are using it; it is analysed whether there are any principal differences between boys' and girls' activities in virtual space. It is also disclosed how parents control children's and adolescents' online activities, how children perceive this control and what teachers think about this. The article reveals peculiarities of boys' and girls' activity in virtual space, peculiarities of teachers' and children's, adolescents' attitude to parental control with regard to virtual space.*

***Keywords:** adolescents, children, educators, parents, virtual space.*

Introduction

The importance of the computer in the child's and adolescent's life is increasingly growing: it turns into the tool of learning, communication and the means of spending leisure. According to the European survey data, Lithuanian schools are best provided with computer projectors, quite well equipped with computers (approaching the EU average) and interactive whiteboards (close to the EU average) but the number of laptop computers with web access and other devices in Lithuania is significantly lower than the EU average; therefore, this could be taken into account developing the infrastructure¹¹. In Lithuania the generation of children is growing, to whom the computer as the means of self-expression, learning, cognition, communication occupies a very important place. Often their computer literacy is significantly higher than educators' or parents' computer literacy, while activities in virtual environment are more intense and diverse than adults responsible for them believe. The question what children are doing online and how this affects their personality worries everybody: politicians, scientists, educators and, of course, most of all, parents. There are different opinions and scientists (Laurutis at al., 2003; Dagienė, 2003; Brazdeikis, 2003; Markauskaitė & Dagienė, 2001) emphasize advantages of the use of ICT in education and the learning process (it is stated that it contributes to

¹¹“What are the trends of ICT integration in education in the society heading for intelligence?” The Analysis of the Education Problem. 2014, August, No. 5 (110).
http://www.smm.lt/uploads/lawaacts/docs/575_46f3997c7600580297a1e780bc9f3957.pdf

creation of new and enriched diversity of information sources and means of communication, learning environment, which facilitates integration of various subjects, application of active teaching methods, development of children's individual abilities, teaching to work individually and in a group), analyze the impact on the personality because children and young people surfing the Internet encounter information and games containing unwanted content.

The study conducted by Masiliauskienė (2009) demonstrates that parents treat the computer as the tool for learning, providing comprehensive development opportunities, and tend to deny its importance for children's leisure activities because they do not associate computer aided activity with meaningful leisure. Besides, parents first of all think about consequences of misuse of the computer and only later about causes. They believe that bans are not the most effective way to avoid children's computer addiction and that it is possible to prevent excessive computer use through arousing interest in alternative activities and teaching safe behaviour.

Giles & Price (2008) studied the Australian adolescents' (12–19 years old) computer usage habits and parental control peculiarities. The study disclosed that adolescents' greater perceptions of maternal control were associated with greater problematic effects from computer use. On one hand, mothers are more available to monitor computer use behaviour, on the other hand, the subjective sense of strong control may force adolescents to resist, leading to undesirable behaviour as an expression of protest. Yu et al. (2012), studying pupils' home-based computer use habits, identified the following factors related to children's computer use habits: parental ICT skills, parental monitoring, parental control, parental guidance and parental worries. It was identified that if parents' computer literacy was low or they used the Internet little, individuals outside the immediate family acted as experts and authorities to their children. Parents are particularly concerned about the use of the computer for educational purposes; however, only when parents' computer literacy is sufficient, they tend to monitor children's computer use and to provide assistance while learning. Besides, studies show that those parents whose relationships with children are closer better control children's time at the computer and children spend more time at the computer learning than in those families where the relationships are not that close. The fact that closeness of family relationships has implications for safe behaviour on the Internet is also confirmed in studies conducted by Przybyła-Basista & Kołodziej (2014). Parents whose computer literacy is higher better perceive dangers of the Internet and herewith spend more time with their children surfing the Internet, discuss various aspects of safe browsing, which makes them feel more capable to protect children from Internet hazards (Vitalaki et al., 2012).

Li et al. (2013) identified that strict parental control over adolescents can lead to a wish to protest; therefore, parents should draw adequate and understandable limitations, monitor and control, considering emotional

background. The study conducted by Przybyła-Basista & Kołodziej (2014), analysing how parents monitor and control behaviour of their children and adolescents (9-10 years old and 11-13 years old), revealed that parents controlling younger children expressed more emotional support and understanding.

The above-mentioned problems have prompted to conduct a study, the **aim** of which is to disclose peculiarities of children's, adolescents' and young people's use of virtual space and their attitude to parental control.

The research aim is concretised by the following problem **questions**:

What is typical children's, adolescents' and young people's behaviour on the Internet and what are the peculiarities of such behaviour with regard to gender?

How do children assess parents' monitoring and control?

What is educators' attitude to parental monitoring and control, to what extent does it coincide with students' standpoint?

Quantitative method– questionnaire survey – was applied in order to disclose peculiarities of children's, adolescents' and young people's use of virtual space and their attitude to parental control.

The questionnaire both for pupils and teachers consisted only of closed-ended questions. Each question consisted of the list of statements which respondents could rate using the 5-point rating scale: 5 points - definitely yes, 4 points - yes, 3 points – perhaps, 2 points - no, 1 point – definitely no. The questionnaires both for teachers and pupils consisted of 4 parts: one part was intended for statements defining various online actions. Another part was intended for identification of actions performed on the Internet and goals. The third part was devoted to statements defining parental control. In the fourth part respondents were asked to provide some information about themselves: age, gender, possession of the personal computer, to identify places in which they typically used the computer and the Internet connection.

Statistical data analysis of the quantitative research was carried out via computerized statistical data processing program (SPSS 19.0); descriptive statistics was applied, as well as, multidimensional statistical methods: factor analysis (method of analysis of principal components, Cronbach α coefficient was computed, VARIMAX rotation with Kaiser normalization, when applying factor weight L; calculation of empirical indicators' frequencies (averages, percentage, standard deflections), and Pearson correlation analysis. Also was used student's t-test for testing tendency about the mean of parent's control from teachers' and pupils' point of view. To implement this aim the questionnaire survey method was chosen (respondents were offered to fill in the electronic or printed version of the questionnaire).

The questionnaire survey was attended by 189 children, adolescents and young people (69 boys and 114 girls), who were 10-20 years of age from different places of Lithuania and who studied in comprehensive schools, were

educated at socialization centres or lived in children's care homes. 123 teachers and other participants of the educational process were also interviewed. During the survey teachers worked in different types of institutions: special schools (35%), gymnasiums (21.1%), basic schools (19.5%), secondary schools (8.9%)¹², and other institutions. The vast majority of educators were women (88.6% of the respondents to this question), the average age was 42 years. In many cases respondents were both educators and parents (74.8% indicated that they had one or more children), and therefore, it is likely that they answered the given questions about children's hobbies and habits related to the use of information computer technologies not only as educators but also as parents who had their experience and attitudes.

Pupils' survey results

Respondents were asked whether they had their own computer. Out of 184 children, adolescents and young people who answered this question 55 boys and 74 girls have their own computer. This makes up 70.11% of respondents who answered this question. 15 boys and 40 girls do not have their own computer. This represents 29.89% of respondents who answered this question. The vast majority of educators have the computer at home: one (48%) or two and more (44.7%). 4.9% did not respond to this question; it is likely that they do not have the computer at home. Despite the fact that the majority of teachers have the computer at home, even 35% reported that most often they used it at work.

Survey participants were asked whether and where they most commonly used the Internet. It was found that almost all respondents used the Internet (even 96.8%) but in different places. The vast majority of pupils surveyed (95.2% of pupils) have the Internet at home. One fourth (25.9%) of them use the Internet at school, a small share, at the day centre (2.1%), others, in another public space (5.8%).

It was aimed to identify what boys and girls were usually doing on the Internet and whether there was a statistically significant difference between boys' and girls' typically performed actions on the Internet. The factor analysis method (KMO = 0.762) enabled the extraction of 7 groups of typical actions online: *attract peers' attention by humour* (0,863 ≥ L ≥ 0,773); *take interest in science news* (0,853 ≥ L ≥ 0,677); *cherish/meet the sexual need* (0,799 ≥ L ≥ 0,682); *develop acquaintances* (0,780 ≥ L ≥ 0,734); *capture and distribute visual images* (0,731 ≥ L ≥ 0,716); *express their view* (0,677 ≥ L ≥ 0,676); *bully others / are bullied* (0,644 ≥ L ≥ 0,615). All of these groups representing typical actions online explain 62.5% of the total dispersion of typical actions that children, adolescents and young people perform online. The most important groups of inherent actions, explaining 22.5% of the total number of actions online are: *cherish/meet the*

¹²Note: the sum of percentages exceeds 100 because educators work in more than one institution; therefore, they could choose several types of institutions.

sexual need and capture and distribute visual images. Distinguished groups of typical actions online were analyzed applying the *Student's* criterion by gender for independent samples.

The analysis of typical actions performed online by gender is presented in Figure 1:

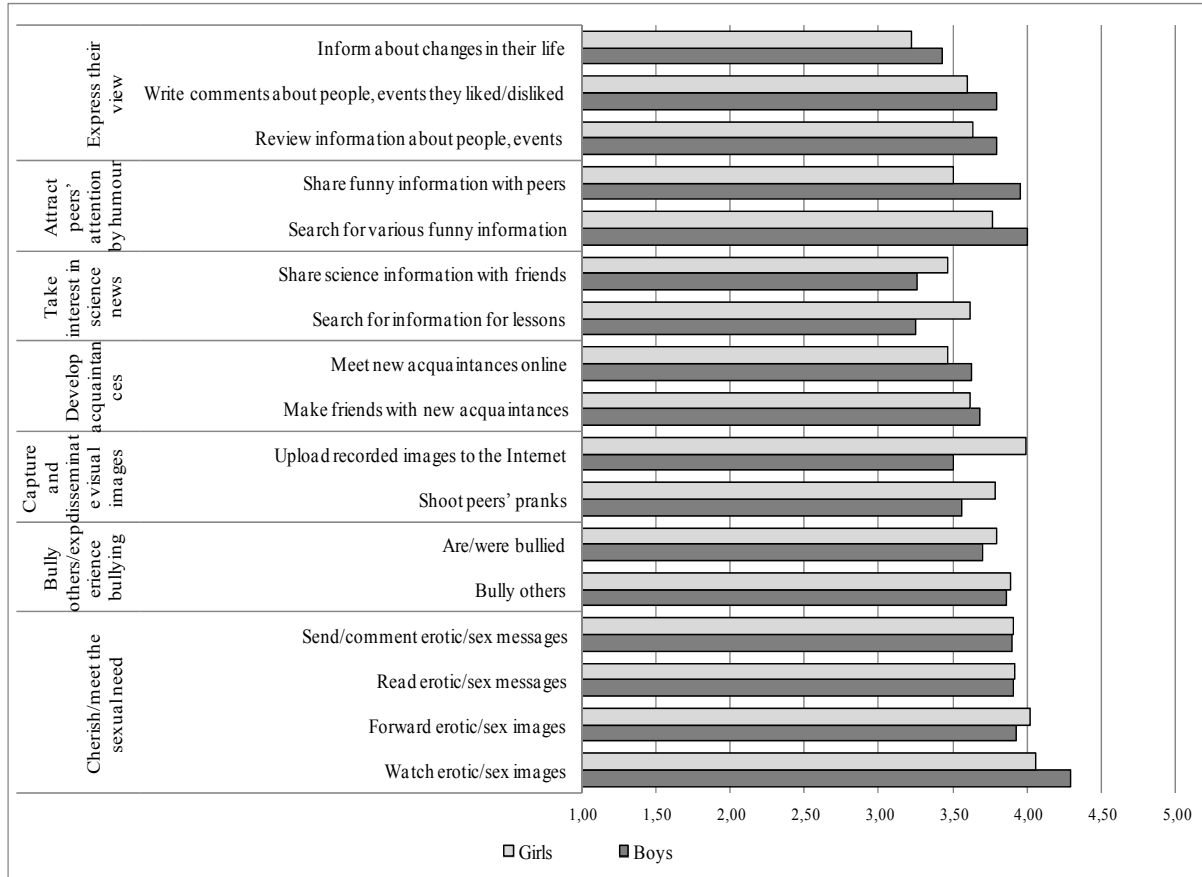


Figure. 1. Typical actions performed online by gender and action groups, M

The graph in Fig. 1 demonstrates only slight differences between typical actions performed by boys and girls on the Internet. The T-test for independent samples disclosed that the most significant differences between the means of boys' and girls' estimates were observed only with regard to attributes *upload recorded images to the Internet* and *review their friends' messages, information*. Girls (M = 3.99, SD = 1.013) significantly more often than boys (M = 3.50, SD = 1.530) *upload recorded images to the Internet* and *review their friends' messages, information* (M = 4.14, SD = 1.690). The *Student's* criterion disclosed that there was a statistically significant difference between boys and girls only with regard to one action – *upload recorded images to the Internet* (p = 0.019). The factor analysis did not disclose any other statistically significant differences between boys and girls with regard to typical actions on the Internet.

It was sought to identify how boys and girls understood goals for which they used virtual space. The factor analysis (KMO = 0.657) enabled the

extraction of the three types of such goals: virtual space is used for *video and audio material* ($0,842 \geq L \geq 0,617$), *search for the news about events and people* ($L = 0.796$) and *computer games for money* ($L = 0.925$). These factors reveal the exact size of 57.16% of the total use of web space.

Graphic comparison of the means of virtual space usage between boys and girls is presented in Figure 2.

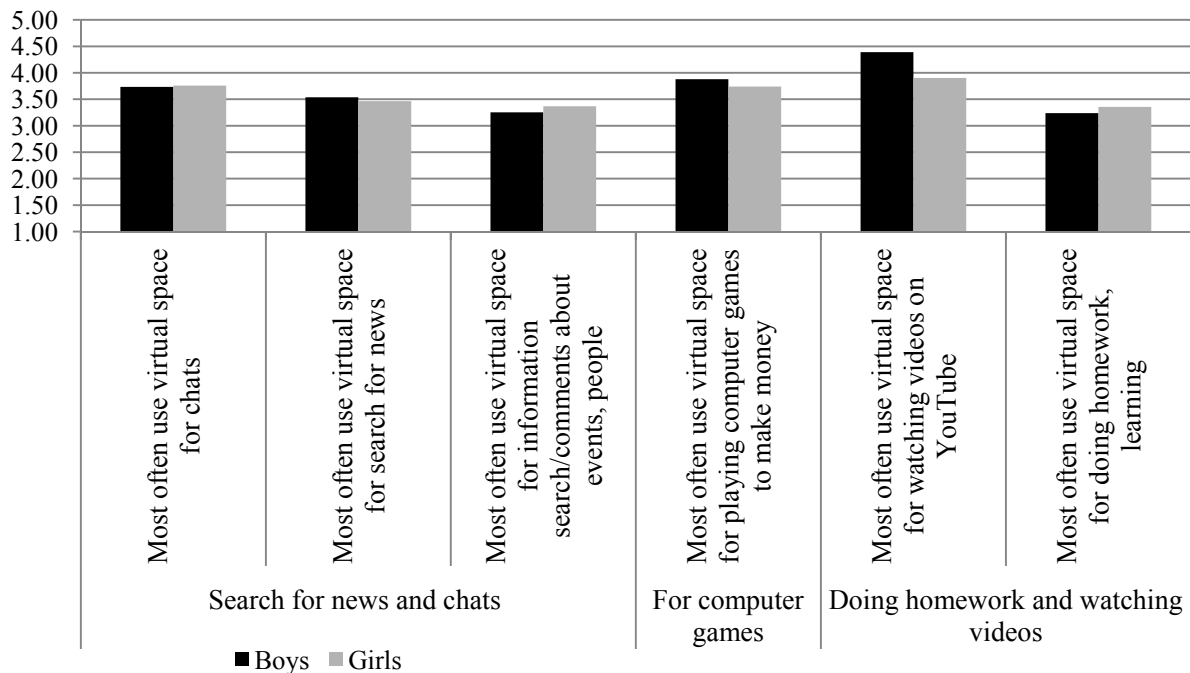


Figure. 2. The use of virtual space by gender, M

The graph in Figure 2 discloses that boys ($M = 3.88$; $SD = 1,605$) more often use virtual space than girls ($M = 3.74$; $SD = 1.126$) to view videos on YouTube. The *Student's* criterion was used to check whether this difference was statistically significant. The comparison of the means of boys' and girls' responses disclosed that there was no statistically significant difference rating the statement *virtual space is mainly used for watching videos on You Tube* ($p = 0.075$, when the level of significance $p < 0.05$), although graph columns show that boys ($M = 4.39$, $SD = 1.817$) admit that they are doing this much more often than girls ($M = 3.90$, $SD = 1.770$).

The questionnaire survey was used to assess whether respondents felt parental control with regard to their online activities and if they felt, what peculiarities were inherent to this control. The factor analysis ($KMO = 0.871$) enabled to distinguish two types of pupils' opinions with regard to parental control. Pupils tend to assess parental control with regard to their online activities neutrally, as parental monitoring ($0,682 \geq L \geq 0,613$). Such type of students' approach encompasses 26.58% of the surveyed population. Much less often pupils perceive parental control with regard to their online activities as

strict and assertive ($0,830 \geq L \geq 0,672$). This type of pupils' approach is limited to only 19.82% of the respondents' population.

Two groups of factors, obtained during the factor analysis, were tested by the *Student's* criterion for independent (boys' and girls') samples. Results of this analysis enabled to compare how boys and girls perceived parental control with regard to their online activities. Comparison data are presented in Figure 3:

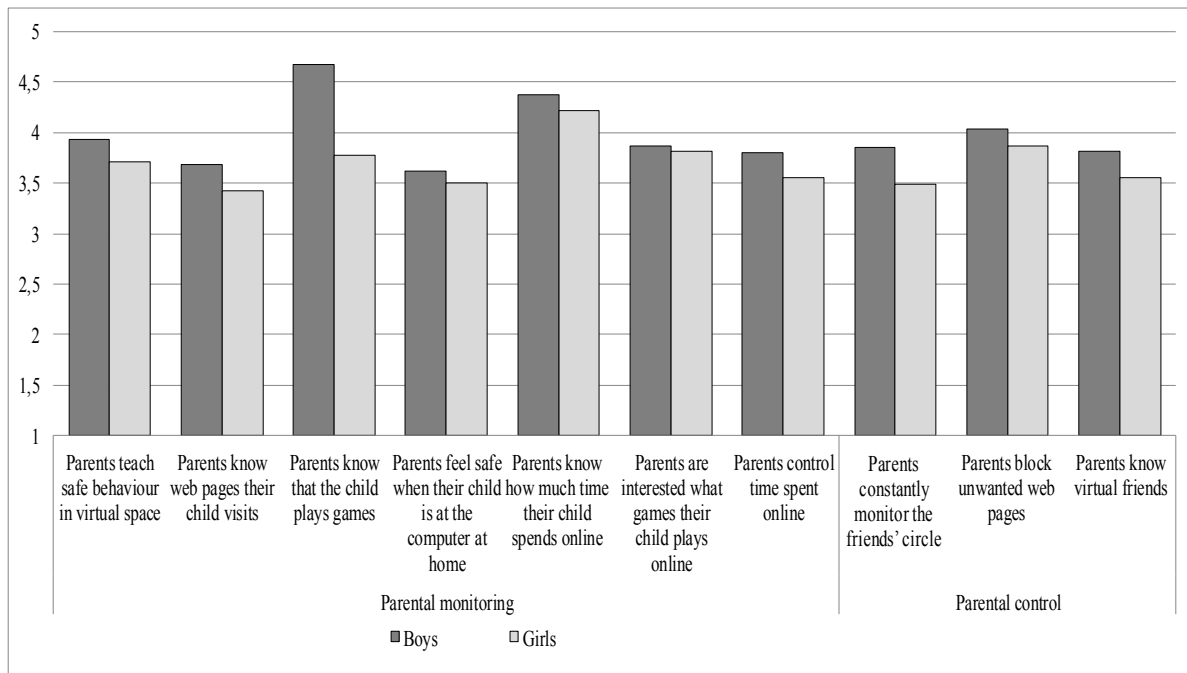


Figure. 3. Pupils' attitude to parental control with regard to the use of the computer and virtual space, M

Answering questionnaire questions, boys were more inclined than girls to rate each statement about parental control giving higher estimate (see Fig. 3): it is likely that girls are just more obedient and take monitoring and control for granted.

The analysis of statements about parental monitoring and parental control factors by gender, applying the T-test for independent samples, disclosed statistically significant difference between boys' and girls' samples only with regard to one statement *parents know that the child plays computer games* ($p=0,001$, when the significance level $p<0,05$).

Educators' and pupils' survey results

Educators' and pupils' attitudes towards parental control with regard to the use of the computer and virtual space were compared. The comparative analysis revealed that both pupils and teachers felt and knew that parents controlled pupils' activities on the Internet to a greater or lesser extent. Detailed data of the comparative analysis are presented in Figure 4.

Both teachers and pupils claim that parents know that their children play computer games. The number of teachers sharing this view ($M = 4.04$; $SD = 1.33$) is less than the number of pupils ($M = 4.48$, $S = 1.69$). SD witnesses that a share of children conceal that they play games from their parents and think that their parents do not know about that. Pupils are confident ($M = 4.97$; $SD = 1.27$) that parents know how much time they spend online, while educators believe that parents are poorly informed about that ($M = 3.57$; $SD = 1.18$). Both pupils and teachers know that children spend part of the time online. However, both the former and the latter believe that parents are little aware of what web pages children visit ($M_{(teacher)}=3,23$; $SD_{(teacher)}=1,12$; $M_{(pupil)}=3,62$; $SD_{(pupil)}=1,72$). High SD shows that some children are very strictly controlled in this aspect, while others are not controlled at all. The fact that parents do not quite know what sites their children visit leads to the fact that undesirable web pages are rarely blocked ($M_{(teacher)}= 2.85$; $SD_{(teacher)}= 1.26$; $M_{(pupil)}= 2.12$; $SD_{(pupil)} = 1.53$). Both children ($M = 4.19$; $SD = 1.57$) and educators ($M = 4.67$; $SD = 1.05$) believe that parents feel quite safe when the child is sitting at the computer at home. In the opinion of both groups of respondents parents are least inclined to follow and monitor the circle of the child's friends ($M_{(teacher)}= 3.14$; $SD_{(teacher)}= 1.16$; $M_{(pupil)} = 2.77$; $SD_{(pupil)}= 1.63$)

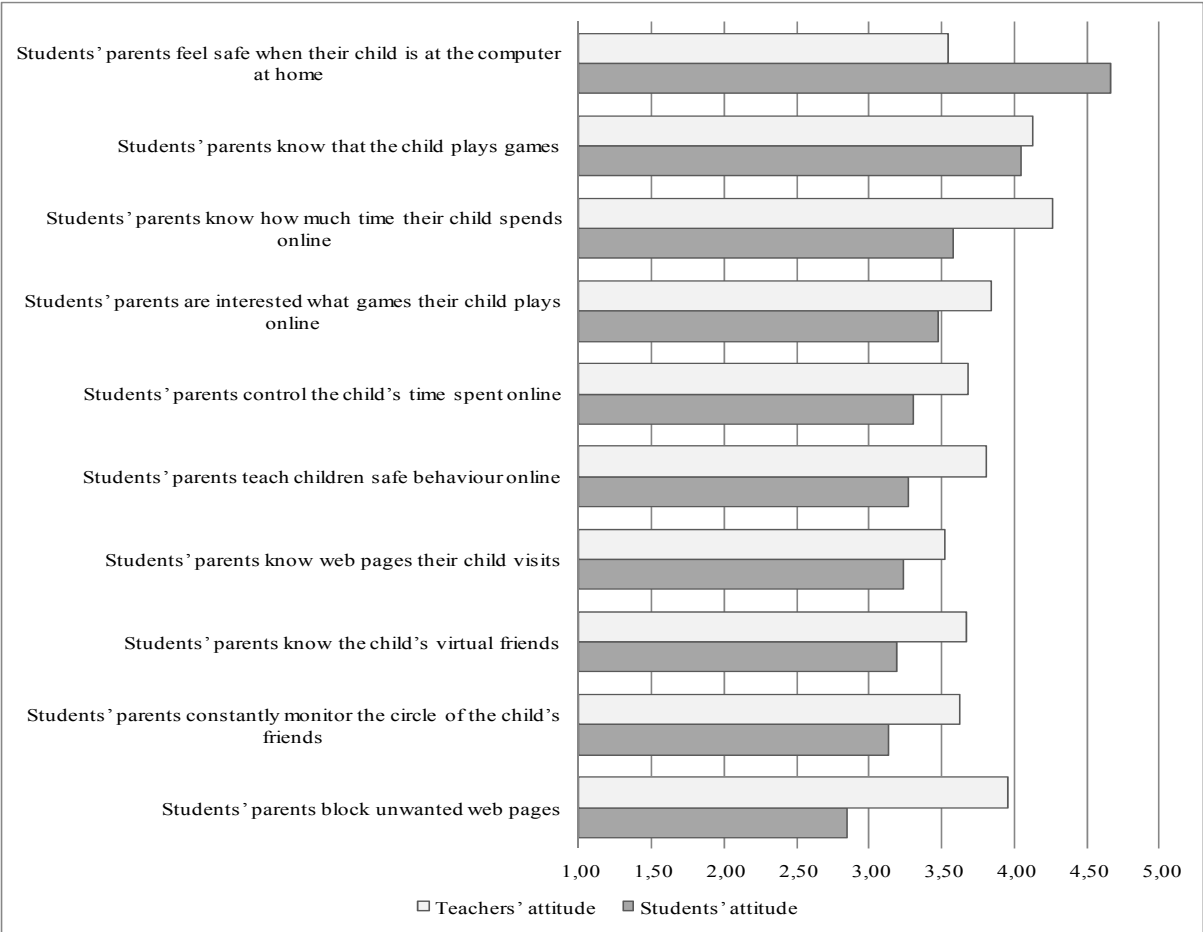


Fig. 4. Teachers' and pupils' approach to parental control, M

The comparison of teachers' and pupils' survey results (see Fig. 4) using the T-test for independent samples resulted in statistically significant difference between teachers' and pupils' attitude with regard to statements defining control of the majority of parents (see Table 1).

Table 1. Differences of teachers' and pupils' approach to parental control

Statements defining parental control	M		SD		t	df	p<0,05
	Teachers	Pupils	Teachers	Pupils			
Students' parents know how much time the child spends on the Internet	3,5726	4,9719	1,18406	1,27306	-9,492	293	,000
Pupils' parents block unwanted web pages	2,8522	2,1243	1,25826	1,52864	4,254	290	,000
Pupils' parents feel safe when the child is at the computer at home	4,6667	4,1932	1,05045	1,57377	3,088	290,992	,002
Pupils' parents know that the child plays games	4,0431	4,4830	1,32791	1,69360	-2,478	281,295	,014
Pupils' parents know web pages visited by the child	3,2308	3,6158	1,12483	1,71536	-2,325	291,988	,021
Pupils' parents constantly monitor the circle of the child's friends	3,1379	2,7740	1,15643	1,63234	2,232	289,206	,026

Although the means of teachers' and pupils' estimates reveal the same tendency of approval or disapproval of statements defining parental control, there are statistically significant differences between teachers' and pupils' attitudes with regard to the majority of statements. The majority of pupils ($M = 4.97$; $SD = 1.27$) tend to strongly acknowledge that *parents know how much time their child spends online*, but teachers tend to strongly doubt it ($p = 0.000$). Pupils also admit that *parents know that the child plays games* ($M = 4.48$; $SD = 1.69$) or *know what websites the child visits* ($M = 3.62$; $SD = 1.72$), but teachers are significantly less confident of such parents' awareness ($M = 4.04$; $SD = 1.33$ and $M = 3.23$; $SD = 1.12$; $p = 0.014$ and $p = 0.021$).

Teachers tend to approve of statements defining stricter parental control; for example, *parents block unwanted websites* ($M = 2.8522$; $SD = 1.26$) or *parents constantly monitor the circle of the child's friends* ($M = 3.14$; $SD = 1.16$), but pupils assess that parental control much more sceptically ($M = 2.12$; $SD = 1.53$; $p = 0.000$ and $M = 2.77$; $SD = 1.63$; $p = 0.026$).

Generalisations and Conclusions

The vast majority of respondents – more than two thirds of pupils and almost all educators – have the personal computer. Less than one tenth of respondents did not answer this question. However, the computer plays a

completely different role in pupils' and educators' life. While students try to use it as often as possible both at home and at school, for entertainment and learning, a considerable share of teachers use the computer only for work purposes because although they have it at home, they still use only at work.

Groups of pupils' typical online actions are: *attract peers' attention by humour; take interest in science news; cherish/meet the sexual need; develop acquaintances; capture and distribute visual images; express their views; bully others/are bullied*. The key groups of typical actions are: *cherish/meet the sexual need* and *capture and distribute images*. Statistically significant difference between boys and girls with regard to typical actions performed on the Internet was found only with regard to the action *upload shot images on the Internet*: girls perform this action considerably more often than boys. The study supports the opinion that the Internet is a dangerous place for pupils: entertaining themselves, they often encounter information containing dangerous content, make new contacts there.

Boys and girls perceive why they surf the Net. The factor analysis enabled to distinguish three reasons for surfing the Internet: for *video and audio material, search for the news about events and people* and *computer games for money*. Statistically significant differences between boys and girls with regard to goals of using virtual space have not been identified.

The factor analysis enabled to identify two types of parental control with regard to the use of the computer and virtual space: *parental monitoring* and *parental control*. Statistically significant difference between boys' and girls' samples was identified only with regard to one statement *parents know that the child plays computer games*. The tendency can be envisaged that *girls subjectively feel parental control more than boys*. Among other things, survey results suggest that in families virtual space hazards are perceived differently and parents' activeness monitoring and controlling children differs considerably: some pupils are quite heavily controlled, others, not.

Statistically significant differences between pupils' and teachers' attitudes towards parental control with regard to the use of the computer and virtual space came to prominence: children maintain that parents control and monitor them. Such approach is more inherent to boys than to girls, while educators believe that parents are quite careless with regard to children's use of the computer and virtual space. Both teachers and pupils maintain that parents feel quite safe when their children spend their time at the computer but teachers are more confident about that than pupils. Although pupils' opinions about parents' awareness of their surfed web pages differ, in both pupils' and educators' opinions, parents little know what web pages their children visit, they insufficiently monitor their friends' circle.

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УСЛУГИ ПО ВНЕДРЕНИЮ ОБЛАЧНЫХ ТЕХНОЛОГИЙ ДЛЯ СФЕРЫ ОБУЧЕНИЯ

Services for Implementation of Cloud Technologies for Education

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Abstract. *In this paper, we analyzed the cloud computing technologies presenting overview of cloud computing models and possibilities of virtual infrastructure desktops and their benefits. We studied reduction of costs and savings of virtual desktops. Virtual desktops in Kaunas University of Technology we presented at the end.*

Keywords: *cloud computing services, educational process, virtualization.*

Введение *Introduction*

Актуальность темы. В настоящее время все больше внимания уделяется интеграции информационных технологий в процессе обучения. В современной окружающей среде, насыщенной технологиями, современные высшие учебные заведения (ВУЗы) становятся зависимыми от информационных технологий (ИТ).

Особенность ВУЗов с точки зрения ИТ можно охарактеризовать следующим образом (Cisco, 2012):

- Разнородность парка ПК;
- Временное использование ПК и отсутствие персонализации;
- Значительное количество разнообразных пользовательских приложений;
- Большое число пользователей;
- Небольшое количество серверов, выполняющих задачи поддержки инфраструктуры.

Учебные заведения прилагают усилия, чтобы найти лучшие технологии для создания более эффективного обучения. Авторы Браздейкис (Brazdeikis, 2010), Мисевичиене, (Miseviciene et al., 2011), Будникас (Budnikas, 2010) в своих работах анализируют новые ИТ, которые могут быть использованы в учебном процессе.

Основной вопрос в том какие существуют в настоящее время новейшие информационные технологии, которые являются эффективными и дешевле позволяют обеспечить ВУЗы информацией.

Решая эти задачи, университеты все чаще обращаются к облачным технологиям (англ. “Cloud computing“), как к эффективной, безопасной альтернативе более традиционным моделям оказания ИТ-услуг. Это перспективный способ предоставления услуг для пользователей информационных технологий, разделяющий пользователей от обеспечивающих самими информационными технологиями (Al-Zoube, 2009; Kim, 2009; Sclater, 2010; Schools, 2010; Sourya, 2011; Tuncay, 2010; Miseviciene et al., 2011; Christauskas& Miseviciene, 2012).

Отделы ИТ высших учебных заведений рассматривая возможности миграции в облако, обычно задают следующие вопросы (Cisco, 2012):

- Есть ли смысл в применении облачных технологий в ВУЗе?
- Как оценить преимущества облачных технологий и убедиться в возможности возврата инвестиций?
- Можно ли изменить стратегию внедрения облачных технологий таким образом, чтобы получить максимальную выгоду и обеспечить постоянное снижение затрат?

Цель данной статьи. Проанализировать новые информационные технологии, которые могут быть использованы в процессе обучения и оценить затраты и пользу.

Объект и методика исследования. Объектом исследования является оценка преимущества облачных технологий и внедрения на ВУЗ-е. Основными методами, используемыми в данном научном исследовании, являются монографический метод и метод логического анализа. По литературным источникам авторы проанализировали новые ИТ, которые могли быть использованы в учебном процессе и оценили затраты.

В первой части обсуждаются преимущества облачных технологий. Во второй части рассматриваются возможности развертывания компьютерной архитектуры, сделан обзор виртуальной инфраструктуры рабочих мест и их преимущества. Далее анализируется потребность виртуальных рабочих мест, оцениваются затраты и польза. В конце описано внедрение виртуальных рабочих мест в Каунасском Технологическом Университете.

Услуги облачных вычислений *Cloud computing services*

В настоящее время внимание специалистов по информационным технологиям сосредоточены на новых возможностях использования компьютеров – облачных вычислений (англ. “Cloud computing“). Понятие облачных вычислений применяется для обозначения абстрагированных от физической инфраструктуры ИТ-ресурсов, доступ к которым предоставляется по запросу (Cisco, 2012).

В 2011 году проведенное исследование американской компанией CDW-G показало, что только 5 % ВУЗ ИТ-отделов не рассматривают переход к облачным технологиям (Cisco, 2012)

Облачные вычисления действует по следующему принципу – ВУЗы не инвестируют свои финансовые ресурсы в инфраструктуру информационных технологий, а только специализированным предприятиям оплачивает за предоставленные услуги, которыми пользуется в данное время. Это новая модель предоставления услуг ИТ, которая дает возможность отказаться инвестиций в свою инфраструктуру ИТ. Вместо этого необходимые ресурсы можно приобрести как услуги от специализированных предприятий. Это означает, что ВУЗ-м больше не нужно приобретать оборудование или программное обеспечение, а также заботиться об обеспечении непрерывной доступности информации и так далее. Плата за использование услуги рассчитывается за определенный период времени, поэтому расходы не только более удобно управлять, но и есть возможность их эффективно снижать.

Основные формы облачных вычислений является: «платформа как сервис» (англ. Platform as a Service, сокращённо PaaS), «инфраструктура как сервис» (англ. Infrastructure as a Service, сокращённо IaaS), «программное обеспечение как сервис» (англ. Software as a Service, сокращённо SaaS). Кроме выше перечисленных в рамках концепции облачных вычислений распространены также понятия: «компьютер (виртуальный рабочий стол) как сервис» (Desktop as a Service, сокращённо DaaS), «данные как сервис» (англ. «Data as a service»), рабочее окружение как сервис (англ. Workspace as a Service, сокращённо WaaS), «все как сервис» (англ. «Everything as a service») и др.

Платформа как сервис. Это модель компьютерного облачного вычисления, которая позволяет потребителю использовать операционные системы и связанные с ними услуги через Интернет. Платформа как услуга облегчает внедрение программ приложения, так как нету затрат по внедрению и управлению технического и программного обеспечения. Как правило, пользователи платят за необходимые ресурсы.

Инфраструктура как сервис. Позволяет пользователям получать доступ к хранимым серверным данным, и ресурсам, а также сетевому оборудованию по мере необходимости. Это означает, что услуга предоставляет инфраструктуру ИТ, в основном как платформа виртуализации среды. Вместо того чтобы покупать серверы, программное обеспечение, пространства центра обработки данных и сетевого оборудования, пользователь может арендовать эти ресурсы от поставщика.

Программное обеспечение как сервис. Пользователь может получить доступ к Интернету с помощью специального программного обеспечения (например, электронную почту; управление взаимоотношениями с клиентами, англ. CRM; планирование ресурсов

предприятия, англ. ERP и т.д.). Пользователю не надо иметь никаких инвестиций в человеческие ресурсы и инфраструктуру, необходимых для установки и управления. Наиболее распространенная форма оплаты — это лицензии. Примеры: Google Apps, Salesforce CRM.

Виртуальный рабочий стол как сервис (Desktop as a Service, сокращённо DaaS) – предоставление виртуального компьютера, когда каждый пользователь может индивидуально настраивать под свои задачи. Пользователь, приходя на работу просто вводит свои данные (логин и пароль) и может работать, используя при этом благодаря технологиям виртуализации.

Инфраструктура виртуальных рабочих столов (англ. Virtual Desktop Infrastructure, сокращённо VDI). Инфраструктура виртуальных рабочих столов (ИВРС) является реализацией «сервиса виртуального рабочего стола»). ИВРС – характеризуется как работа с компьютером, когда вычисления и хранения ресурсов данных выносятся в центр данных, оставляя для пользователя только доставку, прием, отображение необходимых устройств (монитор, клавиатура, мышь) (Chappell, 2008, VDI, 2013). С помощью виртуализации рабочей среды пользователя (операционная система, приложения, данные), отделяются от аппаратных средств, облегчая администрирование компьютеризированных рабочих мест (КРМ), удовлетворяя потребностью в мобильности пользователей, экономя операционные расходы.

С пользовательской стороны, КРМ выглядит как обычное рабочее место с дополнительной функциональностью. Включив компьютер и вводя свои данные, пользователь автоматически подключается к своему виртуальному рабочему месту, которое ничем не отличается от его обычной среды. Пользователь, для входа в виртуальную среду может использовать рабочий компьютер, смартфон, домашний компьютер, планшетный компьютер.

Система соединяет пользователя с только для него предназначенной, виртуальной рабочей средой, и подключение производится через внутреннюю сеть или интернет. Подключившись к интерфейсу виртуального рабочего стола (ИВРС), пользователь входит в систему нормальной операционной среды (операционная система, приложения, данные). Пользователь может использовать сетевые принтеры, сканеры и другое оборудование.

Преимущества ИВРС:

- 1) Снижение затрат: дает возможность уменьшения операционных затрат, уменьшается цена пристра системы, потребители могут использовать то же самое приложение и лицензии.
- 2) Превенция потери данных: данные пользователя хранятся в центре обработки данных, защищая их от потери, при выходе из строя жесткого диска ПК, потери ноутбуков.

- 3) Доступность виртуального рабочего места: рабочее место можно достичь в любое время и отовсюду, используя различные настольные компьютеры, ноутбуки, смартфоны или планшетные компьютеры.

Анализ эффективности затрат виртуальных рабочих мест *Cost-effectiveness analysis of virtual workplace*

Авторы выполнили исследования в соответствии с описанием методологии (VDI, 2013), сколько стоит внедрение учетных программ в учебный процесс на стандартном компьютере или используя услуги инфраструктуры виртуальных рабочих мест.

В исследовании были оценены следующие компоненты:

1. Количество ПК.
2. Процентное отношение портативных и настольных ПК.
3. Годовое изменение ПК.
4. Цена с монитором (настольный ПК).
5. Цена портативного ПК.
6. Стоимость лицензии для Windows.
7. Стоимость лицензии для учетных программ бухгалтерии.
8. Электронная почта (на одно рабочее место в месяц).
9. ПК в аренду?
10. Учитывать, инвестиционные затраты денег?
11. ПК, управляемые администратором ИТ.
12. Количество администраторов ИТ.
13. Зарплата администратор -ИТ,
14. ПК хозяйство управляется ИТ-компанией.
15. Стоимость обслуживания одно места.
16. ОС (операционная система) ПК цикл преобразования (в годах)
17. ВИРС стоимость аренды лит/ в месяц

Исследования были проведены рассчитывая внедрения программ учета: бесплатной программы, STEKASplius и Dynamis Navision на 1, 5, 10, и 100 компьютеров. Расходы были рассчитаны за 5 лет.

Сбережения затрат и сравнение стоимости традиционных ПК и ВИРС рассчитывались по следующей формуле:

$$TCO = CAPEX + OPEX + \text{косвенные расходы}$$

Здесь TCO – совокупная стоимость. Это сумма всех прямых и косвенных затрат. Прямые расходы включают в себя все строки бухгалтерских счетов отражающие инвестиции (CAPEX) и операционные расходы (OPEX). Инвестиционные затраты, используются как приобретения устройства и программного обеспечения, операционные затраты - найма ИТ-администратора или хостинга (аутсорсинга) компании,

предоставляющих услуги, электричество, системы безопасности, восстановления данных с поврежденных носителей информации.

Важной составляющей стоимости, которую редко можно увидеть в бухгалтерских таблицах это косвенные расходы. Они связаны с простоями сотрудников из - за поломки компьютера, потери данных, задержки на рабочем месте при запросах аварийных служб.

Расходы составляют: обеспечение рабочего стола, электроэнергия, лицензии, расходы с учетом управления хозяйством и безопасность.

Сбережение расходов при эксплуатации 1, 5, 10 и 100 персональных компьютеров за 5 лет, когда используется бесплатная бухгалтерская программа, показывает диаграмма (Рис. 1). На диаграмме четко видно, что чем больше будем использовать компьютеров с бесплатной программой, тем больше средств сэкономим (1 € = 3.45 лит. Исследование было проведено в 2014 году. Евро был введен в Литве в 2015 году).

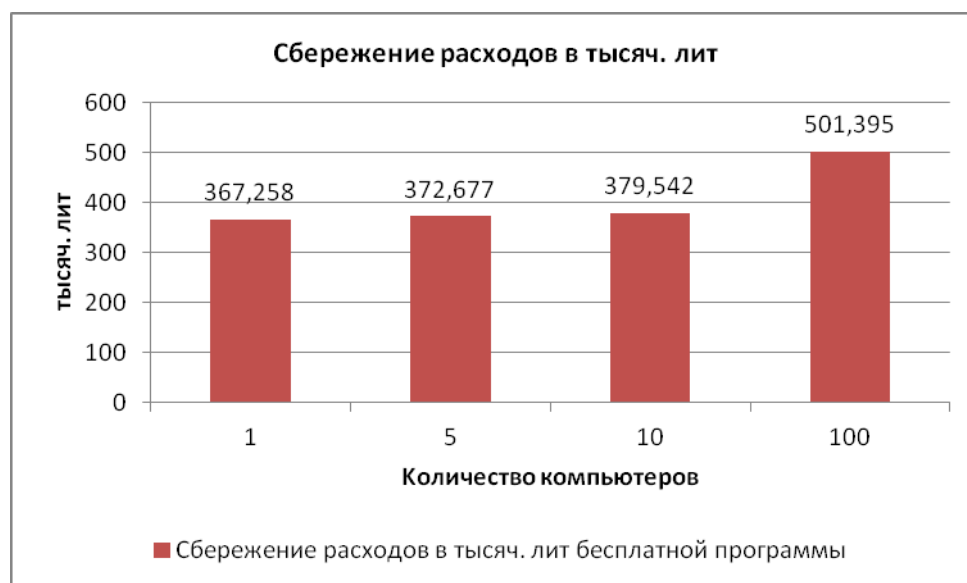


Рис. 1. Диаграмма сбережения в случае бесплатной программы
Fig. 1. Chart of savings in the case of free software

Результаты изменения затрат в случае, когда внедрена платная программа “STEKASplus”, цена которой составляет 2150 лит представлены на Рис. 2.

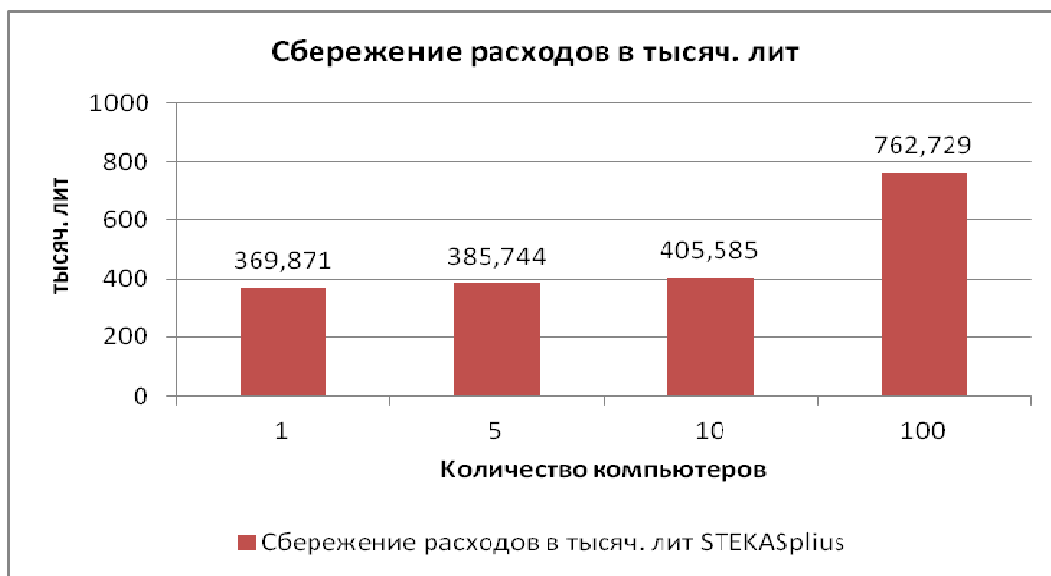


Рис. 2. Сбережения используя STEKASplus
Fig. 2. Chart of savings in the case of free software STEKASplus

Исследование по сравнению стоимости, использования программа „Dynamic Navision”, при стоимости лицензии 10000 лит и больше за 5 лет. Проводились, рассматривая различные варианты, изменяя число ПК от 1, 5, 10 и 100. Результаты представлены на Рис. 3.

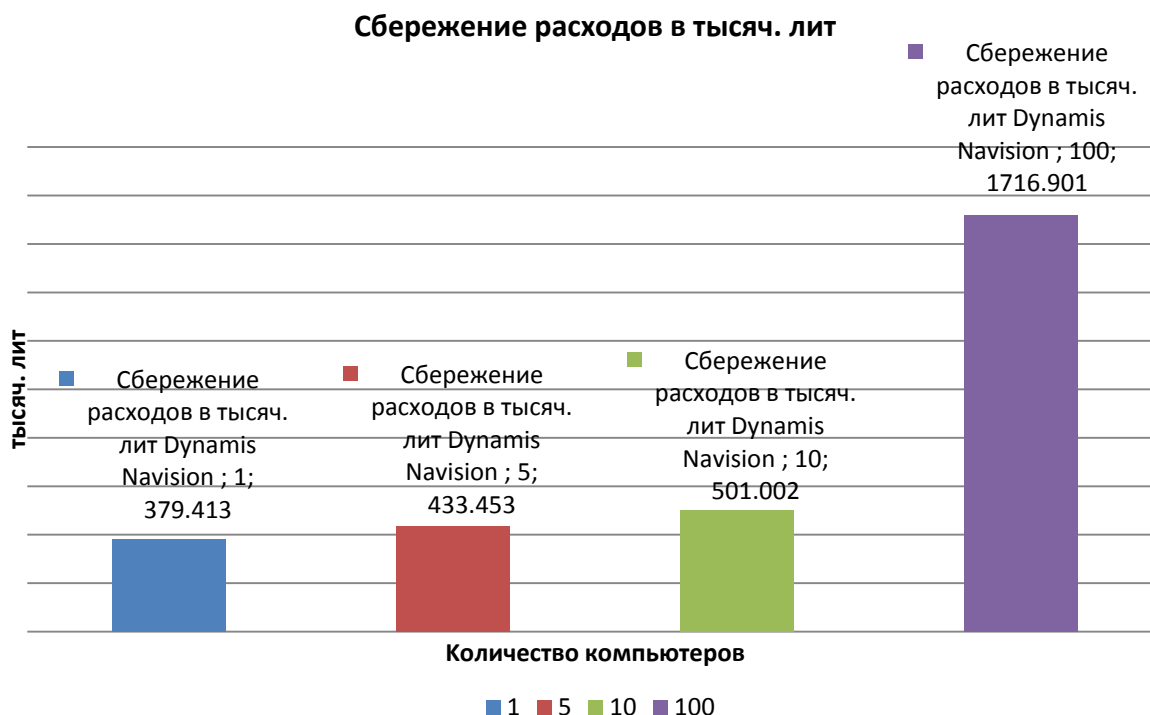


Рис. 3. Сбережения используя программу Dynamis Navision
Fig. 3. Chart of savings in the case of free software Dynamis Navision

В заключении представлены результаты сбережения для бесплатной программы STEKASplus и Dynamic Navision (Рис. 4).

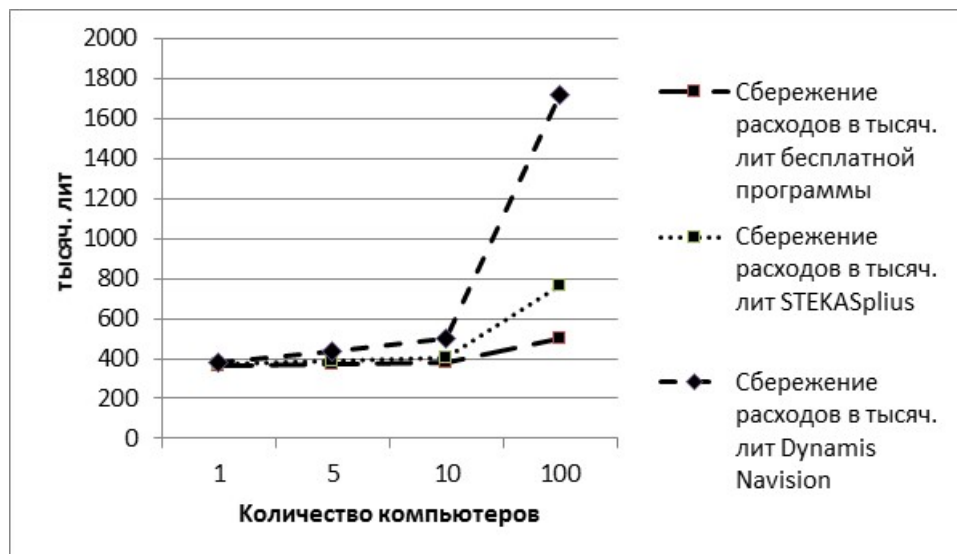


Рис. 4. Обобщенные результаты
Fig. 4. Aggregated results

Результаты исследования и их обобщения. Просуммировав все расходы, проведено сравнение использования бесплатной программы, с программами STEKASplus и Dynamic Navision. Наибольшее сбережение средств видно при использовании дорогой программы Dynamic Navision. Однако используя бесплатную программу так же было бы сбережено немало средств. Конечно сбережение средств в каждом ВУЗе был бы различно, так как различаются ИТ.

В учебных целях в среде виртуального интерфейса была внедрена программа STEKASplus в Каунасском Технологическом Университете (КТУ). Внедрение виртуального интерфейса (ВИРС) дает возможность студентам и работникам университета через удаленную связь использовать удаленный интерфейс рабочей среды и специализированных программ. Есть возможность работать с программой в компьютерных классах университета, а также самостоятельно дома или в другом месте.

Результаты и выводы *Results and conclusions*

1. Проведённое исследование по уменьшению расходов и экономии средств, при внедрении виртуального рабочего стола за 5 лет показали, что чем больше цена учетной системы, тем больше будет сэкономлено средств. Причем используя бесплатную программу затраты тоже были бы уменьшены.

2. В КТУ по желанию преподавателей и студентов, в учебных целях внедрена виртуальная программа STEKASplus. Виртуальная программа дала возможности работникам и студентам университета через удаленную связь использовать прикладные программы, работая в классах университета и самостоятельно подготавливаясь дома.
3. Образовательный процесс обучения с помощью виртуальных программ необходимо проводить с учётом определения образовательных потребностей и целей обучения. Оценка результатов внедрения должны опираться на конкретный анализ всех аспектов использования виртуальных программ.

Summary

Education today is very dependent on information technologies (IT). A usage of the technologies by higher schools is gradually increasing. One of the newest technologies is “cloud computing” that plays a significant role on education. The cloud computing technology offers the way to expand the accessibility of resources. The students and teachers have the opportunity quickly access various applications, servers, storages and other resources through the web. The access is provided through virtual classrooms, when students attend classes in their own homes on their computers, while the teachers are hundreds of kilometers away (Sourya, 2011).

Cloud computing is the significant alternative for today’s education environment. Advantages for educational sector of the newest technology are presented in the (Kim, 2009, Sourya, 2011, Al-Zoube, 2009; Tuncay, 2010; Schools, 2010; Miseviciene et al., 2011, Christauskas & Miseviciene, 2012).

In this paper, we analyzed the cloud computing technologies presenting overview of cloud computing models and possibilities of virtual infrastructure desktops and their benefits. We studied reduction of costs and savings of virtual desktops. Virtual desktops in Kaunas University of Technology we presented at the end.

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THE ROLE OF THE INTERNET IN SELF-STUDY

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***Abstract.** The concepts of teaching, learning and self-education are the most essential aspects in the processes of preparing employees for knowledge economy as well as in the processes of developing and improving skills required not only at work, but also in personal life. The Internet constitutes an essential link in education as a basic form of teaching and a supplementary element not only in the traditional model of instruction, but also in self-education. The following article presents questions concerning self-education and the Internet as a place and technique of self-education, as well as the concept of e-learning as a modern form of distance education.*

***Keywords:** e-learning, Internet, self-education.*

Introduction

Technological progress, the changing conditions of life as well as the fast pace at which knowledge acquired in the past becomes outdated are the main causes prompting people to undertake various forms of additional training, updating their knowledge and qualifications in order to adapt to the changing world and be able to function well in it. One of such forms of training is self-education.

The Internet has created a new dimension of studying. On a much larger scale than ever before, it has enabled us the access to vast information resources, as well as tools facilitating the search for specific know-how and communication in order to broaden our knowledge and raise our qualifications. The Internet is perceived as an optimal environment for self-education, which enables pursuit of all the set objectives of the education process, but most of all, it allows everyone to access the most recent knowledge in a fast, easy and cheap way. The main problem is identification of factors that determine the positive attitude of a person to their own development through self-education.

The aim of the article is to present the main objectives of self-education and factors that determine the success of this form of education as well as to analyse self-study methods based on the immense possibilities offered by the Internet.

Lifelong learning and self-education

Lifelong learning is a key challenge of the 21st century, constituting both the result of active citizenship and a prerequisite for complete participation in the life of the society. Everyone wishing to adjust to a modern way of living and work efficiently must regularly raise their qualifications. One of the ways to

achieve that is through lifelong learning. During the European Council meeting in Lisbon in the year 2000, the Council admitted that the European Union is currently facing fundamental changes as a result of the processes of globalization and development of knowledge economy, and that those changes do not only require radical transformation of the European economy, but also an ambitious plan of modernizing the systems of education. In its conclusions, the Council of the European Union emphasized that: Education is more than just a factor offering a chance for employment, but also by preparing to a professional career, it contributes to the sense of self-fulfillment, as well as shapes an attitude of active citizenship in democratic societies, in which cultural and language versatility is respected. The European Parliament Resolution of 16 January 2008 on adult learning: *It is never too late to learn*, urges Member States to promote the acquisition of knowledge and to develop a culture of lifelong learning. The *Europe 2020* strategy for smart, sustainable and inclusive growth acknowledges lifelong learning and skills development as key elements in response to the current economic crisis, to demographic ageing and to the broader economic and social strategy of the European Union¹³.

Education also plays a crucial role in creating an integrated society, preventing discrimination, marginalization, racism and xenophobia, as well as promotes such fundamental values cherished by European societies as tolerance and respect for human rights (Frąckowiak & Pólturzycki, 2010).

Development of knowledge economy, information society and the so-called digital economy are the goals considered as priorities in a few official documents and declarations of the EU leaders. Implementation of those objectives requires continuous development of every person in addition to their lifelong learning. Maintaining continuity and regularity of the learning process, as the basic principle of lifelong learning, on the one hand ensures constant development, on the other, prevents the acquired knowledge from becoming outdated. The present-day labor market is characterized by constantly increasing requirements regarding employee qualifications, challenging an individual to continuously raise them and even change a job during the period of professional activity (Błądowski & Nowakowska, 2010).

Permanent education, whether through studying under someone's supervision, inspired self-education or self-study on one's own initiative, is becoming not only a necessity, but also a need.

Participation in adult learning has continued to fall, from 9,8% of the 25-64 year-old population in 2005 to 9,1% in 2010, thus making the increased 'ET2020' target of 15% by 2020 is a great challenge¹.

An analysis of participation in the so-called further training, as per various forms of education, conducted in 2009 by the Central Statistical Office of Poland (GUS) indicates that every twentieth person aged 25-64 (1141 thousand;

¹³ Official Journal of the European Union 2011/C 372/1, *Council Resolution on renewed European agenda for adult learning*

5.5%) continued learning in the “school” system (formal education) in Poland, whereas more than every fifth person (3829 thousand; 18.6%) improved their skills and knowledge on various courses and training activities (non-formal education). The biggest number of people took part in informal education, defined as self-education without a teacher’s help (5247 thousand, i.e. 25.4% of the surveyed population aged 25-64)¹⁴.

The essence of self-education is independent learning which involves mainly one’s own efforts put to update a person’s knowledge and broaden it. Self-education is a learning system resulting from establishment of one’s own educational goals, covering a set of activities and measures subject-oriented and organized, based on the processes of orientation, conclusion drawing or decision-making in executive processes, which contribute to self-development of an individual.

The changing world makes us perceive the role of self-education as a necessary element which enables an individual to better understand globalization and civilization changes. In today’s world self-education should become one of the most popular indicators of human capital, which determines economic, political and development success (Smak & Widelak, 2006). Self-education achieves an optimal level when it turns into a constant human need as a principle of lifelong learning.

Many scientific disciplines have begun to consider adult learning: sociology, pedagogy, psychology and other. The most important questions are: Why do we learn? In what context is learning present? What are the activities through which we learn? What is the content of learning? What kind of reactions occur between newly acquired knowledge and skills already possessed? How is knowledge stored? When can we talk about success in learning? (Nuissl, 2009)

The motives behind decisions undertake self-education can be as follows: a desire to raise one’s own professional qualifications; compensatory pursuits, such as getting to know and realizing one’s own deficiencies, a wish for social and professional promotion, the need for self-realization; financial benefits; the need to change a job and other.

In the case of choosing self-education, the following factors can be distinguished: awareness of the goal and its pursuit, strong will to implement one’s decisions and self-control combined with self-criticism. Motivation involves a desire, pursuit and readiness to make effort in order to satisfy a certain need or needs. Such needs are often created by modern times (Dyląg et al., 2004). One of the strongest motives for learning is interest. Self-education is a process in which learners are more aware, engaged and responsible for their process of learning. Furthermore, when speaking about self-education certain independence from a teacher is implied. However, such far-reaching independence is not always recommended, as it is often ineffective. An element

¹⁴ Edukacja dorosłych (Adults education), 2009, GUS Informacje i opracowania statystyczne, Warsaw

that is fundamental in this case is motivation. There is a significant difference between the learning situation, in which “I have to” and the one in which “I want to” learn. In the first instance, we enroll on a course or start to learn on our own, since we are instructed to do so by our superior or because we have to find a job or in order not to lose our position in the labor market, etc. In the latter case, however, we wish to fulfill our own ambitions, satisfy our cognitive curiosity or fulfill our passions and interests. The problem, however, is that goals set by ourselves can at any time be changed, modified, reduced or even entirely eliminated. If the only person we account for our accomplishments to is us, we can always change our desires in such a way so as to feel satisfied and eliminate any dissonance, even at the expense of our own ambitions (Frąckowiak, 2005).

The Internet in self-education

A decision to self-educate entails a choice of educational environment and forms of learning. In the era of information society (the concept popularized by a EU Report prepared by Martin Bangemann¹⁵) it is the Internet. It becomes an instrument able to help people to broaden their knowledge, acquire new competences in a very short time and often at a much lower cost. By using the Internet one can begin cooperation with the best specialists in a given field. Tools that enable such cooperation include: discussion groups, group projects, voicemail, real-time talks, video conferences, etc. Thanks to the process of globalization, education does no longer require travelling to academic centers, often located far away from one's place of residence, or even physical presence in a lecture room, instead, it can be pursued from home. In the era of globalization, gathering learners in a specially dedicated place loses importance, education of the 21st century is now moving from an “actual” to a “virtual” class (Zhang et al., 2004).

The role of a computer and the Internet in the process of self-education consists in replacing and enriching certain activities performed by a participant of the process. It boils down to: informative, training, controlling and organizing functions.

It can therefore be noted that nowadays, computer and information technology are able to support education in versatile ways: they can be used as cognitive means, among others, in learning through discovery and problem-solving; education through experience thanks to their interactive capacities, as well as learning through practice (Kida, 2009). Educational computer programs may serve the following functions: conveying new teaching contents; updating the already acquired knowledge; controlling the knowledge and skills; stimulating interests in a certain field; personalization of learning;

¹⁵ Europe and the Global Information Society: Recommendations to the European Council. Brussels, 26 May 1994

communication between a learner and a computer (Gajda, 2005). The extent and the level at which those functions are fulfilled depends on competences, the skill of decision-making when choosing the best programs that match the intellectual level of the learner at a certain stage of development from a wide range of products, as well as the skill of effective use of a computer in self-education.

Nowadays, a computer constitutes a means of improving qualifications and acquiring new ones, as well as a tool for diagnosis and practice of versatile skills.

E-learning as a modern form of distance education

The Internet opens a new generation of distance education, introducing sophisticated delivery tools and creating a paradigm shift with profound implications on the design of distance education courses.

Distance education, also referred interchangeably as distance learning, is not a new phenomenon. It evolved from correspondence study, open universities, teleconferencing, networks and multimedia delivery to today's Web-based technologies. This evolution is characterized by new teaching approaches, including the adjustment of instructional materials supported by different delivery media. With the advent of the Internet, a new generation of distance education emerged. Complementary to the other models, Internet-facilitated instruction allows for the implementation of synchronous and asynchronous interaction and opens a new series of learning opportunities for education. Increases in bandwidth technologies and worldwide access to interconnected networks enable the Internet and the World Wide Web to develop into a viable delivery system for distance education (Passerini & Granger, 2000).

Digital education, distance education, teaching and learning through the Internet, online training and learning are the forms of education that create good conditions for lifelong learning.

The newest method of acquiring knowledge through the use of computers and the Internet by e-learning involves studying in a virtual environment, blended learning, combines such elements as: information techniques, interaction, educational resources, team and individual work, formal and informal education, as well as support (Hamberg, 2009). The way of combining those elements can differ. Learning may take the form of visiting websites in order to obtain information. Those websites may be specifically prepared as part of an educational or training program. When searching for information on the Internet, like in the case of a library, one has to find the necessary materials. It is unquestionable that skills which are necessary when searching for materials in a traditional way or through the Internet have a lot in common.

Bocheńska-Włostowska (2013) noted that in the USA just in the year 2000, 75% of universities was offered various forms of education through the Internet

and Modern University for the Humanities with the registered office in Moscow and 143 regional centers in the Russian Federation educates around 200 thousand students, offering 3 thousand online courses.

Allen and Seaman (2014) indicate that online education is growing in the United States at a staggering rate and they also indicate that most students will likely be enrolled in an online course in the future.

Also in India open education with a wide range of e-learning services, oriented towards meeting the market needs has been widely promoted. Universities are trying to diversify their courses and develop high quality teaching programs, which make use of multimedia, that will satisfy academic, technical and professional needs of various groups of students. The programs offered by the *Indira Gandhi National Open University (IGNOU)* have become internationally recognized (Mystek-Pałka, 2007).

Europe, in turn, shows a high diversity in the use of e-learning. A study conducted by SkillSoft in 2009 found that at that time e-learning was used: in Great Britain - by 22% of large companies, in Spain - 18%, in Poland around 10%, in Italy - 9% and in France - 7%¹⁶.

Effective e-learning skills

The use of digital education requires certain additional practice in communicating with the use of short text messages used during chats or through e-mails, thus the first ability one needs when self-educating through the Internet is efficient interpersonal communication (Clarke, 2007). It is combined with the next crucial skill of information processing. The acquired knowledge has to be internalized and subsequently, verified in practice. What is crucial is regularity, as well as ahead planning of the learning process. In short, another skill appropriate, rational work organization. Other desired abilities include the skill of searching for information, selection, evaluation and analysis of suitability of the information found. We now have to mention the skill of verification of the knowledge. Another crucial aspect is developing a habit of entrepreneurial actions. The first step is certainly undertaking the process of self-education, the next - effective e-learning. The final is the use of knowledge gained in practice. It is also easy to perfect the skill of quick reaction to changes as we learn through digital education. Adaptation to new conditions is a feature that becomes useful both at work and in any other situation (Penkowska, 2010). We should also not forget about self-discipline, which is necessary for consistent pursuit of goals, as well as responsibility and self-criticism.

¹⁶ <http://www.skillsoft.com/elearning-news.asp>

Educational portals

Educational portals contain software that allows to create an environment that is central to all activities undertaken with respect to distance learning. Thanks to the use of e-mail and the discussion forum mechanism it is possible to quickly react to the questions and problems of learners. It is also possible to provide a telephone number on which - at specified times - a contact person can provide us with technical or subject matter related support.

Educational portals use modern, multimedia and interactive educational tools, provide e-learning courses, which apply effective educational methods, such as: specific, yet attractive for users, case studies or decision-making quizzes (Jaszczuk, 2005).

Also expert forums have been created on which user questions are answered by specialists from those fields; chats are organized with experts, during which very person using the portal may ask questions and have an online discussion with an expert; discussion forums also play a role of problem analysis groups - users discuss problems in thematic blocks, answering questions and searching for solutions to the problems; a specific form of training are decision-making games, which allow Internet users to imagine fictional situations and roles as well as make decisions related to them, at the same time observing the consequences.

Educational portals usually use a collection of educational materials, part of which are of an interactive nature. They contain a collection of videos directly regarding the studied field, presentations that make use of PowerPoint presentation slides, quizzes regarding the presented problem, a synchronous chat, a discussion forum, e-mail and voicemail, project group work with the use of the same educational material.

Below one can find selected the websites with the aim of giving general idea of the e-learning offer:

- <http://www.aac institute.org/welcometoaacissp.html> - The Self-Study Program (SSP) offers the opportunity to learn about various aspects of AAC Institute that support the goal of the most effective communication possible for the individual. The courses allow individuals to work at their own pace.
- <https://www.khanacademy.org/> - Khan Academy offers practice exercises, instructional videos, and a personalized learning dashboard that empower learners to study at their own pace in and outside of the classroom. They tackle math, science, computer programming, history, economics, and more.
- http://documentation.skillsoft.com/en_gb/skillport/7_3/lh/-SkillPort is a Web-based, e-learning portal that allows to access a range of training resources at work, at home and on the road... Skillsoft is a pioneer in the field of learning and talent management with a long

history of innovation. Skillsoft provides cloud-based solutions for customers worldwide, who range from global enterprises, government and education customers to mid-sized and small businesses. Their courses, books and videos have been developed by industry-leading learning experts to ensure that they build talent and develop a more knowledgeable, productive and valuable workforce.

- www.e-edu.pl-E-edu.pl is a portal which use information technology to give the opportunity to study at any time and place. Its aim is to meet the challenges of education by promoting the idea of a modern and comprehensive education to labor market needs. The projects training enable customers to achieve the goals and desired outcomes. In order to meet the expectations of customers, the team is constantly improving their skills, so that the services provided are of the highest level. New challenges that require innovative, creative and custom learning solutions are undertaken.
- www.eskk.pl/kursy-online- ESKK offers an alternative, valuable distance learning methods to all interested raising the qualifications or the development of their own interests. ESKK guarantees a high level of knowledge exchange; They are prepared by the staff of professionals in the fields, on the basis of innovative curricula tailored to the needs of the market. Teaching method used in the courses is derived from the rich experience of correspondence education in the US and Western Europe. Each student is „the only one in the class” - chooses the rate at which will be taught, and enjoy the personal care teacher.
- www.puw.pl/pl/kursy - Polish Virtual University (PUW) was created in 2002, it is one of the oldest and largest university e-learning in Central and Eastern Europe. the „Virtual” walls of the university have already left more than 20,000 graduates. PUW is specialized in on-line studies at all levels: undergraduate degree (BA and BSc), second-cycle programs (Master), postgraduate studies and training courses.
- <http://kursy-online.4system.com/> - 4system is one of the biggest teams engaged in different kinds of e-learning activities: creating e-learning systems, e-learning courses, implementation of courses on LMS platforms, creating tools for the production of training, systems integration.
- <http://www.kursy-izywork.pl/> - Training and Advisory Centre Izy Work. It organizes courses, training according to the needs of the labor market and on behalf of plants, offices and individuals. Cooperates with the Office of Labor in aim to train in the most sought jobs in the labor market.
- <http://www.mg-edu.pl/> - MG-edu is one of the forerunners a network of training courses offered via the Internet. They offer a wide range of

vocational courses, hobby, entrepreneurial and training to support the personal development (self-improving courses).

Pros and cons of distance learning

An e-learning system is a Web-based communication platform that allows learners, without limitations on place and time, to access diverse learning tools, such as discussion boards, assessments, content repositories, and document sharing systems (Martins & Kellermanns, 2004; Ngai et al., 2007, Mohammadyari & Singh, 2015).

E-learning makes learning more accessible because, not only can individuals study when it is convenient for them, but they also have access to coaching and support potentially round-the-clock. This means that it is possible to provide an experience more similar to a classroom, with experts tutoring learners located anywhere in the world (Vansteenkiste et al., 2004).

E-learning is quickly becoming a vital part of the learning and teaching process (Pituch & Lee, 2006) because it makes communication among learners and between learners and instructors/teachers more efficient (Martins & Kellermanns, 2004). It also helps organizations increase the geographical reach of their training resources and complement face-to-face training activities.

Given that one of the main roles of e-learning is to consolidate and distribute work-relevant knowledge, it is likely that e-learning use is positively related to job performance (Ali-Hassan et al., 2011). Another benefit of e-learning compared to traditional training is that e-learning can cater to different learning styles by providing multiple paths of learning.

Although e-learning is being used more intensively in recent years and some professionals have demonstrated a willingness to explore new approaches, many organizations still hold reservations about becoming involved with innovative pedagogical tools and have not yet realized what can be achieved with them (Ho & Kuo, 2010).

E-learning as an educational method has both its supporters and opponents. Znajmiecka-Sikora and Kędzińska (2011) wrote that the supporters, emphasizing the advantages of this method, often point out:

- considerable cost efficiency - training sessions taught in a traditional way must cover remuneration for a lecturer, rental of a training center, transport, accommodation, board, etc.;
- time efficiency - employees do not cause any negligence at work, as they study in the most convenient place and time, as well as they don't have to interrupt their everyday duties;
- easy results evaluation system - learners can easily monitor their learning progress through knowledge verifying tests.

- unlimited number of trained people - there is no limitation as to the number of participants learning online, as in the case of training sessions taught by traditional methods;
- continuous improvement of the training program - every online course program can be modified through the Internet to meet the needs of individual participants, requirements of the market and changes in law.
- modern teaching method - participants can improve their knowledge using the newest tools, a learner can at any time return to the information provided in the online training and verify their knowledge;
- e-learning is an optimal method of teaching the disabled - often the only access to knowledge for persons with disabilities.

As far as disadvantages related to the use of e-learning solutions in the process of education are concerned, we can distinguish the following:

- limited direct interactions - communication mostly based on a text read from a computer screen, asynchronous and synchronous communication,
- technical problems - dependence on the quality of equipment, computer and Internet speed as well as computer skills,
- no logistic support (administrative and technical) - no possibility to access the sources of educational materials,
- a learner must be very self-disciplined.

The above-mentioned negative aspects should not be an obstacle in deciding about the manner of self-education and self-development. Online education will surely contribute to a more effective and efficient use of educational materials available on the Internet, as newer and newer educational portals spring up offering online learning opportunities.

In their most recent reports on the state of online education in the United States, Allen and Seaman (2014) found that online courses would likely become an important part of the repertoire for most undergraduate students in the near future. Furthermore, this report suggests that the common perception that online courses cannot be as good as courses which employ face-to-face instruction is starting to erode.

Conclusions

The source of information and knowledge in the process of self-education can be the reality itself or messages about it conveyed through various media, such as books, magazines, radio, television and the Internet. Most of all, such media must contain information that is useful for attaining the goals set by a self-educating learner.

The growing use of Internet technologies for distance education opens new possibilities that move well beyond the provision of more sophisticated delivery tools.

There are strong educational motivations for communities in e-learning, as has been evidenced by much of the current focus on communities of practice. E-learning communities also satisfy the three major characteristics of successful internet developments - they are robust, decentralized and open.

E-learning will be one of the main forms of lifelong learning and providing knowledge to such environments that so far have had a limited access to education. Finally e-learning helps to acquire knowledge and competences that are necessary in today's world, such as the ability to cooperate, find and select information, as well as effectively use information technologies. Globalization and technological progress are changing the structure of economy, shifting emphasis from production to services, where the basic factors of success is the skills and knowledge one has.

My opinion is that the increasingly wider use of the Internet in the process of self-education will become a valuable educational medium, conducive to social interaction rather than isolation of people. After all, the Internet allows for cooperation, collaboration, discussions, fulfillment of similar goals related to acquiring similar competences. I am persuaded that an effort should be made at a theoretical level to encompass all facets affecting the use of new technologies in e-learning practices.

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SADARBĪBAS METOŽU PIELIETOŠANA E-STUDIJĀS IT SPECIĀLISTU KOMPETENČU ATTĪSTĪŠANAI

Cooperation Methods Using in E-Learning for It Specialists' Competence Development

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Abstract. *Today the daily life of the population is impossible without technology. As technology is constantly evolving, we need to provide ICT technology, computer networks and computer systems solution implementation, maintenance skills for future IT professionals. To find new ways of ICT professional competence to develop better and better as the professional competence more effective train. The study process main result is to prepare IT professionals with basic ICT competencies and skills that should be motivated and skilled for lifelong learning. Nowadays, still not used sufficiently effective e-learning technology options to achieve a better and more sustainable learning results. This paper describes a issue in which, contrary to traditional study process, students have opportunities to cooperate in a virtual environment using e-learning technologies, enhance your initial results of the work. The study process, using e-learning technology and cooperation methods was improved and developed IT specialists' competencies and skills, which are important for computer systems and network administrator at work. Consequently, it was held IT competencies improvement, learning from each other.*

Keywords: *cooperation, e-learning, IT specialists' competencies, skills, students.*

Ievads

Introduction

Mūsdienās joprojām pietiekami efektīvi netiek pielietotas e-studiju tehnoloģiju iespējas, lai panāktu labākus un ilgtspējīgākus mācīšanās rezultātus. Nepieciešams pētīt e-studiju tehnoloģiju iespējas, radot risinājumus efektīvu pedagoģisko metožu un paņēmieni kopas pielietošanai (Gintaute-Marihina, 2013).

Kompetences ir nepieciešamās zināšanas, profesionālā pieredze, izpratne kādā noteiktā jomā, jautājumā un prasme zināšanas un pieredzi izmantot konkrētā darbībā (Gorbunovs, 2014). Informācijas tehnoloģiju speciālista ar iegūstamo kvalifikāciju Datorsistēmu un datortīkla administrators (4.kvalifikācijas līmenis) profesijas standartā norādītas profesionālās kompetences, kuras studentiem jāapgūst studiju procesā. Galvenās apgūstamās prasmes izriet no amata pienākumiem un uzdevumiem, un tās ir sekojošas:

- *Datortehnikas uzturēšana*
- *Vienkāršu lokālo datortīklu uzturēšana*
- *Operētājsistēmas un programmatūras uzturēšana*
- *Tehniskā atbalsta sniegšana datorlietotājiem*

- *Datu aizsardzības nodrošināšana*
- *Datorsistēmu konfigurācijas dokumentēšana un attīstības plānošana*
- *Darba un vides aizsardzības prasību ievērošana*
- *Kvalifikācijas pilnveidošanas prasmes*

Turklāt studentam ir svarīgi apgūt netikai profesionālās kompetences, bet arī vispārīgās, kas ir svarīgas darba pienākumu veikšanai un veiksmīgai profesionālajai darbībai gan kā darba ņēmējam, gan uzņēmējam, lai uzsāktu uzņēmējdarbību, un radītu jaunas darba vietas (Tapscott, 2012). Eiropas Komisijas vietnē jauniešu izglītībā norādītas astoņas svarīgas kompetences, kuras jānodrošina studiju procesā:

- *Komunikācija dzimtajā valodā un svešvalodās*
- *Matemātikas, zinātnes un tehnoloģiju izpratnes kompetence*
- *Digitālā kompetence*
- *Mācīšanās mācīties*
- *Sociālās un pilsoniskās kompetences*
- *Kultūras un emocionālā kompetence*
- *Biznesa kompetences*

Studiju programmā „Informācijas tehnoloģijas” viens no profesionālajiem- nozares priekšmetiem, kas nodrošina profesionālo kompetenču apguvi, ir studiju priekšmets Tīkla operētājsistēmas. Studiju priekšmeta laikā studenti apgūst dažādu tīkla operētājsistēmu uzstādīšanas, noskaņošanas un administrēšanas iemaņas. Studiju procesā tiek pielietotas dažādas prasmju un kompetenču apguves metodes t.sk. praktiskie, patstāvīgie darbi un kursa darba izstrāde, un tradicionāla to novērtēšana. Studiju priekšmeta apguve ilgst 2 semestrus. Ierastā veidā, lai apgūtu priekšmetu studenti apgūst teoriju, izstrādā praktiskos darbus nodarbību laikā, kā arī izstrādātā patstāvīgos darbus par izvēlētu tematu pilnīgi patstāvīgi, pielietojot literatūru, interneta avotus un savu personīgo pieredzi, patstāvīgā darba rezultātus, prezentējot semināra nodarbībā.

Pētījuma mērķis – noskaidrot sadarbības metožu pielietošanas ietekmi e-studijās IT speciālistu kompetenču attīstīšanai.

Rakstā autore aprakstīs situāciju un pētījumu, kad pretēji tradicionālai patstāvīgo darba izstrādei, studentiem būs iespējas, sadarbojoties virtuālajā vidē, pielietojot e-studiju tehnoloģijas, uzlabot sava sākotnējā darba rezultātus, tādējādi arī tiks uzlabotas operētājsistēmas uzstādīšanas, pārvaldības rīku pielietošanas prasmes, kas ir svarīgas datorsistēmu un datortīklu administratora darbā, tādējādi IT kompetences uzlabosies, mācoties vienam no otra.

IT speciālistu kompetenču attīstīšanas iespējas sadarbojoties *IT specialist competence development opportunities in cooperation*

Rīgas Tehniskās koledžas studiju programmā Informācijas tehnoloģijas tiek uzņemti jaunieši un pieaugušie ar vidējo vai vidējo profesionālo izglītību, dažkārt arī studējošie, kuri iepriekš studējuši citās augstākās izglītības iestādēs,

kuras nav pabeiguši. Ir gadījumi, kad potenciālie studenti izlemj studēt koledžā, lai apgūtu vēl vienu augstāko profesionālo izglītību. Tā kā koledža ir paplašinājusi savu darbību Latvijas reģionos, studiju programma Informācijas tehnoloģijas tiek īstenota Priekuļos un Daugavpilī.

Studiju procesā iesaistīti Rīgas un Daugavpils filiāles 2. kursa studenti, kuriem rudens semestrī norisinājās studiju priekšmeta Tīkla operētājsistēmas 3.semestra satura apguve. Studējošo vecuma grupa ir jaunieši pēc 19 gadu vecuma, bet dažkārt studijas uzsāk pieaugušie agrīnā vai vidējā brieduma vecuma posmā. Tātad vecuma grupa pamatā ir no 18-40 gadu vecumam, bet ir atsevišķi studējošie 40-55 gadu vecumā. Tas rada situāciju, ka studenti atrodas dažādās personības attīstības stadijās. Jaunība un agrīnais briedums ir laiks, kad domāšana jāizmanto karjeras attīstībai un sava dzīves stila veidošanai. Tas ir sasniegumu periods (Šteiberģa, 2011). Pieaugušo vecumā ir svarīgas divas dzīves jomas: personīgo attiecību un profesionālā. Sadarbība mācībās vai darbā noteikti saistīta ar cilvēka spēju veidot tuvas attiecības (Šteiberģa, 2011).

Sadarbība ir pieredzes pārņemšanas forma, iespēja labāko paraugu atdarināšanai, pašpiederzes pilnveidošana ar jaunām zināšanām, prasmēm un attieksmēm. Sadarbība nav iedomājama bez saskarsmes, tās ir prasmes apmainīties domām, uzskatiem, kas izteikti mutiski vai rakstiski, prasmēm aizstāvēt viedokli, uzklaut un pieņemt zināšanai citu viedokļus, pieņemt lēmumus, realizēt tos, novērtēt procesus un rezultātus (Plaude, 2004). Sadarbībā ir iespēja pārņemt pieredzi vienam no otra, tādējādi bagātinot savu personīgo pieredzi un uzlabojot prasmes. Tikai sadarbībā iespējams pielietot sociokultūras mācīšanās principus (Tiļļa, 2005).

Studenti, kas uzsāk studijas IT jomā pamatā ir motivēti apgūt profesiju, kas palīdzēs veidot veiksmīgu karjeru, palīdzēs attīstīt profesionālās un vispārējās kompetences. Pašvērtējums, pašcieņa un pretenziju līmenis ir tie personības rādītāji, kuri visvairāk ietekmē komunikatīvās un sadarbības spējas. Mācīšana un mācīšanās sāk zaudēt savas robežas, jo gan students var mācīties no sava pasniedzēja, gan pasniedzējs var iemācīties kaut ko jaunu no saviem studentiem (Šteinberģa, 2011). Tālākizglītībā šī robeža ir vēl nenoteiktāka- ir apzināts darbības mērķis, mērķa motivācija, ir cieņa pret citiem darbībā iesaistītajiem; ir darbībai atbilstošs patstāvības līmenis un līdzatbildība par rezultātu (Šteinberģa, 2011).

Mācīšanās procesā pielietojot sadarbību tiek veidots uz cilvēku orientēts pedagoģiskais process. Mācīšanās procesā mācību darbības mērķis ir studenta kompeteču attīstība. Spēja attīstīties- tā ir nozīmīga personības īpašība visas dzīves garumā. Svarīgi ir katram apzināties attīstības saturu un pašam vadīt savu līdzsvarotu attīstību (Šteinberģa, 2011). Cilvēka attīstība ir sarežģīts ceļš, bet nosacīti to var iedalīt dabiskajā un sociālajā attīstībā. Dabiskā attīstība satur fiziskās un psihiskās komponentes. Psihiskās komponentes ir intelektuālās, emocionālās un gribas attīstības vienība. Sociālā attīstība nozīmē sadarbības un saskarsmes prasmju attīstību (Šteinberģa, 2011). Sociālā mācīšanās

visdažādākajās formās ietver taisnīgumu, savstarpēju sapratni, subjekta statusu savā audzināšanas un attīstības procesā, kā arī cieņpilnu attieksmi pret citiem un sevi. Šāda sociāla mācīšanās pozitīvi var ietekmēt katra indivīda attīstību (Plaude, 2004). Sociokultūras mācīšanās rezultāts ir bagātināta pašpieredze (Tiļļa, 2005). Sociālkultūras mācīšanās pieredzes konstruēšanā svarīga šajā gadījumā ir otrā fāze, kas ir dekonstruēšana.

Dekonstruēšana aizsākas, veidojoties mijiedarbībai ar citām personām pieredzes apmaiņā. Šajā fāzē rodas zināšanu, prasmju un attieksmju daudzveidīgas perspektīvas, meklējot kopīgo un atšķirīgo, pieņemamo un nepieņemamo. Uzdodot jautājumus, salīdzinot, precizējot, papildinot, paplašinās sociālkultūras informācija par mācīšanos, sadarbību un saziņu. Darbojoties kopā vai individuāli, kā arī salīdzinot un paužot attieksmi, notiek pašpieredzes konfrontēšanās ar pastarpināto pieredzi, kuras rezultātā rodas izmaiņas pašpieredzē (Tiļļa, 2005). Svarīgi ir tieši šī sadarbība, sniedzot ieteikumus, tādā veidā studenti var saprast, to ko vēl nezina, bet ko zina grupas biedrs, kā arī svarīgi ir sākt apzināties, ka ir vēlme uzzināt to, kas vēl nav zināms. Sociālkulturālā mācīšanās notiek kā mācīšanās, sadarbības un saziņas mijiedarbībā (Tiļļa, 2005). Tā var pastāvēt starp dažādām struktūrām, piemēram, students- vairāki studenti, students- mācītājs(-i). Lai sadarbība veiksmīgi norisinātos klātienē jābūt savstarpējās uzticēšanās attiecībām. Attiecību veidošanās norit no savstarpējās iepazīšanās, ietekmēšanās līdz savstarpējai sapratnei. Ne vienmēr šos nosacījumus iespējams sasniegt klātienē nodarbībās. Lai iegūtu labākus sadarbības pamatnosacījumus un rezultātus, var palīdzēt e-studiju tehnoloģijas, sociālie tīkli, kas piedāvā virtuālu vidi, radot neformālus apstākļus, kas var palīdzēt veidot veiksmīgāku sadarbību, un prasmes, kompetences attīstīt labāk.

Praktiskā pētījuma iespējas *Practical research possibilities*

Pētījuma eksperiments tika veikts laikā no 2014.gada novembra līdz 2015.gada februārim, kad autore studiju kursā Tīkla operētājsistēmas vadīja atsevišķu tematu apguvi un organizēja studentu patstāvīgo darbu izstrādes un vērtēšanas procesu Rīgas Tehniskās koledžas 2.kursa studentiem Rīgā, un filiālē Daugavpilī.

Dažādu prasmju apguve tiek integrēta studiju priekšmetu saturā. Studiju priekšmeta Tīkla operētājsistēmas mērķis un uzdevumi ir sekojoši:

- *Sniegt teorētiskās un praktiskās zināšanas par izplatītāko tīkla operētājsistēmu lietojumu specifiku, izpildāmajām funkcijām un administrēšanu.*
- *Izstrādāt kursa darbu par izvēlēto tēmu, kas būs pamats turpmāk paredzētā kvalifikācijas darba izstrādei.*

Savukārt sagaidāmie rezultāti ir sekojoši:

- *Pēc kursa beigšanas studenti pārzinās populārākās tīkla operētājsistēmas, tās darbības principus un iespējas.*
- *Studenti spēs praktiski pielietot iegūtās zināšanas izvēloties un uzstādot un noskaņojot tīkla operētājsistēmas.*
- *Studenti spēs pielietot tīkla pārvaldības principus, paņēmienus un to pielietošanas specifiku uzņēmumu un iestāžu vajadzībām.*

Viens no sagaidāmajiem rezultātiem ir prasme uzstādīt un noskaņot tīkla operētājsistēmas, pielietot tīkla pārvaldības principus, paņēmienus un to pielietošanas specifiku. Rakstā tiek atspoguļots konkrēta patstāvīgā darba izstrādes process, prasības un paņēmieni IT prasmju un kompetenču uzlabošanai.

Pētījuma jautājumi un hipotēze *Research questions and hypothesis*

Pirms pētījuma eksperimenta veikšanas autore izvirzīja sekojošus pētījuma jautājumus un hipotēzi (Cohen, Manion, Morrison, 2011), (Špona, Čehlova, 2004).

Ja papildus tradicionālajam mācīšanās procesam patstāvīgā darba izstrādē, studenti sadarbosies e-studiju vidē:

- *sniegs ieteikumus viens otram komentāru veidā, daloties pieredzē, kas var palīdzēt atrisināt tehniskas problēmas, kas radušās darba izpildes procesā*
- *studentam būs iespēja, uzlabot iesniegto darba melnrakstu, ņemot vērā ieteikumus un komentārus, uzlabojot gala darba kvalitāti*
- *students sevi pašnovērtēs pirms gala darba iesniegšanas*

Tad mācīšanās rezultāti uzlabosies:

Rezultātā-

- *prasmīgs IT studiju programmas students ar IKT kompetenci un prasmēm tīkla operētājsistēmas uzstādīšanā, protokolu un pakalpojumu noskaņošanā (konfigurēšana, administrēšana atbilstoši tematam)*
- *attīstīsies sadarbības prasmes*
- *uzlabosies kritiskās domāšanas, pašvērtēšanas prasmes*

Kompetences tiks attīstītas ar sadarbības un refleksijas palīdzību, mācoties vienam no otra, notiks pieredzes paplašināšanās, uzzinot kā cits savu darbu veicis. Studentam tiek dota iespēja uzlabot sava iesniedzamā darba gala versiju līdz semināra nodarbībai. Svarīgi savstarpējie ieteikumi- konstruktīva kritika, komentāri, un pašnovērtējums. Vērtējot virtuālā- studiju vidē tiek vērtēts darbs nevis cilvēks.

Patstāvīgā darba izstrādes modelis un rezultāti
Individual work model and results

Studentiem semestra laikā bija jāizstrādā patstāvīgais darbs par vienu no piedāvātām tēmām. Studentam tēmu bija iespējams izvēlēties, vai izlozēt. Patstāvīgā darba izpildes process bija viens no priekšnosacījumiem, lai students saņemtu semestra novērtējumu ieskaitīts, un varētu turpināt studiju priekšmeta apguvi nākamajā semestrī.

Piedāvātie temati bija sekojošie:

1. *Linux DHCP servera konfigurācija*
2. *Linux FTP/TFTP servera konfigurācija*
3. *Linux DNS servera konfigurācija*
4. *Linux NTP servera konfigurācija*
5. *Linux IPTABLES ugunsmūra konfigurācija*
6. *Linux MDADM disku masīvu konfigurācija u.c. temati.*

Par izvēlēto tematu bija jā sagatavo prezentācija, kas balstās praktiskā pieredzē. Prezentācijas apjoms 8-10 slaidi.

Prezentācijas saturam tika izvirzītas sekojošas prasības:

Studentam jā sagatavo prezentācija atbilstoši tematam. Jā veic teorētisko jautājumu un praktisko jautājumu apskats. Prezentācijā jāatspoguļo noskaņošanas un sistēmas darbības testēšanas piemēri. Prezentācijas noslēgumā jānorāda pielietotā literatūra un informācijas avoti, kā arī jāizdara secinājumi un priekšlikumi. Priekšlikumos studentam jāsniedz savs pašnovērtējums.

Tika noteikts darba melnraksta iesniegšanas termiņš, līdz kuram darbs jāievieto e-studiju vidē. Nedēļas laikā pēc darba melnraksta iesniegšanas katram studentam ir pienākums, izvērtēt divus citu grupas studentu darbus. Studentiem par šiem darbiem jā raksta komentāri, un ieteikumi. Komentāru iesniegšana notiek e-studiju vidē, kā arī papildus tam studenti var pielietot foruma iespējas, diskutējot viens ar otru, daloties pieredzē. E-studiju vide nodrošina komentāru, ieteikumu iesniegšanu neformālā vidē. E-studiju vide salīdzinājumā ar klātienē nodarbībām, ir drošāka vide. Komentāra sniedzēja vārds ir zināms, bet nav klātbūtne, kas dod iespēju vērtēt pašu darbu nevis tā autoru. Neformālā vidē vērtējumu un kritiku ir vieglāk uztvert, tā nav tieša. Studenti komentāru un ieteikumu sniegšanas procesā apgūst prasmi taktiski kritizēt. Vērtējot un kritizējot klātienē darba autoram uz komentāriem varbūt dažāda reakcija. Tas atkarīgs no personas rakstura īpašībām, temperamenta, psiholoģiskās līdzsvarotības. Kritika kaut arī pamatota nevar būt par daudz, jo tā var pazemināt mācāmību (Šteinberga, 2011).

Ņemot vērā komentārus un ieteikumus, studentam bija iespējas, uzlabot sava darba melnrakstu nākamās nedēļas laikā, līdz semināra nodarbībai, kurā bija jā prezentē paveiktais darbs. Prezentācijas gala darbā priekšlikumu sadaļā

studentiem bija nepieciešams veikt pašnovērtējumu. Lai varētu sistematizēt pašnovērtējumu rezultātus bija jāaizpilda pašnovērtējuma anketa.

Pašnovērtējuma anketā, studentiem vajadzēja atbildēt uz jautājumiem par to kā dažādas IT kompetences attīstījušās pielietojot sadarbības metodes e-studiju vidē.

Anketa tika veidota no sekojošiem jautājumiem:

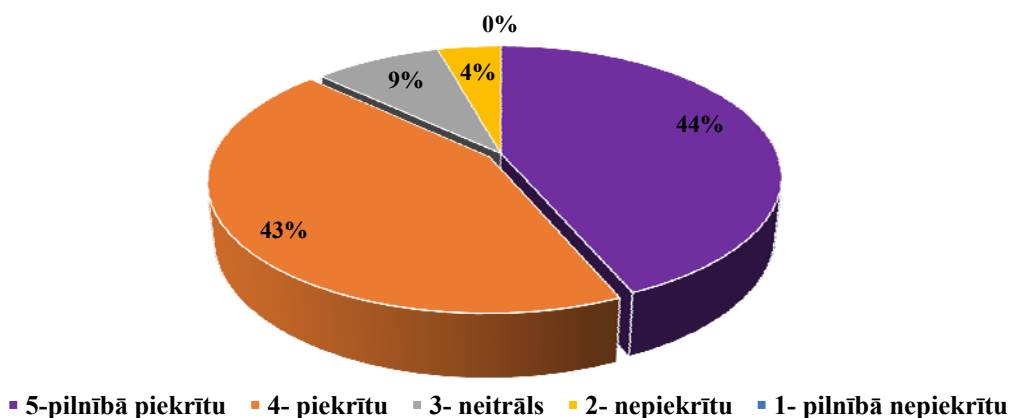
- 1) *Vai studiju biedru komentāri un ieteikumi man palīdzēja iegūt jaunu pieredzi, zināšanas prasmes*
- 2) *Vai es biju pietiekami aktīvs sadarbojoties ar studiju biedriem, reaģējot uz komentāriem, ieteikumiem*
- 3) *Vai studiju biedru komentāri un ieteikumi man palīdzēja uzlabot darba melnrakstu*
- 4) *Vai mana pieredze bagādinājās sadarbības procesā e-studiju vidē*
- 5) *Vai pirms semināra nodarbības, es jutos drošāks, pārliecinātāks par sava darba rezultātiem, ieguvis jaunas zināšanas, prasmes un pieredzi ne tikai saistībā ar sava darba tēmu, bet arī studiju biedru darbu tematiem, kas varbūt nozīmīgi manai profesionālajai izaugsmei*
5- pilnībā piekrītu, 4- piekrītu, 3- neitrāli, 2- nepiekrītu, 1- pilnībā nepiekrītu

Vērtējuma sniegšanai abās anketās tiek pielietot Likerta skala ar pieciem rangiem (1-5) (Mārtinsone, 2011), (Cohen, Manion, Morrison, 2011).

Pašnovērtējums ir ievirze pārējiem, turpmākajiem vērtējumiem, palīdz novērtēt personīgās izaugsmes procesu. Tā palīdz pārdomāt pašpiederības procesu, saprast pašam, kas ir un kas nav izdevies (Lanka, Gudzuka, Baldiņš, Fokiene, Stasiūnaitene, 2010).

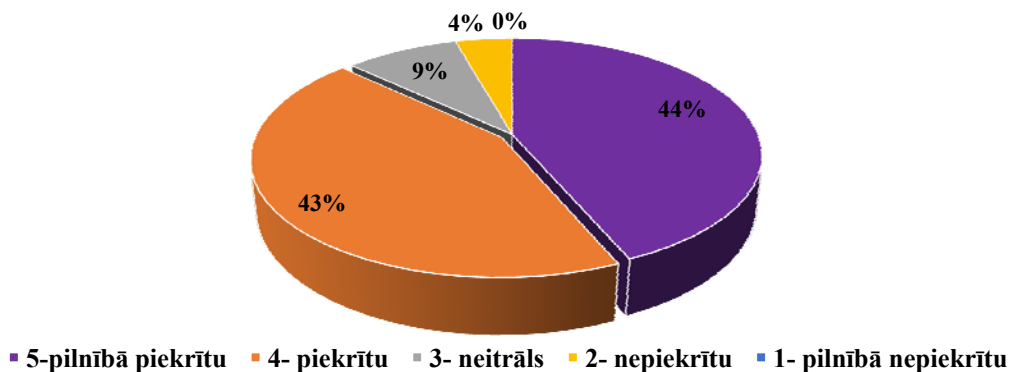
Anketu aizpildīja tie studenti, kuri iesniedza darba melnrakstu, un arī uzlabotā darba prezentāciju.

Vai studiju biedru komentāri un ieteikumi man palīdzēja iegūt jaunu pieredzi, zināšanas prasmes



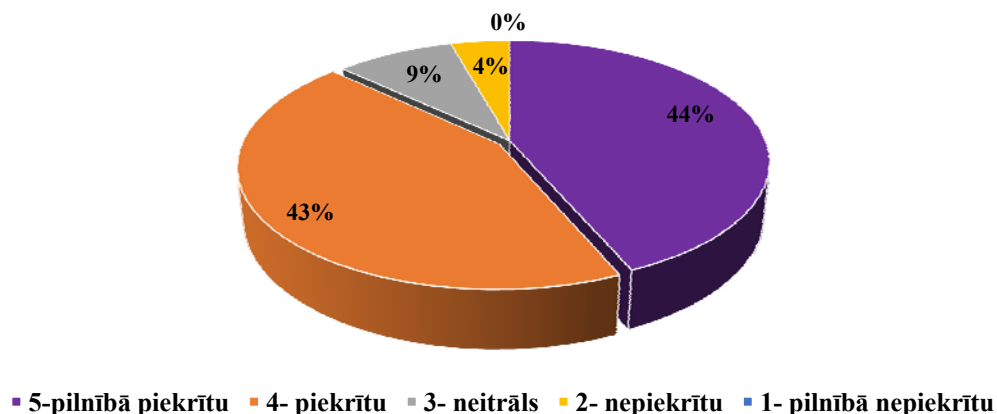
1. attēls. Aptaujas rezultāti - 1.jautājums

Vai studiju biedru komentāri un ieteikumi man palīdzēja uzlabot darba melnrakstu



2. attēls. Aptaujas rezultāti - 3.jautājums

Vai pirms semināra nodarbības, es jutos drošāks, pārliecinātāks par sava darba rezultātiem?



3. attēls. Aptaujas rezultāti - 5.jautājums

Studiju process parādīja, ka lai studenti vērtētu viens otru, nepieciešams izvirzīt termiņus, un noteiktas prasības. 85% studentu darba melnrakstus iesniedza norādītajā termiņā, 10% darbus iesniedza ar kavēšanos, bet 5% neiesniedza. Savukārt komentāru iesniegšana par divu studiju biedru darbiem bija atkarīga no tā, vai termiņi tika ievēroti. Tie studenti (10%), kas iesniedza darba melnrakstu ar kavēšanos, arī komentārus par studiju biedru darbiem iesniedza vēlāk. Abos izstrādes posmos mācībspēks patstāvīgo darbu vērtē pēc „10 ballu” sistēmas, izmantojot sekojošus vērtēšanas kritērijus:

- Prezentācijas atbilstība saturiskajām prasībām (5 punkti)- var saņemt 0,5-5 punktus
- Prezentācijas tehniskā, noformēšanas atbilstība 0,5-1 punkti
- studenta radošais darbs - 0-1 punkts
- atbildes uz mācībspēku un grupas studentu jautājumiem semināra laikā 0-1 punkts
- patstāvīgā darba prezentēšana seminārā - 0,5-2 punkti

Maksimālais punktu skaits - 10. Tas atbilst kursa darba vērtējumam „10” - izcili.

Punktu skaits = balli pēc „10 ballu” sistēmas.

Starpvērtēšana un gala vērtēšana parādīja to, ka sadarbības metodes pielietošana uzlaboja galīgās darba prezentācijas rezultātus 86% no visiem studentu darbiem, par 1,5- 2 ballēm „10 ballu” sistēmā. Tas deva iespēju studentiem, kuriem pirms tam nebija praktiskā darba pieredze vai bija nepietiekamas zināšanas, uzlabot un pilnveidot IT kompetences, kas noteiktas studiju priekšmetā norādītajos sagaidāmajos rezultātos.

Secinājumi **Conclusions**

- Izvērtējot atbildes, kas sniegtas uz anketas jautājumiem, kā arī komentārus e-studiju vidē, var teikt, ka hipotēze apstiprinājās.
- Veicot pētījuma eksperimentu autore secina, ka ir ļoti svarīgi noteikt skaidrus un saprotamus uzdevumus, un viennozīmīgus terminus katram darba izpildes posmam.
- Studiju process sadarbojoties ir sarežģītāks un darbietilpīgāks. Tas prasa ieguldīt vairāk darba sagatavošanas procesā no mācībspēka puses, un arī studentiem jāveic vairāk uzdevumus un pienākumu, kas ir nozīmīgi kompetenču attīstīšanai.
- Studiju programmā Informācijas tehnoloģijas, apgūstot nozares profesionālo priekšmetu Tīkla operētājsistēmas, ir svarīgi papildus tradicionālajām mācību metodēm, pielietot un integrēt sadarbības metodes e-studiju vidē, kas palīdz attīstīt datorsistēmu un datortīklu administratora profesionālās kompetences. Tādējādi tiek veidota un bagātināta ikviena studējošā pašpieredze.
- Pielietojot sadarbības metodes e-studiju vidē kompetences tiek attīstītas ar sadarbības, refleksijas palīdzību, mācoties vienam no otra, notika pieredzes paplašināšanās. Pētījuma rezultāti parādīja, ka pielietojot sadarbības metodes e-studijās kompetences attīstījās labāk.

Summary

Study process by cooperation using e-learning technology is more complex and time consuming. It requires more efforts in preparing process. The issue showed that it is important in addition to traditional teaching methods, apply and integrate the methods of cooperation in e-learning environment, which helped to develop a computer system and network administrator's professional competence. Cooperation was developed and enriched the students' self-experience and added value to competences development.

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GRAFISKĀS IZGLĪTĪBAS UZLABOŠANAS IESPĒJAS TĀLMĀCĪBĀ LIETOJOT DATORSPĒLI

Opportunities of Graphical Education's Improvement Using Computer Game in Distance Education

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Abstract. *Novaday's situation in the graphical education is the same all over the world. Small number of contact hours and very different entrance level of the first year students at tertiary institutions. To improve the situation the computer game for the training of the basic skills in technical drawing is created and verified. 120 first year students of civil engineering speciality were involved and 50 of them played the game at home on an optional basis, but other students did not. All the students completed the graphical test after three weeks and results were compared. The number of mistakes was higher for the students who did not play the game. The average mark was higher for the students who played the game. The results of the experiment showed positive influence on learning results and attitude. The paper is recommended to the persons who work in the field of graphical education and create the technical educational aids for this aim. Paper is recommended for all interested people as well.*

Keywords: *computer game, engineering graphics, spatial thinking, technical drawing.*

Ievads

Introduction

Situācija grafiskās izglītības jomā ir samērā līdzīga visā pasaulē. Un tai raksturīgās kopīgās iezīmes ir:

- Studentu sākotnējās sagatavotības līmenis ir ļoti atšķirīgs,
- Stundu skaits priekšmetā ir minimāls,
- Visur pasniedzēji cenšas izstrādāt un ieviest dažādas jaunas informācijas tehnoloģijās balstītas mācību metodes un vides (Kosse & Wijitha, 2011), (de Freitas at al., 2013)
- Ideālā varianta joprojām nav.

Studentu sākotnējās sagatavotības līmenis ir ļoti atšķirīgs. Latvijā vidusskolas mācību programmā vairs nav iekļauta rasēšana vai tehniskā grafika. Dažās skolās ir pieejami fakultatīvie kursi. Daži studenti uz universitāti nāk pēc kādas koledžas beigšanas un zina šos priekšmetus salīdzinoši labi. Savukārt

Rīgas Tehniskajā universitātē grafisko priekšmetu apgūšanai paredzētās kontaktstundas ir samazinātas uz pusi, par divām trešdaļām vai atceltas vispār, atkarībā no specialitātes, salīdzinājumā ar 1994.gadu (Jurāne, 2009). Tātad iznāk, ka tagad grafiskos priekšmetus nemāca skolās un īsti iemācīt nevar arī augstskolā, jo nav pamatzināšanu. Kāda varētu būt izeja no šādas situācijas? Studentiem jāapgūst patstāvīgi vismaz sākotnējais līmenis, lai universitāte varētu dot zināšanas, kas vajadzīgas atbilstošās specialitātes studentiem pienācīgā līmenī. Lai viņi to darītu jābūt motivācijai. Vai nu tā ir obligāto nosacījumu ieviešana, vai arī studentu ieinteresētība. Vislabāk, to saprātīgs apvienojums, kas motivē mācīties un arī gūt no šā procesa pozitīvas emocijas (Kiili, 2005). Nosacījumu un grūtības līmeņa pareiza attiecība izraisa cilvēkā stāvokli, kurš pats provocē tālāku ieinteresētību darba vai mācību procesā (Csikszentmihalyi 1990). Šādu stāvokli Čiksentmihali sauc par plūsmu (flow) un tas apzīmē stāvokli, kura laikā cilvēks pilnībā iegrimst darbībā un izjūt aizrautību un gandarījumu.

Mācību datorspēļu pielietojums un novērtējums pasaulē *Usage and assessment of learning games in the world*

Lai izraisītu šādu stāvokli, un ieinteresētu studentus vairāk laika veltīt mācībām, pasaulē strādā pasniedzēji, pētnieki un IT speciālisti dažādos virzienos, sākot no mazām animācijām ar maināmiem parametriem līdz iespaidīgām tehnoloģijām ar papildināto realitāti (Kaufmann at al., 2000), (Bacca at al., 2014), simulācijām un spēlē balstītu izglītību (Game-based learning) (Pivec , 2007). Šobrīd pasaulē ir daudz dažādi jauni nosaukumi, kas saistīti ar tehnoloģiju ienākšanu izglītībā. Tie ir tehnoloģiju atbalstīta mācīšanās (technology-enhanced learning (TEL)), visuresošā mācīšanās (ubiquitous learning (u-learning)), kas pieejamā no jebkuras vietas, mobilā mācīšanās (mobile learning (m-learning)), kas izmanto telefonus, nopietnās spēles (serious games), virtuālā realitāte, papildinātā realitāte, simulācijas, virtuālās laboratorijas u.c. Dažādas vides tiek apvienotas mācību mērķiem, piemēram, Latvijā izstrādātā platforma e-Big3, kas apvieno datora, televizora un mobilā telefona iespējas mācību mērķiem tālmācībā (Kapenieks at al., 2014),(Gorbunovs at al., 2014). Paralēli strādā pētnieki, kas pēta kā tieši šīs jaunās tehnoloģijas ietekmē studentu motivāciju, mācību rezultātus un studentu individuālo mācību procesu (Di Serio et al., 2013; Bujak et al., 2013; Chang et al., 2014). Šo pētījumu rezultāti rāda, ka nav viennozīmīga vērtējuma. Fengfeng Ke no Ņūmeksikas universitātes (Ke, 2011) analizējis 65 spēļu novērtējumus un konstatējis, ka 35 no tām uzrāda nozīmīgu pozitīvo efektu, 17 uzrāda daļēju pozitīvu efektu, 12 neuzrāda sevišķu atšķirību no klasisko metožu rezultātiem, bet vienā gadījumā novērots daudz lielāks efekts no klasiskās apmācības metodes, nekā no spēles (Christensen & Gerber, 1990). Tāpat šis pētījums secina, ka šīm spēlēm lielāks efekts bija uz studentiem, kam ir grūtības ar

uztveri vai kam trūkst priekšzināšanu (Ke & Grabowski, 2007). Tāpat apstiprina arī citu pētnieku (Vogel at al., 2006) atziņu, ka īpaši liela ietekme spēlēm ir uz studentu motivācijas un attieksmes maiņu pozitīvā virzienā. Interesanti, ka spēles vairāk veicina tādas augstāka līmeņa domāšanas kvalitātes kā plānošana, pamatojums, stratēģija, nevis vienkārši faktu un informācijas uzkrāšanu. Daži pētījumi uzrāda dzimumu atšķirības attieksmē pret spēlēm un sasniegtajos rezultātos (Inal & Cagiltay, 2007), bet citi to noliedz (Haynes, 2000; Ke & Grabowski, 2007). Tomēr kopumā F. Ke atzīst, ka katra spēle tiek aprakstīta dažādi, ir atšķirīgas pētījumu metodes un atšķirīgas mērķauditorijas. Dažos pētījumos konstatēts, ka spēle pati par sevi neuzrāda augstāku mācību rezultātu par konvenciālo apmācību, bet spēle, kas papildināta ar jautājumiem un starprezultātiem, uzrāda nozīmīgi lielāku pozitīvo efektu nekā tikai spēle vai tikai konvencionālā apmācība (Cameron @ Dwyer, 2005). Nozīmīga ir arī spēli papildinošo mācību instrukciju klātbūtne, jo spēlē bez papildus mācību informācijas students iemācās spēlēt spēli un panākt rezultātu spēlē, bet mazāk pievērš uzmanību zināšanām, kas šajā spēlē ieguldītas (Leutner, 1993).

Visvairāk spēles ir izstrādātas matemātikas, fizikas, militārās, valodu un dabaszinību sfērās.

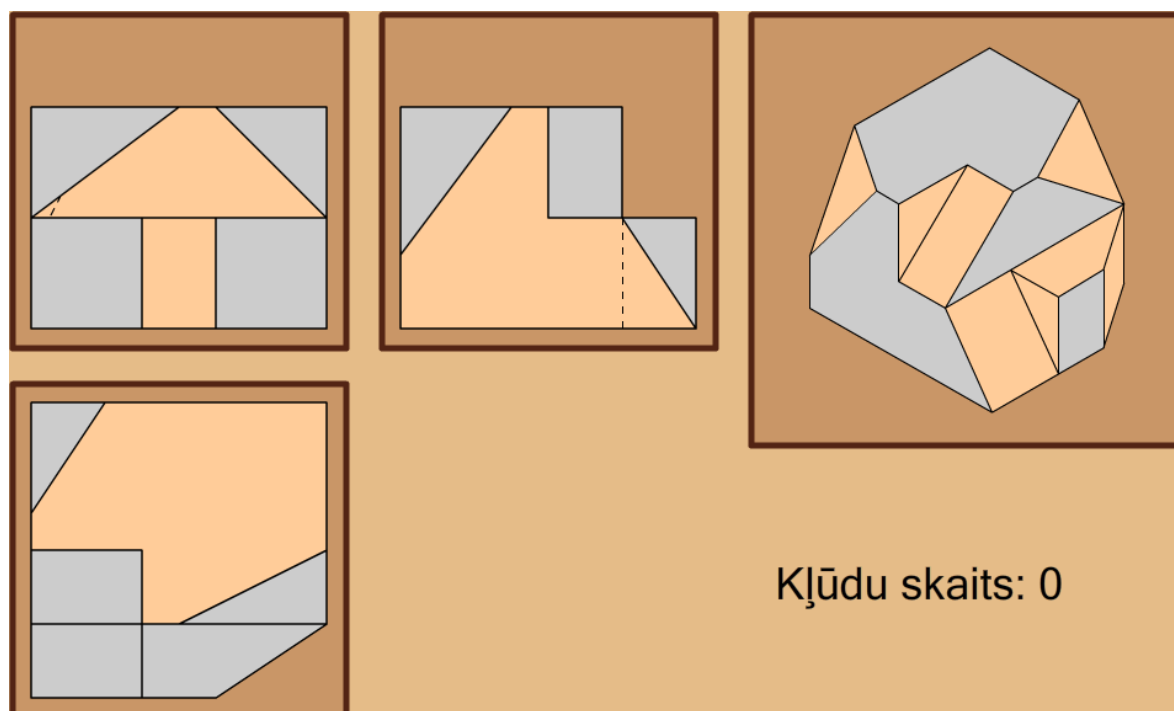
Datorspēle inženiergrafikā *Learning game for engineering graphics*

Ideja par datorspēli kā trenāžieri radās akūtas nepieciešamības apstākļos, kad stundu skaits ir tik minimāls, ka tajā laikā ar tradicionālajām metodēm vairs kvalitatīvu rezultātu sasniegt nevar. Tas vēl jo vairāk attiecas uz tālmācības studijām. Iemesls ir tas, ka inženieru izglītībā ir kritiski svarīgas ne tikai zināšanas, bet arī spējas. Vizualizācijas spējas ir būtiskas inženieriem, matemātiķiem u.c. tehnisko specialitāšu pārstāvjiem (Strong @ Smith, 2001). Spējas ir jātrenē risinot līdzīgus uzdevumus vēl un vēl (Kotarska-Bozena, 2008, Meyers, 2000). Datorspēle ar pagaidu nosaukumu „Rasēšana” ir izstrādāta Rīgas Tehniskās universitātes (RTU) un Liepājas universitātes (LU) kopdarba rezultātā. Šis darbs vēl ir procesā, bet provizoriskie rezultāti jau ir vērojami.

Šajā spēlē ir veidoti uzdevumi dažādu spēju trenēšanai. Tās ir – telpiskā domāšana, vizualizācija un konstruktīvā domāšana (Jurāne, 2012). Un, protams, tā ir mācību spēle, tāpēc tai ir jāsniedz arī zināšanas. Tāpēc katram mērķim ir jāveido atšķirīga tipa uzdevumi. Tā kā darbs vēl ir procesā, pirmais pārbaudes eksperiments testēja pirmos uzdevumus par pamatzināšanām priekšmetā, un vizualizācijas vienkāršāko līmeni, t.i. spēju pāriet no telpas uz plakni, ja abas versijas ir dotas, tikai jāizvēlas pareizais no dotā.

Eksperiments *Experiment*

Lai pārbaudītu, kā spēle darbojas vispār, kādas ir atsauksmes no studentiem un kādus rezultātus varam sasniegt, 2014. gada rudens semestrī šo spēli spēlēja RTU Tālmācības nodaļas studenti. Spēle bija brīvprātīgs pasākums, tāpēc no 120 būvniecības specialitātes studentiem aptaujas anketas aizpildīja un spēli spēlēja tikai 50. Eksperimenta gaita bija sekojoša. Tālmācības studentiem semestra laikā plānotas divas lekcijas, katra 4 akadēmisko stundu garumā. Pirmajā lekcijā studentus iepazīstina ar uzdevumiem un sniedz pamatinformāciju par priekšmeta sākuma tēmām. Šajā lekcijā arī tika prezentēta spēle un lūgts to izmantot, lai sagatavotos testam, kas sekos nākošās lekcijas sākumā. Testu pildīja visi studenti. Tas ir grafiskais tests un tā uzdevumi speciāli paņemti tieši no spēles uzdevumiem. Testam bija divas lapas. Pirmajā lapā attēlotais uzdevums ir precīzi pirmā spēles uzdevuma pirmais variants. Tas dod priekšrocības tiem studentiem, kas spēlei bija izspēlējuši vismaz pirmo variantu. Arī otrās lapas daži uzdevumi bija no spēles, bet daži nē.

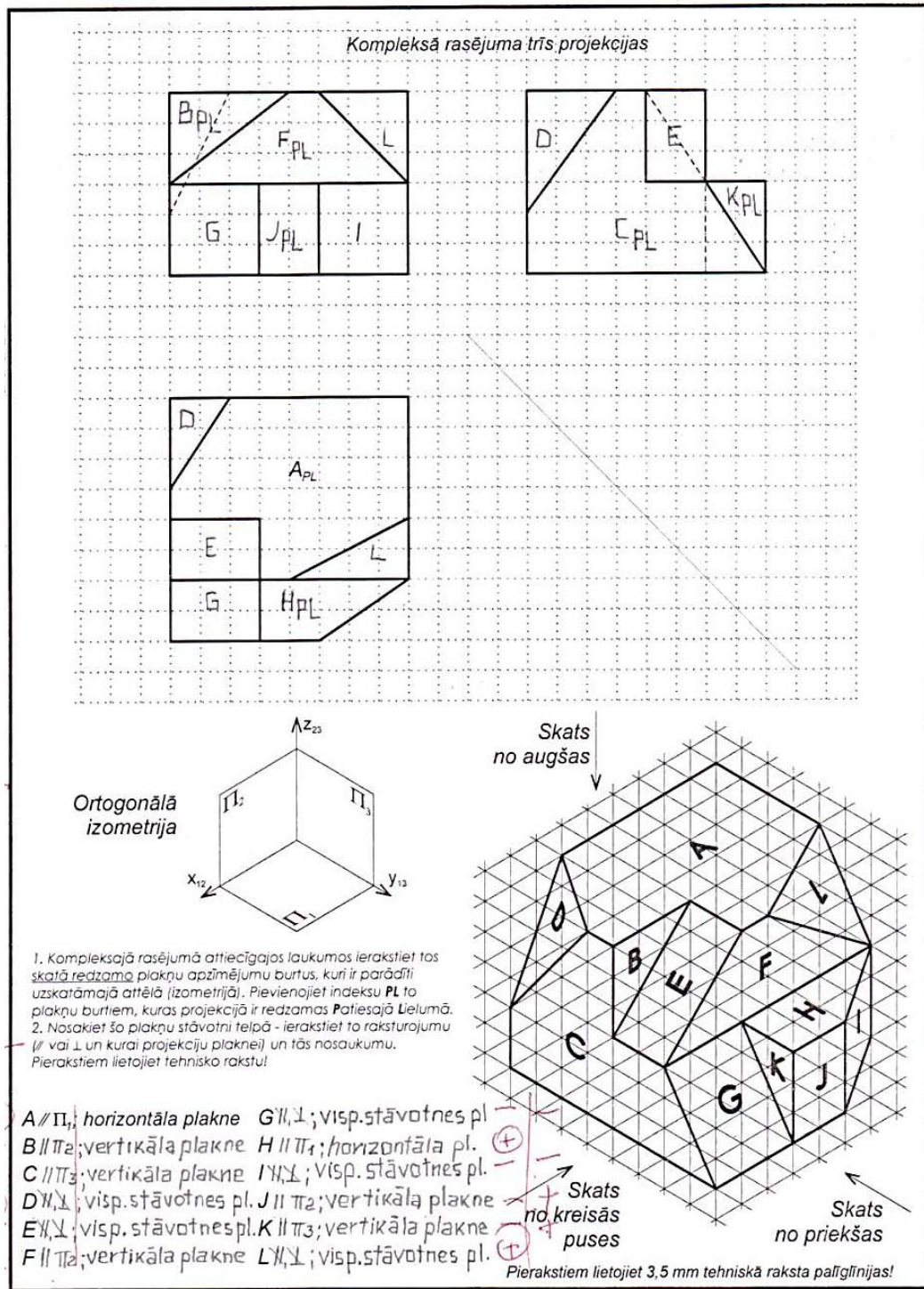


1. attēls. Pirmā uzdevuma pirmais variants spēlē
Figure 1. First task in the game

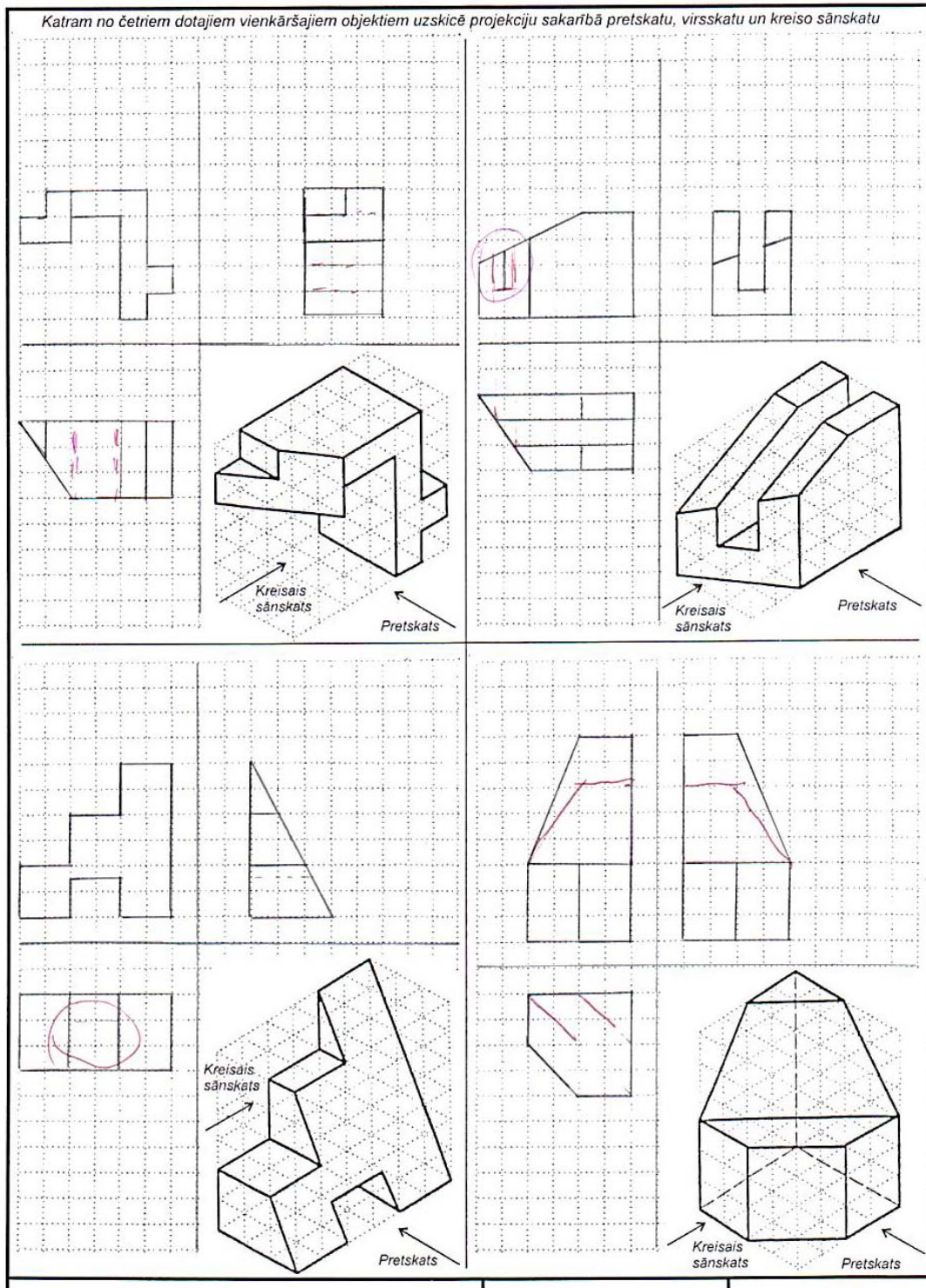
Pirmais uzdevums spēlē (1.attēls) ir tas pats, kas testā, taču izskatās citādi. Testā plaknes apzīmē ar burtiem, spēlē krāsu no plaknes aksonometrijā pārvelk uz atbilstošo projekciju. Kad tas ir izdarīts, tiek piedāvāts aprakstīt katras plaknes novietojumu telpā. Testā tas viss ir uz pirmās lapas (2.attēls).

Testa vērtējums sastāvēja no četriem kritērijiem pirmajā uzdevumā un trijiem kritērijiem otrajā. Kritēriji **pirmajā uzdevumā** ir:

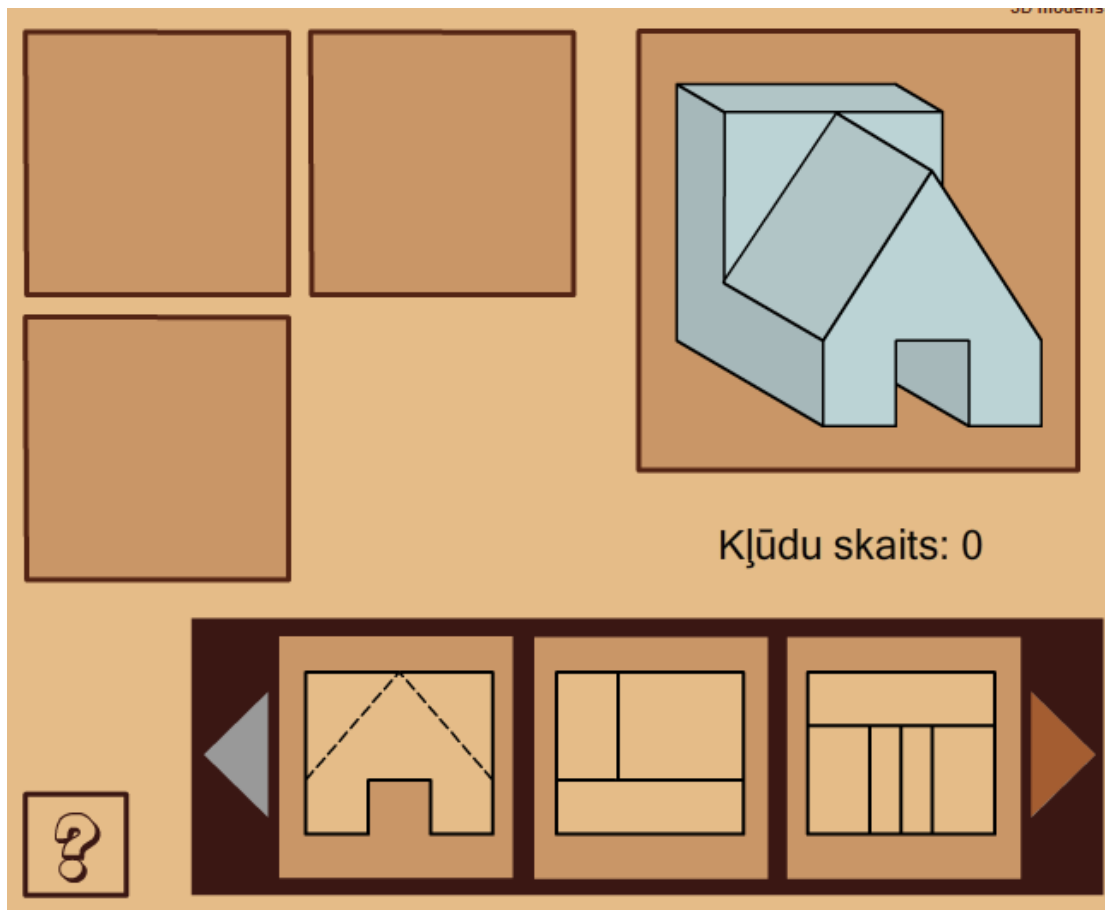
1. Pareizi identificētas plaknes.
2. Pareizi noteikti plakņu patiesie lielumi.
3. Plakņu novietojums attiecībā pret projekciju plaknēm.
4. Pareizi plakņu nosaukumi.



2. attēls. Testa pirmais uzdevums izpildīts
 Figure 2. First task in the test



3. attēls. Testa otrā lapa izpildīta
 Figure 3. Completed second part of the test



4. attēls. Otrais uzdevums spēlē
Figure 4. Second task of the game

Otrajā uzdevumā spēlē (4.attēls) ir dots trīsdimensiju objekta aksonometriskais attēls un tam jāatrod atbilstošas pareizas projekcijas no piedāvātajiem variantiem un jānovieto tās pareizās vietās. Testā dots aksonometriskais attēls, bet projekcijas jāuzskicē studentiem, ņemot vērā arī izmērus, kurus izsaka rūtīņas (3.attēls).

Kritēriji vērtēšanai **otrajā uzdevumā** ir:

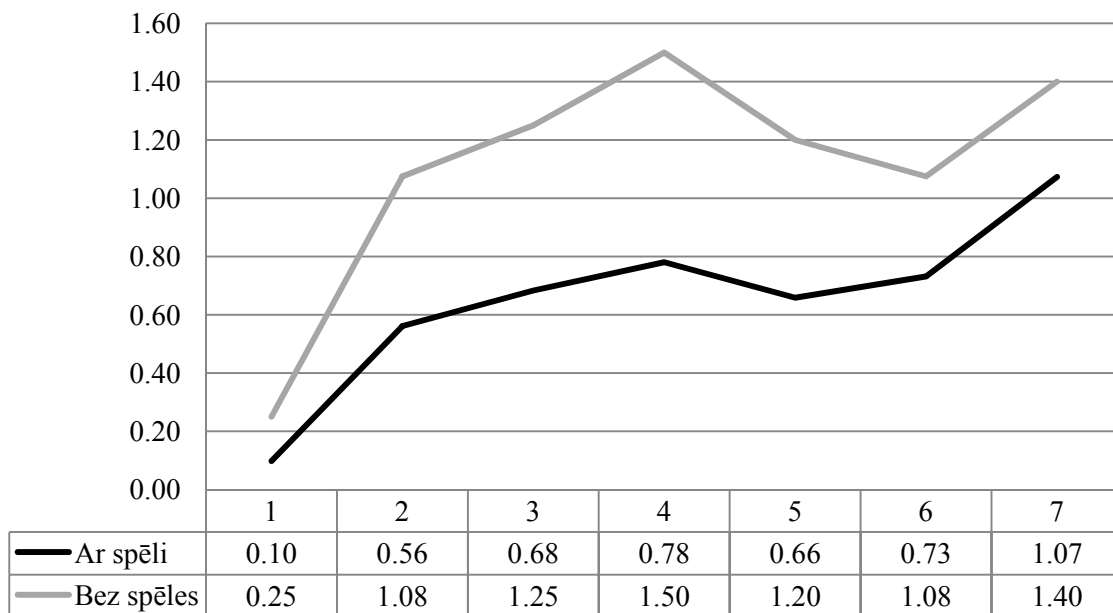
1. Pareiza projekciju sakarība.
2. Pareizi izmēri.
3. Pareizas projekcijas.

Kritēriji tika vērtēti sekojoši:

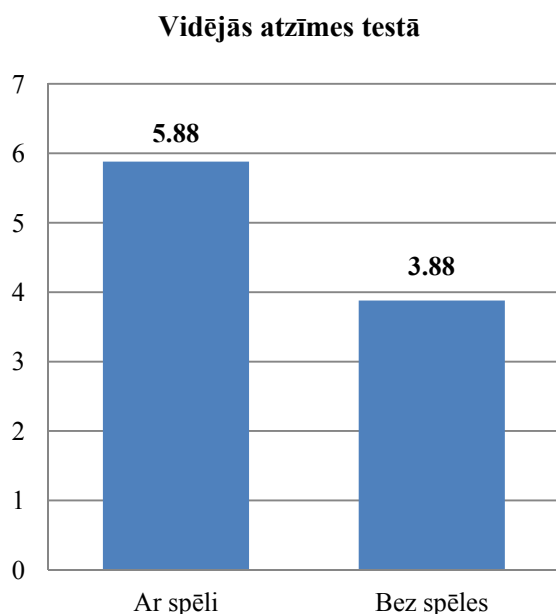
0 - pareizi, 1 - principiāli pareizi, bet ir dažas kļūdas, 2 – principā nepareizi.

Tāds vērtējums bija iespējams, jo katram kritērijam ir jāparādās vairākās vietās. Piemēram, identificējot plaknes, kuras kopā ir 12, kļūda vienā vai divos gadījumos neliecina par principiālu jautājuma neizpratni. Pie šādas vērtēšanas sistēmas labākais rezultāts ir mazākais, tāpēc grafikā attēlotā līkne „Ar spēli” uzrāda labāku rezultātu (5.attēls).

Rezultāti
Results



5. attēls. Rezultātu salīdzinājums pēc testa
Figure 5. Comparing of results after test



6. attēls. Vidējās atzīmes testā
Figure 6. Average marks in test

Pirmie provizoriskie rezultāti rāda, ka spēle darbojas, un tai ir ievērojama pozitīva ietekme. 5. attēlā redzamais grafiks rāda, ka ietekme atšķiras dažādos uzdevumos un kritērijos. Piemēram, pirmais vērtēšanas kritērijs - plakņu identifikācija – ar spēli kļūdu praktiski nav, bez spēles arī ļoti nedaudz. Tas norāda, ka lietas, kas neprasa speciālas zināšanas, kur pietiek ar loģiku, šādas lietas students var izdomāt. Citos kritērijos jau nepieciešamas gan zināšanas gan telpiskās domāšanas pietiekams līmenis. Tur spēles ietekme ir ievērojama. Kritēriju analīze ļauj novērtēt, kādas zināšanas ir ietvertas katrā uzdevumā un uz

kurām spēle uzrāda vislielāko ietekmi. Arī gala rezultāts šajā posmā – atzīme testā, par 34% lielāka ir studentiem, kas ir spēlējuši spēli.

Secinājumi **Conclusion**

1. Pārbaude rāda, ka spēle darbojas, kaut arī ir novērotas tehniskas nepilnības, kas tiek novērstas
2. Nav pietiekoši datu, kas ļautu analizēt studentu darbības un saprast individuālas mācīšanās trajektorijas. To ir plānots iekļaut jaunajā versijā.
3. Rezultāti ir apmierinoši attiecībā uz mācību rezultātiem tajā posmā, ko ietver pārbaude, t.i., pirmie divi uzdevumi no esošajiem četriem.
4. Studentu attieksme ir ieinteresēta un atbalstoša.
5. Ir vērts šo darbu turpināt un papildināt ar citiem uzdevumu veidiem un esošo uzdevumu jauniem variantiem.

Kopsavilkums **Summary**

Situation in graphical education in Latvia is similar as worldwide average, even worse. Students entering higher education institutions have never learned technical drawing. They must acquire the knowledge necessary for engineers of future in a very small number of hours. This particularly applies to distance learning students. In addition, the spatial reasoning skills are essential for graphical education. One of the biggest problems engineering students are facing is visualization. Visualization skills have been found to correlate highly with successes in engineering and mathematics in general. To train skills, similar tasks should be completed repeatedly. To automate this process and make it more interesting computer game is designed. The aim of this game is to develop basic skills and knowledge for technical drawing.

The article describes the testing of the first two interactive tasks of the game. 120 first year distance education students participated in the experiment and 50 of them played the game at home on an optional basis, but other students did not. After three weeks, all students completed the graphical test, which consisted of the game's tasks. During the test each task was evaluated by separate criteria which suggest exactly which skills are most affected by the game and which one less. On average, the test results are for 40.54% better for those who played the game. Also the average grade of the players is 34% higher.

This suggests that the game is carried out its task, although it is still needed in a number of technical and substantive improvements. Future work is aimed at the creation of new tasks and diversification of complexity of the previous tasks. Also, the difficulty level can be increased. Databases should be supplemented in order to analyze the progress of the study and informative capacity of each task. Pre-test and post-test will be implemented to estimate the development of spatial thinking and monitoring of the learning progress.

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ВИРТУАЛЬНАЯ БИБЛИОТЕКА КУЛЬТУРНОГО НАСЛЕДИЯ СРЕДНЕАЗИАТСКИХ ТЮРКОВ В ПИСЬМЕННЫХ ИСТОЧНИКАХ XIX ВЕКА

Virtual library of cultural heritage of Central Asian Turks in written sources of the XIX century

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Abstract. *The purpose of this article is the creation of specialized databases virtual university unique full-text library of scientific and educational resources on the cultural heritage of the Central Asian Turks, which are reflected in the written sources of the XIX century and the development of a virtual environment through the establishment of an effective and efficient search of remote access to the necessary sources.*

Keywords: *database; library corporate networks; methods, modules, algorithms and software systems; research and education information, virtual library.*

Введение *Introduction*

Цели, обозначенные в шестом приоритете Стратегии вхождения Казахстана в число 50-ти наиболее конкурентоспособных стран мира, являются всеобщим достоянием казахского народа. Для реализации данных целей из зарубежных архивов и научных организаций были получены тысячи архивных документов касательно истории и культуры страны. Комплексное изучение, внедрение в учебный процесс архивных документов, имеющих научно-историческую ценность, историко-культурное наследие – важная проблема, стоящая на повестке дня. С этой точки зрения переосмысление в рамках современных исторических реалий и системы ценностей этих фундаментальных научных трудов XIX века, а также обеспечение общедоступности сведений затрагивает цели поставленные Государственными программами «Культурное наследие», «Народ в потоке истории». Предлагаемую тему «Виртуальная библиотека культурного наследия среднеазиатских тюрков в письменных источниках XIX века» можно считать одним из серьезных шагов к реализации поставленных целей вышеназванных программ.

Многие материалы прошлых веков со временем подвержены деформации и другим повреждениям, вследствие чего приходят в непригодность. Поэтому, оцифровка редких исторических документов и рукописей в электронном формате, а также создание технологических

условий для исследования культурного наследия среднеазиатских тюрков посредством современных информационных технологий в виртуальных информационных средах является актуальным.

Целью исследований является разработка методов, алгоритмов и комплекс программ формирования, поиска, обработки и защиты информационных данных редких книг и рукописей для создания электронной библиотеки, а также обеспечение пользователей онлайн доступом к историческим документам в письменных источниках XIX в.

Для достижения цели будут решаться *следующие задачи*: сбор, анализ и систематизация письменных источников XIX в.; Создание электронных версий (оцифровка), соответствующих тематике научно-исторических документов; Разработка структуры базы данных и электронного каталога редких документов. Разработка методов, модулей и средств формирования, поиска, обработки и защиты информационных ресурсов, и предоставление к ним онлайн доступа в виртуальных информационных средах и корпоративных сетях; Разработка программного обеспечения с использованием «облачных технологий» и внедрения системы в корпоративной сети университета.

Предметом исследований является коллекция редких книг и рукописей, относящихся к культурному наследию среднеазиатских тюрков в письменных источниках XIX века.

Идея проекта заключается в создании технологических условий для предоставления учёным, преподавателям и студентам республики широкого доступа к богатым информационным материалам, касающиеся истории, культуры, экономики и других сторон жизни казахского народа, и других этносов, населявших Туркестанский край в прошлые века.

Исследование направлена на пополнение специализированных баз данных университетской виртуальной библиотеки уникальными полнотекстовыми научно-образовательными ресурсами по культурному наследию среднеазиатских тюрков, которые отражены в письменных источниках XIX века и развитие виртуальной среды, путем организации эффективного оперативного поиска и дистанционного доступа к необходимым источникам.

Значимость проблемы заключается в созданий технологических условий для широкого круга потребителей, доступа к редким фондам, касающихся культурного наследия среднеазиатских тюрков, путем оцифровки и сохранения в электронном формате; в применений новых информационных технологий в создании специализированных баз данных ценных материалов прошлого нашего края, которое позволило бы не только повысить уровень научных исследований и образования, но и организовать эффективную работу систематизации богатого культурного наследия и предоставлять потребителям релевантную информацию.

Основная часть *Theoretical background*

Предварительный обзор проведённых нами предшествующих научных исследований показывают, что основные письменные источники XIX в. Являющиеся культурным наследием среднеазиатских тюрков, в которых приведены уникальные полнотекстовые материалы, хранятся в библиотеках и архивах стран постсоветского пространства, ближнего и дальнего зарубежья.

Эти коллекции, отделенные друг от друга по времени и отличные по задачам, дают возможность проанализировать различные аспекты культурного наследия в письменных источниках Центральной Азии. Сравнение этих ансамблей позволяет рельефнее реконструировать особенности ситуации Туркестанского края и проследить через историю их создания отдельные элементы культурного наследия в письменных источниках того периода Казахстана и Среднеазиатских республик в целом.

Исследование и изучение материалов, относящихся к культурному наследию Казахстана в письменных источниках XIX века и хранящихся в библиотеках и архивах постсоветского пространства, предположительно будут рассмотрены нами на основе следующих трех типов архивной документации. Это – коллекция опубликованных материалов, подлинных документов и фотографий – «*Туркестанский сборник*» и «*Туркестанский альбом*»; Архив канцелярии туркестанского генерал-губернатора; Сборник «*Туркестанский край*».

В первом случае мы имеем дело с обширным исследованием каталогизации всего ансамбля рационального знания о регионе, созданного представителями западного и российского “миров”. Во втором – со строительством репрезентативно-глянцевого экспортного образа края усилиями русской Туркестанской администрации. В третьем – с практически моно логичным документальным отражением системы военно-народного управления. Наконец, в последнем – с исторической реконструкцией первых этапов завоевания Средней Азии. Их сравнение между собой, позволяет наиболее конкретнее реконструировать особенности ситуации в Туркестанском крае и проследить через историю их создания отдельные элементы функционирования системы того периода.

Центральной научной библиотекой (ЦНБ) РГП «Ғылым ордасы» была создана краеведческая картотека «Казахстан на страницах “Туркестанского сборника”» из 20 каталожных ящиков. В последующие годы из-за целого ряда причин (финансовых трудностей, широты разнообразия разрабатываемой библиографической тематики, отсутствия возможных поездок в командировки для сбора материалов и дополнений к картотеке,

отсутствия оборудования для издания печатной продукции) ЦНБ почти 40 лет не могла довести указатель до издания. Все эти годы материал функционировал в виде служебной картотеки и был малодоступен широкой научной читательской аудитории.

Изданный ЦНБ в 2002 году аннотированный библиографический указатель, включает 2117 литературных источников – книг, научных статей и докладов, путевых заметок, очерков, статистических материалов, статей из периодических изданий того времени, географических карт, иллюстративных материалов (Е. Ivanchikova, 2002).

В настоящее время одним из важных научных и прикладных направлений информатики является оптимизация поиска необходимых данных в огромном массиве данных виртуальных библиотек, который увеличивается экспоненциально с каждым годом. Это особенно важно в сфере поиска научно-образовательной информации, где оперативность поиска особенно актуальна (А. Kasimbekov & Е. Alzhanova, 2014). Увеличение изданий и объема информации усложняет поиск нужной информации. Развитие информационных технологий привело к существенному повышению эффективности создания библиотечно-информационных ресурсов, оперативность поиска информации повысилась в сотни и тысячи раз. Но создание самих информационных ресурсов (электронных каталогов, баз данных и др.) является довольно дорогим процессом (М. Rakhmatullaev, 2013).

Созданные мощные средства поиска информации, например, как Google и др., не позволяют удовлетворить потребности пользователей из-за наличия огромного процента информационного «мусора», излишней информации, просмотр которого занимает много времени и средств. Пользователь научно-образовательной информации нуждается в точных и ценных данных в библиотеках, где сосредоточены наиболее релевантные источники (А. Kasimbekov, 2012).

Конечно, современные средства поиска информации дают огромные преимущества перед традиционными. Это, прежде всего повышение оперативности поиска данных в огромном массиве информации, причем разнородной и не всегда систематизированной. Как показывают исследования, при вводе поисковых образов в виде ключевых слов, авторов или наименований источников и других критериев мы получаем нередко довольно большой объем данных, обработка которых занимает значительный промежуток времени. Но сегодня пользователь требует не только оперативность получения данных, но и достоверность данных, концентрации полезной информации, а не разнообразности по искомой теме. Это особенно актуально при работе с информационно-библиотечными системами (М. Rakhmatullaev, 2014).

Изучены опыты разработок автоматизированных систем в Northeastern University, Библиотеки Конгресса, Harvard и др. (США), Научно-

технической и Национальной библиотек Чехии, Венгрии, Турции, Италии, Литовской Национальной библиотеки Каунасского университета. Изучены опыты разработок телекоммуникационной инфраструктуры (МАЛТЕЛЕКОМ) и преподавания информационных технологий в Жахорском университете Малайзии, а также использовался опыт стажировки в Германии (2008), США (2006-2007), Польше (2008), России, Италии (2011), Англии (2011).

Осуществлен обзор систем автоматизации библиотечных ресурсов «АС ГПНТБ», «ИРБИС», АИБС «РУСЛАН» (<http://www.ruslan.ru/>), АИБС «МАРК-SQL» (<http://www.informsystema.ru/>), АИБС «Liber-media» и «ABSOTHEQUE Unicode» (<http://www.libermedia.ru/>), «OPAC Global» (<http://www.ditm.ru/>) и др.

Предварительный обзор предшествующих научных исследований, проведенных в мировой практике, относящихся к исследуемой теме и их взаимосвязь с настоящим исследованием заключается в особенностях, который выражается общностью изучаемых архивных источников, т.е. объектами исследования является одни и те же источники, исследуемые с разных позиций. Одни рассматривают эти письменные источники (архивов) как «культурное наследие» Центральной Азии, а другие, особенно зарубежные исследователи – как модель «колониальных архивов российского Туркестана» (S.Gorshenina & d'Ankevon Kügelgen, 2011; S. Gorshenina & S.Abashin, 2009; K. Schwarz Verlag, 2004).

В отличие от зарубежных стран, «русские колониальные архивы» ни в советское, ни в постсоветское время не расценивались как колониальные. Они по-прежнему остаются распыленными по всей территории бывшего советского пространства и ждут, пока созреют другие токи зрения («видения»).

Сравнительный анализ вышеуказанных архивных источников XIX века и систем информационного обеспечения образовательных и научно-исследовательских учреждений, относительно состояния исторических материалов редких книг и рукописей показывают, что: многие материалы прошлых веков со временем подвержены деформации и другим повреждениям, вследствие чего приходят в негодность; оперативность поиска информации в электронных, виртуальных и корпоративных библиотеках в сотни и тысячи раз быстрее по сравнению с традиционными способами; современные средства автоматизации позволяют существенно расширить границы распространения знаний через базы данных, электронные каталоги и онлайн доступ как в интранет, так и интернет сетях; многие автоматизированные системы хранения, обработки и передачи научно-образовательной информации носят локальный характер, позволяющие через автоматизированные библиотечные системы получать доступ к базам данных лишь в локальных сетях или через интернет без организации работы в корпоративной сети; низкий уровень

интеллектуализации интерфейса, что усложняет работу для неподготовленных пользователей; недостаток эффективных математических моделей, алгоритмов и методов параллельной обработки данных для повышения скорости работы в корпоративных сетях.

Поэтому возникает необходимость в развитии направлений связанных с решением задач создания эффективных методов, средств формирования, поиска и обработки редких и ценных информационных ресурсов, предоставления к ним онлайн доступа в виртуальных информационных средах и корпоративных сетях на основе «облачные технологии» Cloud technologies (или Cloud Computing) является актуальным (Armbrust, M., 2009; Ergun, T., 2010).

Проведение исследований и разработка методов и прикладных программных комплексов для обеспечения эффективного формирования электронной научно-образовательной информации, особенно ценных редких изданий и рукописей, так и организации онлайн-доступа к ним в корпоративной сети обосновывается следующими обстоятельствами: рост информационных потоков и объема данных за последние десятилетия; необходимость систематизации данных и знаний с целью выявления наиболее информативных секторов; дефицит времени для обучаемых лиц при поиске информации и для специалистов, создающих сам контент.

По сравнению с аналогами база данных и программный комплекс будет отличаться тем, что: будет содержать ценную информацию о наследии республики в прошлые века, имеющую не только высокую научную и образовательную ценность, но культурно-воспитательное значение; будет иметь универсальную структуру и ориентирован на международные стандарты описания библиографической информации (MARC и DUBLIN CORE); позволит конечным пользователям (преподавателям, ассистентам и др.) без специального образования (библиотечного) вводить (описывать) источник информации (учебники, статьи и др.) и вводить данные в электронные библиотеки и работать в корпоративной сети; даст возможность обучающимся иметь онлайн-доступ к электронным ресурсам, производить поиск полной разнородной информации через электронный каталог и повысить информативность исследуемой темы; программный комплекс позволит работать как в автономном режиме, так и в корпоративной сети, создавая виртуальную библиотеку, что даст возможность оперативно обеспечить пользователей необходимой информацией, независимо от их месторасположения.

Главной научной идеей и ожидаемым научным результатом работы, а также преимуществами по сравнению с существующими исследованиями являются: электронная библиотека, содержащая ценную информацию о наследии республики в прошлые века, имеющую не только высокую научную и образовательную ценность, но культурно-воспитательное

значение; программный комплекс, позволяющий создавать электронные библиотеки, ориентированный на международные коммуникативные форматы, сможет работать как в автономном режиме, так и в корпоративной сети, создавая виртуальную библиотеку, что даст шанс оперативно обеспечить пользователей необходимой научно-образовательной информацией; воплощение результатов в программном комплексе и в составе корпоративной автоматизированной библиотечной системы даст возможность создать виртуальную среду поиска научной информации для оперативного обмена данными между участниками корпорации.

Для сокращения расходов по этому процессу в развитых западных странах начали создаваться кооперированные системы каталогизации или системы корпоративной каталогизации. В Казахстане с середины 90-х годов началось освоение и внедрение библиотечных систем, позволяющих автоматизировать все основные библиотечные процессы: начиная с электронной каталогизации и кончая обслуживанием читателей. Более сотен библиотек и вузов активно работают над созданием своих электронных библиотек. Но отсутствие методов и средств кооперации работ приводит к неоправданным расходам, связанным с дублированием записей, к усложнению поиска информации из-за отсутствия баз данных авторитетных записей, которые позволяют в процессе поиска учитывать различные формы записей об авторах изданий (псевдонимы и др.).

Научная новизна исследования заключается в разработке методов, алгоритмов и программных комплексов по формированию электронного каталога, базы данных и оперативному обеспечению пользователей редкой уникальной научно-образовательной информацией о культурном наследии; разработка электронной библиотеки с редкой уникальной научно-образовательной информацией о культурном наследии Среднеазиатских республик, которая будет реализована в корпоративной сети университета и (режим виртуальной библиотеки) пополняться регулярно новыми ценными документами; разработка программного модуля защиты электронных ресурсов от несанкционированного доступа к ценным информационным ресурсам.

Реализация результатов исследований позволит: существенно повысить уровень научных исследований и образования за счет оперативного доступа к ценным информационным источникам по культурному наследию Казахстана и других республик Средней Азии; расширить возможности распространения ценных знаний благодаря предоставлению информационных ресурсов виртуальной библиотеки по корпоративной сети университета (а в дальнейшем в сети библиотечного консорциума республики); разрабатываемые методы и программный комплекс позволят повысить эффективность информационного обмена между ведущими научными и учебными учреждениями других стран за

счет создания новых, актуальных научно-образовательных ресурсов (баз данных), соответствующих международным требованиям представляемых в реальном масштабе времени (онлайн).

В настоящее время в учебных заведениях и научно-исследовательских учреждениях республики наблюдается существенный рост интереса к редким книгам и рукописям, а также к оперативному получению доступа к научно-образовательной информации в них. Реализация исследований обеспечит необходимой ценной информацией ученых, преподавателей и студентов, что приведет к повышению уровня научных результатов и качеству диссертационных работ. Будет способствовать созданию новых рабочих мест по информационному обслуживанию, как местных пользователей, так и зарубежных за счет разрабатываемой универсальной программной оболочки, которая приведет к созданию новых баз данных и виртуальных библиотек различной предметной ориентации.

Результаты исследований окажет существенное влияние на науку, технологию и социальную сферу по следующим причинам: обеспечение важной информацией научные и образовательные учреждения и повышение уровня достоверности, упрощение формулировки запросов в корпоративных библиотечных сетях. Это в свою очередь расширит круг пользователей научно-образовательной информации и электронных библиотек, что повлияет на социальную сферу (сокращение уровня безработицы, развитие социально-экономической сферы и др.); предоставит доступ к ценным источникам культурного наследия, как Казахстана, так и других соседних республик;

В проекте предусмотрено продолжение исследования вопросов истории и культуры других народов Средней Азии в архивных документах и пути совершенствование научно-образовательных ресурсов в виртуальной библиотеке на основе ГИС-технологии.

Основными методами решения поставленных задач являются историография, источниковедение, архивоведение, т.к. сбор и сравнение данных из источников даст возможность для системного анализа объектов информационного обеспечения, поиска и обработки данных. Ввиду того, что материал насчитывает 594 тома, потребуются быстрая и четкая навигация, все это подразумевает оцифровку и оптическое распознавание недостающих частей. Предполагая, что в конечном итоге для пользователей будет разработано программное обеспечение либо веб-сайт, будут применяться теория графов; математические методы оптимизации; методы математической статистики и Web технология.

Альтернативными путями реализации исследований являются: адаптация существующих программных оболочек («открытых систем» типа Greenstone, КОНА и др.), которые позволили бы использовать готовые технологические решения, но затруднило бы развитие разрабатываемой системы в плане реализации, особенно в режиме

«виртуальной библиотеки». Использование собственных разработок (математических моделей, алгоритмов и программных модулей) позволит решить поставленные задачи.

В качестве защиты интеллектуальной собственности предлагается приобретение патента на программный комплекс.

Выводы *Conclusions*

Таким образом, обобщая вышеизложенных фактов можно сказать, что применение современных информационных технологий в создании специализированных баз данных редких и ценных письменных источников позволит: повысить уровень научных исследований и образования за счет эффективной организации работ по сбору, анализу и систематизации богатого культурного наследия; предоставить доступ к редким и ценным источникам культурного наследия среднеазиатских тюрков, в письменных источниках XIX века.

Ожидаемыми результатами являются виртуальная библиотека, содержащая информацию о культурном наследии Среднеазиатских республик, имеющую научную и культурную ценность; программный комплекс виртуальной библиотеки редких изданий, ориентированный на международные коммуникативные форматы, которая может обеспечить пользователей необходимой научно-образовательной и другой информацией.

Потенциальными потребителями результатов исследований являются ученые, преподаватели, студенты и другие категории пользователей, которые смогут иметь широкий доступ к богатым информационным материалам, касательно истории, культуры, экономики и других сторон жизни народов среднеазиатских тюрков в письменных источниках прошлых столетий.

Summary

The urgency is the need to establish process conditions for a wide range of consumers, access to rare fund relating to the cultural heritage of the Central Asian Turks, by digitizing and storing in electronic format. Many of the materials of the past centuries with time subject to deformation and other damage, as a result come to unsuitability. That is why, digitalized historical documents and manuscripts in electronic format, and also made technological conditions for the study cultural heritage of the Central Asian Turks by means of modern information technology in virtual IT environments is important.

At the heart of *using methods* based on the following methods and forms of scientific investigation: historiography, source, archive, system analysis objects providing information, search and data processing; graph theory; mathematical methods of optimization and Web technology.

Expected results are virtual Library containing valuable information about the heritage of the country, having a scientific and cultural value; software package that focuses on

international communication formats, the creation of a virtual library of rare books, which can provide users with the necessary scientific, educational, and other information.

The use of new information technologies in the creation of databases of written source allow not only to raise the level of research and education, but also to organize the effective work of collecting, managing, rich cultural heritage and to provide people with accurate information.

Potential consumer results of project are scientists, teachers, students and other categories of citizens of the republic, who will be able to have access to a wealth of information materials about the history, culture, economy and other aspects of life of the peoples of Central Asian Turks in written sources of last year.

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Edgars Katans, Inese Jurgena, Irēna Katane, Benita Svareniece. Neformālās izglītības programmas "Programmēšana" izstrāde un izvērtēšana tālmācības vidusskolas vidē

NEFORMĀLĀS IZGLĪTĪBAS PROGRAMMAS „PROGRAMMĒŠANA” IZSTRĀDE UN IZVĒRTĒŠANA TĀLMĀCĪBAS VIDUSSKOLAS VIDĒ

Development and Evaluation of Non-formal Education Programme „Programming” in the Environment of Distance Education Secondary School

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***Abstract.** One of the main aims for the modern education is to facilitate the sustainability of information society, therefore an important feature that highlights differences in the education of the 20th and 21st century is the variety of information and communication technologies (ICT) and the expansion of their application in the education. The development of information and communication technologies caused far-reaching consequences in human life and activities and also seriously influenced education, providing wide perspective for the development of distance education environment. This article represent the results of theoretical and empirical research in the sphere of IT education and computer science. The aim of the research: to substantiate theoretically, develop and evaluate the non-formal education programme “Programming” in the environment of distance education secondary school on the basis of personal experience regarding distance education and pedagogy, the programmer’s professional competence and research results.*

***Keywords:** curriculum, distance learning, nonformal education, programming, secondary school.*

Ievads

Introduction

Viens no mūsdienu izglītības mērķiem ir informācijas sabiedrības ilgtspējīgas attīstības veicināšana. To var realizēt dažādos veidos. Mūsdienās aktualizējas mūžizglītības iespēju piedāvājums informācijas tehnoloģiju (IT) un datorzinību jomā. Savukārt pašas izglītības ilgtspējību var nodrošināt ar izglītības piedāvājuma daudzveidību, kur nozīmīgu vietu ieņemtu neformālā izglītība kā alternatīva un papildinājums formālajai izglītībai IT izglītības joma,

kā arī tālmācība kā jaunas iespējas izglītības ieguvē un alternatīva tradicionālajām klātienē mācībām.

Dažādu cilvēkdarbības jomu digitalizācijas rezultātā mūsdienās vairs nav iedomājama bez jaunākajām informācijas un komunikācijas tehnoloģijām (IKT). Jaunākās tehnoloģijas tiek ieviestas arī izglītībā, paplašinot tālmācības iespējas, t.sk. piedāvājot kvalitatīvas e-studijas, kas ir informācijas un zinību sabiedrības būtiskas pazīmes.

Pēdējo desmit gadu laikā *tālmācība* kā alternatīva tradicionālajam klātienē izglītības procesam kļūst arvien aktuālāka. Kā viena no neklātienē izglītības formām tālmācība, pirmām kārtām, saistās ar pieaugušo izglītības un starptautiskās izglītības jeb pārrobežu izglītības iespēju piedāvājuma paplašinājumu. Ja 20.gadsimtā tālmācība bija izplatīta galvenokārt augstākās izglītības jomā, tad mūsdienās, pateicoties tālmācības metodikas attīstībai un jaunu tehnoloģiju ienākšanai izglītībā, tālmācība kļūst pieejama arī vidējā vispārējā, vidējā profesionālajā izglītībā un pat pamatizglītības vecākajā posmā. Klātienē mācībām un tālmācībai ir gan kopīgas, gan atšķirīgas pazīmes. Tās nosaka tālmācības specifiku, kas būtu jāņem vērā, izstrādājot formālās vai neformālās izglītības programmas tālmācībā.

Daudzi no tālmācības vidusskolu skolēniem veido savu karjeru paralēli mācībām vidusskolā, jo to atļauj tālmācības specifika. Vieni vēlas padziļināt savas zināšanas un pilnveidot prasmes kādā no mācību priekšmetiem, lai iestātos augstskolā, citi - sistematizēt un nostiprināt pašmācības ceļā apgūto kādā no profesionālās darbības jomām, lai iegūtu kādu apliecināšanu dokumentu par neformālās izglītības programmas (piemēram, profesionālās pilnveides programmas) apguvi tajā jomā, kur ir jau uzkrāta zināma pieredze. Ir arī tādi skolēni, kas vēlas iegūt jaunas zināšanas, prasmes un pat kompetences kādā no profesionālās darbības jomām, tādējādi plānojot un veicinot savu profesionālo attīstību un karjeru.

Mūsdienās aktualizējas daudzveidīgas izglītības piedāvājums informācijas tehnoloģiju jomā (IT izglītība), izstrādājot un īstenojot ne tikai formālās, bet arī neformālās izglītības programmas gan klātienē, gan arī tālmācībā. Pētījuma bāzes X Tālmācības vidusskolas skolēniem atbilstoši viņu interesēm un vajadzībām tika izstrādāta profesionālās pilnveides programma programmēšanā, lai to varētu īstenot tālmācības veidā. Raksta *mērķis* ir publiskot teorētisko un empīrisko pētījumu rezultātus, kas, balstoties uz ekoloģisko un interdisciplināro pieeju, tika veikti *tālmācības, neformālās izglītības un IT izglītības* jomās.

Teorētisko pētījumu rezultāti ***Results of Theoretical Research***

Veikto *pētījumu mērķis*: uz teorētisko pētījumu rezultātu bāzes izstrādāt neformālās izglītības programmu „Programmēšana” vidusskolēniem un izvērtēt tās īstenošanas iespējas tālmācības vidusskolas vidē.

Teorētiskie pētījumi tika veikti vairākos virzienos.

- **Tālmācības vides specifikas pamatojums** (Anohina, 2005; Bullen & Janes, 2007; Duggleby, 2000; Feders, 2002; Katane & Katans, 2014; Katane, Katans & Vavere, 2012; Katane, Katans & Vavere, 2013; Katans, 2013; McIsaac & Gunawardena, 1996; Ozoliņa u.c., 2003; Pittman, 1991; Канава, 2010; НИКИТИН, 2011; Хапаева, 2007 u.c.).

Tālmācības ideju pirmsākumi meklējami jau J.A.Komenska darbos. Tālmācības idejas radās un attīstījās līdz ar nepieciešamību demokratizēt, humanizēt un individualizēt izglītību, padarot to pieejamāku un atbilstošāku cilvēku interesēm, vajadzībām, veselībai, dzīves mērķiem, vecumam, dzīves apstākļiem un individuālajam mācīšanās stilam. Attīstoties informācijas un komunikācijas tehnoloģijām, korespondenču jeb sarakstes izglītība kā neklātienas izglītības forma pārtapa par tālmācību. Laika gaitā izkristalizējās tālmācības pamatprincipi: **mācības attālumā, fleksibilitāte un atvērtība**. Tālmācībai ir savas priekšrocības un trūkumi. Pieredze liecina, ka sekmīga tālmācības procesa nodrošinājumā pastāv vēl arī citi principi jeb prasības: 1) atbalstošas, draudzīgas, pašvirzīto mācību pedagoģiski psiholoģiskās vides nodrošinājums; 2) individuālā pieeja mācībās un izglītības individualizācija, dodot iespēju mācīties pēc individuālā plāna; 3) didaktiskās vides nodrošinājums: mācību satura strukturēšana un saprotamība; mācību materiāla daudzveidība, digitalizācija un pieejamība; tālmācībai atbilstošu mācību organizācijas formu un metožu izvēle, tālmācības materiāli tehniskās bāzes nodrošinājums; 4) skolotāja un skolēna daudzveidīga mijiedarbība, t.sk.sinhronā un asinhronā saziņa (ar nobīdi laikā), nodrošinot savlaicīgu atgriezenisko saiti; 6) tālmācības specifikas un paša procesa pētniecība, inovāciju eksperimentāla aprobācija praksē; 7) dalīšanās pieredzē gan institucionālajā, gan indivīdu līmenī.

Lai mūsdienās varētu nodrošināt kvalitatīvu tālmācības procesu, skolotājiem un skolēniem ir jāprot un jāvar darboties (mācīt un mācīties) specifiskajā tālmācības vidē, kam ir vairāki konteksti: informatīvā vide, tehnoloģiju vide, e-vide, pašvirzīto mācību pedagoģiskā atbalsta vide. Tālmācībā viens no pedagoģiskā atbalsta veidiem ir *kiberkonsultācijas*: Skype konsultācijas, videokonferences, e-semināri u.c. Tālmācības neatņemama sastāvdaļa ir e-studijas (e-mācības), taču e-studijas ne vienmēr ir tālmācība. Aktualizējas prasme strādāt ar informāciju: atrast, kritiski izvērtēt un atlasīt nepieciešamo informāciju skolas e-vidē, globālajā informatīvajā tīklā (internetā), strādāt ar elektroniskajām datu bāzēm, gan ievadot tajās jaunu informāciju, gan atrodot, apkopojot jau esošo un to apstrādājot (analizēt, izvērtēt, pārveidot, saglabāt, ievietot savu informāciju u.c); komunicēt gan pa tiešo klātienē, gan pastarpināti, izmantojot dažādus medijus, informācijas un komunikācijas tehnoloģijas.

Aktualizējas skolotāju un skolēnu dažādu tehnoloģiju izmantošanas prasmes un kompetences. Veiksmīga tālmācības procesa pamatā, pirmām

kārtām, ir skolotāju un skolēnu *datorpratība*. Datorpratība ietver gan lietotāja spēju izmantot datoru kā rīku, gan spēju veikt darbības, radoši stādājot ar lietojumprogrammām. Arvien pieaug skolotāju tālmācības *metodiskās* un *mediju kompetences* nozīme, izstrādājot tālmācībai tik ļoti nepieciešamos un tai piemērotus mācību līdzekļus un mācību metodiskos materiālus, mācību videofilmas, pašpārbaudes uzdevumus, interaktīvās ieskaites u.c. Savukārt skolēniem/studentiem ir jāprot mācīties, izmantojot tālmācībā piedāvātos mācību resursus viņu pašvirzītājās mācībās. Pedagogu un skolēnu mediju kompetenci un tālmācības metodisko kompetenci (spēju mācīt un mācīties tālmācībā) var uzskatīt par veiksmīga tālmācības procesa priekšnoteikumu, kā arī rezultātu.

- *Neformālās izglītības būtība un funkcijas mūžizglītības kontekstā* (Babajeva, 2013; Bois-Reymond, 2003; Coombs & Ahmed, 1974; Jarvis; 1987; Katane, 2007; Katane & Kalniņa, 2010; Kravale, 2006; Золотарёва, 2013; Митина, 2004 u.c.).

Tāpat kā klātienē izglītībai, arī tālmācībā piedāvātajai izglītībai jābūt *daudzveidīgai* un pieejamai *jebkurā dzīves posmā* (mūžizglītības aspekts), tāpēc aktualizējas *neformālās izglītības* programmu izstrāde tālmācības izglītības iestādēs, t.sk. tālmācības vidusskolās. Neformālā izglītība ir kā *papildinājums* jeb papildiespējas un/vai *alternatīva* formālajai izglītībai jaunas pieredzes uzkrāšanā, jaunu zināšanu, prasmju un kompetenču ieguvē, kas veicina personības vispārējo un profesionālo attīstību un pilnveidi. Neformālā izglītība ir virskategorija tādiem jēdzieniem kā interešu izglītība, kas ir izplatīts Latvijas izglītības telpā, un profesionālā pilnveide. Interešu izglītībai un profesionālajai pilnveidei kopīgais ir tas, ka nedod iespēju iegūt profesionālo kvalifikāciju (jaunu profesiju), tajā pašā laikā atbilst izglītojamo izziņas interesēm un vajadzībām, nākotnes mērķiem personības un karjeras attīstības perspektīvā. Atšķirībā no profesionālās pilnveides, kas vienmēr dod iespēju saņemt zināšanas, prasmes un kompetences apliecinošu dokumentu un paver jaunas iespējas sevi realizēt darba tirgū, interešu izglītībā akcents tiek likts uz pašu mācību procesu, lai tas būtu atbalstošs, interesants un saistošs, taču ne vienmēr izglītības programmas apguves noslēgumā tiek piedāvāts apliecinošais dokuments (apliecība, sertifikāts u.tml.). Tādējādi redzam, ka neformālā izglītība ir attīstībā esoša, elastīga, daudzveidīga sistēma, kas ir Latvijas izglītības neatņemama sastāvdaļa, kurai nav izteikti valstiski reglamentējošas pārvaldes. Neformālā izglītība bieži vien tiek saistīta ar tālākizglītību un nepārtraukto izglītību mūžizglītības kontekstā.

Izejot no neformālās izglītības specifikas neformālās izglītības piedāvājuma izstrādē un organizācijā ir jārespektē vairāki *principi*: 1) papildiespēju piedāvājuma princips; 2) personības determinācijas princips cilvēkcentrētās pieejas nodrošinājumā; 3) izglītības individualizācijas princips; 4) sistēmiskuma, pārmantojamības un nepārtrauktības princips; 5) humānistiskās pieejas un izglītības humanizācijas princips; 6) izglītības diversifikācijas (dažādības/

daudzveidības) princips; 7) kopveseluma princips izglītībā, t.sk. audzināšanā (neformālā izglītība kā kopējās izglītības sistēmas sastāvdaļa); 8) darbības un aktīvu mācību princips; 9) inopvāciju un pārmaiņu princips; 10) dzīvotspējas, konkurētspējas un ilgtspējas nodrošinājuma princips; 11) ekoloģiskās pieejas princips

Neformālajai izglītībai ir arī vairākas **funkcijas**: 1) audzinošā funkcija; 2) informējošā un izglītojošā funkcija; 3) attīstību, izziņu un aktīvo mācīšanos veicinošā funkcija; 4) atbalstošā funkcija; 5) socializācijas un kulturizācijas funkcija; 6) preventīvā funkcija; 7) profesionālo pašnoteikšanos un profesionālo attīstību veicinošā funkcija; 8) kompensējošā funkcija; 9) rekreatīvā funkcija (atpūtas un relaksācijas iespējas).

- ***Kurikulārās didaktikas un izglītības vadības teorija un prakse izglītības programmu izstrādē informācijas tehnoloģiju jomā*** (Computer Science Curricula 2013, 2013; Computer Science, 2012; Lunt, 2008; Lynch & Knight, 2011; Rutherford & Ahlgren, 1989; Smith & Flores, 2005 et al.), kur ***programmēšanas valoda pamatota kā IT izglītības satura nozīmīga sastāvdaļa*** (C# Language Specification, 2006; Differences Between C++ Templates and C# Generics, 2013; Нейгелидр., 2013; Хейлсбергидр., 2012 et al).

Profesionālās pilnveides programmas „Programmēšana” izstrāde balstījās uz ***kurikulārās didaktikas un izglītības vadības teoriju un praksi***.

Veidojot programmu, tās autoram (E.Katanam) bija jāatbild uz vairākiem svarīgiem jautājumiem.

- Kādai mērķauditorijai tā tiek domāta un ar kādu mērķi izstrādāta?
- Vai ir jau šāda veida izglītības piedāvājums izglītības telpā?
- Kāds ir dotās programmas tiesiskais pamats? Vai programmu piedāvās valsts vai privātā izglītības iestāde? Vai ir nepieciešamas programmu licencēt un akreditēt? Vai ir paredzēts izsniegt iestādes, pašvaldības (izglītības pārvaldes) vai valsts līmeņa apliecināšanu dokumentu?
- Ar ko dotā programma var piesaistīt potenciālo izglītojamo uzmanību? Kāda var būt izstrādājamās programmas konkurētspēja mūsdienu izglītības telpā? Kādas būs izglītības programmas priekšrocības un varbūt arī trūkumi? Vai dotā izglītības programma būs ilgtspējīga?
- Izstrādājot jaunu izglītības programmu, svarīgi bija atbildēt uz jautājumiem, kā vai kādā veidā šī programma tiks realizēta: klātienē vai neklātienē, t.sk. tālmācībā, kādā veidā tiks organizētas mācības (mācību organizācijas formas un mācību metodes), kādā veidā notiks mācību procesa un mācību rezultātu vērtēšana?
- Kāds būs mācību saturs: ko mācīt, cik daudz (cik plaši un cik padziļināti) mācīt, kādā secībā un kurā brīdī mācīt. Kāda būs pieeja un uz kādiem principiem balstīsies programmas veidotājs satura atlasē un izveidē? Kāda būs satura nozīme laika dimensijā (pagātnes

mantojums, tagadnes aktualitāte un nākotnes prognozes un perspektīvas)?

Programmēšanas neformālās izglītības programmas apguvē ļoti svarīga ir programmēšanas valodas izvēle. Šim nolūkam tika veikta darba tirgus izpēte, kāda veida programmēšanas speciālisti, kur speciālistu pieprasītība lielā mērā ir atkarīga no konkrēto programmēšanas valodu zināšanām, prasmēm un kompetencēm, kā arī programmēšanas pieredzes. Pētījumi liecina, ka visā pasaulē vispopulārākā no visām programmēšanas valodām ir *Java* valoda, tad seko *C++* programmēšanas valoda, bet trešajā vietā pēc pieprasītības ir jaunās paaudzes programmēšanas valoda, kas ir ļoti radniecīga iepriekš minētajām programmām, bet ir daudz advensētāka par tām, un tā ir *C#* programmēšanas valoda (Katans, 2014).

Teorētiskie pētījumi (Katans, 2013; Katans, 2014) liecina, ka izglītības programmām informācijas tehnoloģiju jomā jāatbilst laika prasībām, t.sk. jaunākajām informācijas tehnoloģijām, kas arvien attīstās, pilnveidojas, rodas no jauna, tāpēc izglītības piedāvājumam jābūt ļoti elastīgam un mobilam, lai ne tikai ietu solī ar tehnoloģiju progresu, bet arī ar apsteidzi laikā.

Strādājot pie vidusskolēnu neformālās izglītības, t.sk. profesionālās pilnveides, programmu piedāvājuma, svarīgi bija atbildēt uz jautājumu, vai šī programma atbildīs ne tikai mērķauditorijas prasībām, interesēm un vajadzībām, bet arī darba tirgus prasībām, kā arī vai neformālās izglītības procesā iegūtās zināšanas, prasmes un kompetences būs izmantojamas karjeras attīstībā un nodrošinās izglītojamo konkurētspēju darba tirgū.

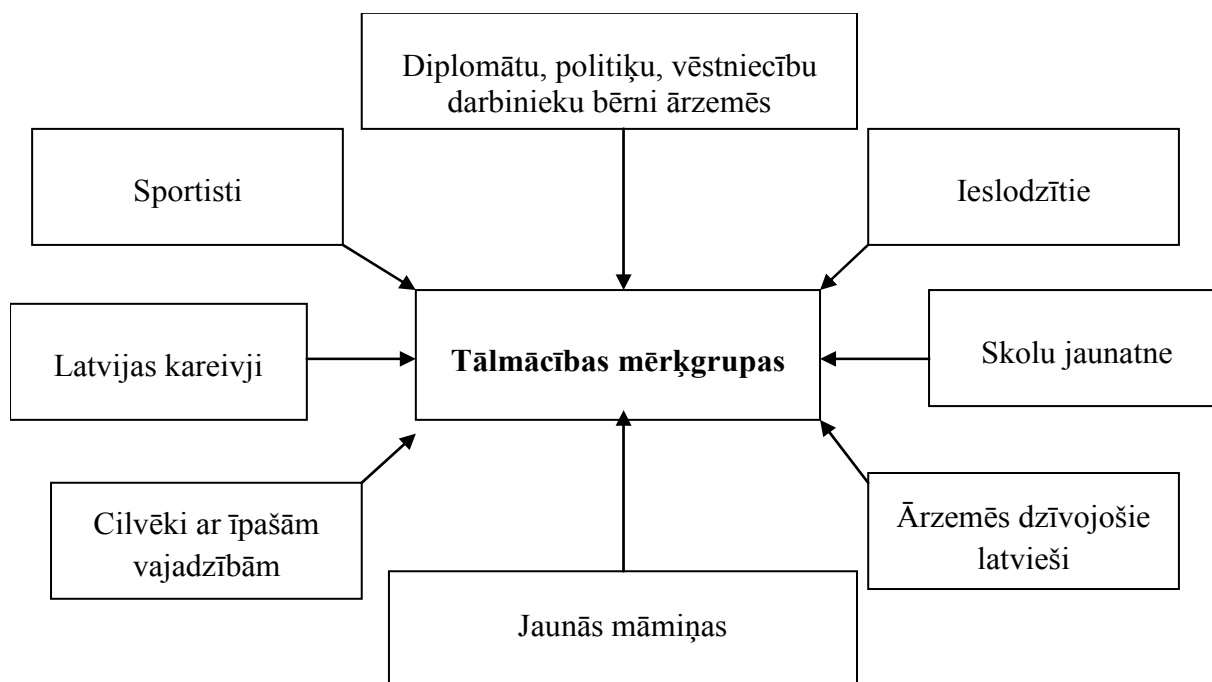
Teorētiskie pētījumi liecina, ka Latvijas un ārvalstu zinātnieki savās publikācijās izdala vairākus personības/speciālista konkurētspējas rādītājus, kā nozīmīgākie notiek minēti *pieprasītība*, *nodarbinātība* (vides determinēts rādītājs) un *nodarbināmība* (personības determinēts rādītājs).

Teorētisko pētījumu rezultāti kalpoja par teorētiski metodoloģisko bāzi vektajiem empīriskajiem pētījumiem. Šajā rakstā tiek publiskoti viena no šiem pētījumiem rezultāti.

Empīriskā pētījuma rezultāti ***Results of Empirical Research***

Neformālās izglītības (profesionālās pilnveides) programmas „*Programmēšana*” izstrādē tika nodrošināta *skolēncentrētā pieeju*.

Tālmācības vidusskolas mērķauditorija ir ļoti neviendabīga. Tālmācības vidusskolēnu viens no spilgtākajiem raksturotājrādītājiem ir vecuma, veselības stāvokļa, priekšzināšanu un prasmju līmeņa, iepriekšējās dzīves, mācību un darba pieredzes, dzīves un darba vietas, kā arī nodarbinātības lielā *dažādība*. Pieredze liecina, ka ir (skat. 1.att.): 1) vairākas tālmācības vidusskolēnu mērķgrupas; 2) dažādi vidējās izglītības ieguves tālmācībā izvēles cēloņi un pamatojuma argumenti.



1. attēls. Tālmācības mērķgrupas (Autors veidots)
 Figure 1. Target groups of Distance Education (Autors' design)

Autoru E.Katana un I.Katanes uzkrātā pedagoģiskā pieredze, strādājot par tālmācības vidusskolas skolotājiem, liecina, ka pastāv vairāki argumenti, kāpēc tālmācības vidusskolēni ir izvēlējušies mācības tālmācības vidusskolā.

- Ekonomiskās situācijas pasliktināšanās rezultātā daudzi Latvijas iedzīvotāji ar visām ģimenēm ir izceļojuši no valsts uz ārzemēm, taču bērni vēlas mācīties dzimtajā valodā (latviešu valodā).
- Palielinās to skolas vecuma pusaudžu un jauniešu skaits, kurus neapmierina mācības tradicionālās klātienē skolās, jo dažādu iemeslu dēļ (sociālā un/vai reliģiskā piederība, labklājības līmenis, ārējais izskats, uzvedība, piederība kādai no jauniešu subkultūrām (emo, goti u.c.), veselības stāvoklis (cilvēki ar īpašām vajadzībām) u.c.) nevar (skolas sociālās psiholoģiskās, pedagoģiskās vides faktori) un arī nevēlas (paša skolēna personības īpatnības) iekļauties tradicionālās klātienē skolas vidē un kuriem ir nepieciešama individuālā pieeja izglītībā, pirmām kārtām, izglītības individualizācija, kur nozīmīgu vietu ieņem individuālie mācību plānu.
- Ir pieaudzis to cilvēku skaits, kas ir ieguvuši tikai pamatzglītību un profesionālo izglītību, bet nebija pabeiguši vidusskolu. Šo cilvēku vidū ir daudz talantīgu cilvēku sportā, mākslā u.c. jomās (sportisti, modeles u.c.), kas visus savus iekšējos, laika un materiālos resursus velta karjeras attīstībai profesionālās darbības jomā. Viņiem ir jādod otrā iespēja iegūt otrā līmeņa jeb vidējo izglītību.

- Kā īpašu tālmācības mērķgrupu var izdalīt jaunās māmiņas, kam mācības ir jāapvieno ar bērnu audzināšanu.
- Tālmācības vidusskolas nodrošina pamatizglītības un vidējās izglītības pieejamību cilvēkiem, kas atrodas ieslodzījumā.
- Līdz ar ekonomiskās krīzi daudzviet Latvijā tika un aizvien tiek slēgtas mazās lauku skolas. Tālmācība kļuva ļoti aktuāla arī šiem skolēniem, kam ir liegta iespēja iegūt vidējo izglītību tuvu mājām, bet nevēlas doties prom no mājām, prom no ģimenes.
- Kaut arī nedaudz, tomēr tālmācības vidusskolēnu vidū ir cilvēki, kuru profesionālā darbība saistīta ar dzimtenes aizsardzību. Tie ir Latvijas kareivji, kas pilda savu profesionālo pienākumu tepat Latvijā vai starptautisko misiju ārzemēs.

Neformālās izglītības (profesionālās pilnveides) programmas „Programmēšana” izstrādes viens no būtiskākajiem pamatojumiem bija tālmācības vidusskolēnu izteiktā vēlme neformālās izglītības procesā apgūt kādu no objektorientētās programmēšanas valodām, lai izmēģinātu savus spēkus programmētāja profesionālajā darbībā, paralēli mācoties kādā no tālmācības vidusskolas vispārējās izglītības programmām.

Tika veikts ***empīriskais pētījums***, lai izvērtētu izstrādātās profesionālās pilnveides programmas „Programmēšana” īstenošanas iespējas tālmācības vidusskolas vidē. ***Empīriskā pētījuma mērķis*** bija veikt izstrādātās neformālās izglītības programmas „Programmēšana” vispiemērotākā īstenošanas veida izvērtēšanu, t.sk. atbildot uz jautājumu, *vai var iemācīties programmēt tālmācībā*. Šajā pētījumā tika izmantota ekspertvērtējuma metode (ekspertīze). Savukārt, lai izvērtētu ekspertu vienprātību šajā jautājumā, secinošās statistikas ieguvei tika izmantots Kendela konkordācijas tests (SPSS 17.0). Lai varētu veikt ekspertīzi, bija svarīgi apzināt un uzaicināt ekspertus: 1) kuru kompetences būtu saistītas ar izglītības programmu īstenošanu informācijas tehnoloģiju jomā; 2) kas labi pārzina tālmācības vides specifiku; 3) kam ir tālmācības pieredze izglītības ieguvē; 4) kam ir pedagoģiskajā/akadēmiskajā darba pieredze, docējot informācijas tehnoloģiju studiju kursus/mācību priekšmetus tālmācībā. Ekspertu kandidātu meklējumi balstījās uz ekspertu atlases vairākiem pamatprincipiem: 1) ekspertiem jāpārstāv katram sava kompetenču joma, tajā pašā laikā viņu kompetencēm daļēji jāpārklājas; 2) ekspertu profesionālajai un/vai pētnieciskajai darbībai būtu jābūt tiešā vai pastarpinātā veidā saistītai ar ekspertējamo jautājumu; 3) eksperti var būt un var arī nebūt tiešā veidā saistīti ar pētījumu bāzes tālmācības vidusskolas skolas mācību priekšmetu īstenošanu tālmācībā; 4) ekspertiem jābūt kompetentiem tālmācībā; 5) ekspertiem jābūt kompetentiem informācijas tehnoloģiju didaktikā. Ekspertīzē piedalījās 5 eksperti, kuru kompetences un pieredze atbilda ekspertu atlases prasībām.

1.tabula. Ekspertīzes rezultāti
Table 1. Results of expertise

N	Vērtējamie modeļi	Eksperti							Aprakstošās statistikas vērtības						
		A	B	C	D	E	Rangu summa L_i	$d_1=L_i-L_{vid}$	d_1^2	Rangs R_{Σ}	M_i n_R	M_a x_R	A_R	M_e R	M_o R
1.	Tradicionālās klātienes mācības	2	2	2	3	3	12	-0,5	0,25	2	2	3	1	2	2
2.	Neklātienes mācības	3	3	3	4	4	17	4,5	20,25	4	3	4	1	3	3
3.	Tālmācības klasiskais variants (mācības tikai un vienīgi e-vidē)	4	4	4	2	2	16	3,5	12,25	3	2	4	2	4	4
4.	Tālmācības kombinētais variants (teorijas apguve tālmācībā, bet praktiskās nodarbības notiek daļēji tālmācībā, daļēji klātienē)	1	1	1	1	1	5	-7,5	56,25	1	1	1	0	1	1
n=4		m = 5					$\sum L_i = 50$	0	S=89						

Pirms ekspertīzes organizēšanas notika vienošanās par ekspertvērtējumu iesūtīšanas laikiem, jo pirms ekspertīzes ekspertiem bija nepieciešams iepazīties ar izstrādāto profesionālās pilnveides programmu „Programmēšana” un tās īstenošanas iespējamiem veidiem. Ekspertvērtējuma iegūšanai tika nosūtītas pētījuma bāzes tālmācības vidusskolas izglprogramma programmēšanā, kā arī ekspertu darba lapa. Ekspertīze notika individuāli, neatkarīgi vienam no otra un anonīmi (bez ekspertu apspriešanās un diskusijām).

Ekspertiem bija jāizvērtē 4 programmas īstenošanas veidi un jāranžē (jāpiešķir rangi), izvērtējot to piemērotību un atbilstību programmas saturam un tālmācības neformālās izglītības vides specifikai. Pateicoties ekspertu vērtējumiem, tika iegūti rezultāti, kas apkopoti 1. tabulā.

Iegūto datu aprakstošās statistikas analīze ļāva secināt, ka *pirmo vietu* ekspertu vērtējumā pēc rangu kopsummas ieņem *tālmācības kombinētais variants* (teorijas apguve tālmācībā, bet praktiskās nodarbības notiek daļēji

tālmācībā, daļēji klātienē), jo ekspertu piešķirto rangu summa bija: $L_i=5$, rangu summu ranžējuma rezultātā šim tālmācības veidam tika piešķirts **1. rangs**. (skat. 1.tab.). Tādējādi eksperti uzskata, ka neformālās izglītības (profesionālās pilnveides) programma „Programmēšana” vislabāk, kvalitatīvāk un rezultatīvāk būtu realizējama tālmācības kombinētajā veidā.

Rangu summu ranžējuma rezultātā **2.rangs** tika piešķirts **tradicionālajām klātienes mācībām**: $L_i=12$.

Tālmācības klasiskajam veidam, proti, mācībām tikai un vienīgi e-vidē, tika piešķirts **3.rangs**, jo ekspertu piešķirto rangu summa bija: $L_i=16$.

Savukārt **4.rangs** tika piešķirts **neklātienes mācībām**, jo ekspertu piešķirto rangu summa bija $L_i=17$.

2. tabula. Kendela testa rezultāti

Table 2. Results of Kendall Test

N	Raksturotājrādītāji	Iegūtās vērtības
1.	Ekspertu skaits (N)	5
2.	Kendela konkordācijas koeficients (Kendall's W)	0,712
3.	Hī kvadrātā kritērijs χ^2 (Chi-Square)	10,680
4.	Brīvības pakāpe (df)	3
5.	p-vērtība (Asymp. Sig.)	0,014

Pēc aprakstošās statistikas analīzes un izvērtēšanas tika veikta datu sekundārā apstrāde, lai iegūtu secinošo statistiku. Bija svarīgi noskaidrot, vai pastāv statistiski nozīmīga vienprātība ekspertu vērtējumos.

Ekspertvērtējumu dati tika apstrādāti ar SPSS 17.0 lietojumprogrammu, izmantojot Kendela W (tau_c) testu.

Iegūti šādi rezultāti (skat. 2.tab.).

Tā kā Kendela konkordācijas jeb vienprātības **W** koeficienta vērtībair **0,712**, kas tuvojas vairāk “1” nekā “0”, hī kvadrātā kritērija vērtība ir (skat. 1.tab.): $\chi^2 = 10,680 > \chi^2_{0.05; 3} = 7, 81$, bet iegūtā **p-vērtība = 0,014 < $\alpha = 0,05$** , tad varēja **secināt**, ka pastāv sakarības starp dažādu ekspertu vērtējumiem, tas nozīmē, ka **starp ekspertvērtējumiem pastāv vienprātība**.

Tādējādi var **secināt**, ka eksperti par vispiemērotāko profesionālās pilnveides (neformālās izglītības) programmas „Programmēšana” īstenošanas un apguves veidu uzskata kombinēto tālmācības veidu.

Secinājumi **Conclusions**

Izglītība ir informācijas sabiedrības ilgtspējīgas attīstības veicināšanas un nodrošinājuma līdzeklis. Jo izglītības piedāvājums ir daudzveidīgāks, jo pati izglītība ir ilgtspējīgāka. Izglītības daudzveidība nodrošina izvēles brīvību, kā

arī alternatīvās pieejas un dažādus izglītības veidus, t.sk. formālo un neformālo izglītību, kas iegūstama klātienē mācībās vai tālmācībā mūža garumā.

Dažādu cilvēkdarbības jomu digitalizācijas rezultātā mūsdienās vairs nav iedomājama dzīve bez informācijas tehnoloģijām. Jaunākās informācijas tehnoloģijas tiek ieviestas arī izglītībā, kas paplašina tālmācības iespējas, piedāvājot e-studijas un tām atbilstošu, modernu e-vidi, kas ir viena no informācijas un zinību sabiedrības būtiskām pazīmēm. Mūsdienās aktualizējas izglītības nozīme informācijas tehnoloģiju jomā, kā arī IT izglītības ilgtspēja, ko var nodrošināt IT izglītības piedāvājuma daudzveidība un pieejamība, izstrādājot un īstenojot ne tikai formālās, bet arī neformālās izglītības programmas, kas realizējamas gan klātienē, gan arī tālmācībā.

Par vidusskolēnu neformālās izglītības programmēšanā programmas izstrādes teorētiski metodoloģisko bāzi var kalpot pētījumu rezultāti, kas gūti vairāku teorētisko pētījumu virzienou ietvaros: *tālmācības vides specifikas pamatojums; neformālās izglītības būtība un funkcijas mūžizglītības kontekstā; kurikulārās didaktikas un izglītības vadības teorija un prakse programmu satura izstrādē datorzinībās un informācijas tehnoloģijās, kur programmēšanas valoda ir pamatota kā viena no IT izglītības satura sastāvdaļām.*

Pāstāv daudz un dažādas prasības (principi) izglītības programmu, t.sk. neformālās izglītības programmu, izstrādē, kur tiek ņemts vērā programmas pieprasītības, konkurētspējas un ilgtspējas aspekts, mērķauditorijas intereses un vajadzības, programmas izstrādes tiesiskais un didaktiskais pamats, kā arī neformālās izglītības principi un daudzās funkcijas.

Ekspertīzes ceļā tika secināts, ka vispiemērotākais profesionālās pilnveides programmas „Programmēšana” īstenošanas un apguves veids tālmācības vidusskolā ir tālmācības kombinētais veids, kad teorijas apguve notiek tālmācībā, bet praktiskās nodarbības - daļēji tālmācībā un daļēji klātienē.

Iegūtie secinošās statistikas rezultāti liecina, ka starp ekspertiem pastāv vienprātība.

Summary

One of the main aims for the modern education is to facilitate the sustainability of information society, therefore an important feature that highlights differences in the education of the 20th and 21st century is the variety of information and communication technologies (ICT) and the expansion of their application in the education.

The development of information and communication technologies caused far-reaching consequences in human life and activities and also seriously influenced education, providing wide perspective for the development of distance education environment.

Distance education as one of the forms of extramural education first of all associates with the extension of possibilities of offers of the adult education and the international or cross-border education. If in the 20th century the distance education was widespread mainly in the sphere of higher (academic) education then nowadays, thanks to the development of the methods of the distance education and invading new technologies into education, it has become accessible in the secondary general, secondary professional and the second level of basic education area.

Students of the distance education choose and develop their career in parallel with the studies in the secondary school, as it is allowed by the specifics of the distance education. Some of the students wish to deepen their knowledge and to improve their skills and competences in any subject related to their going to a university while the others wish to systemize and to strengthen the knowledge and skills in the one of the professional activity spheres which they obtained in the self-education (self-directed learning) way, in order to get an education document acknowledging acquirement of the programme of non-formal education (for example, the programme of the professional training) that has already brought particular experience to the students. There are students who wish to acquire new knowledge, skills and even competencies in a sphere of professional activity thereby planning and promoting their own professional development and career.

Nowadays the signification of education in the field of information technologies updates, as well as the sustainability of IT education that can be provided by the diversity and accessibility of the offers of IT education offering programmes of formal and non-formal education both as fulltime studies or the distance education. There are many various functions and principles for the non-formal education in the sphere of one of the most substantial reasons of developing the programme of non-formal education (professional completion) ‘‘Programming’’ was the expressed desire of the students of the base (X Distance Education Secondary School) to acquire one of the object-oriented programming languages during non-formal education process in order to try their hand in the professional area of a programmer in parallel with the studies in one of the programmes of the secondary general education. Theoretical researches of different directions served as a methodological basis of developing the programme: *substantiation of the specifics of the distance education environment; the essence and functions of the non-formal education in the context of lifelong education; the theory and practice of curricular didactics and education management when developing the content of programmes in computing and information technologies where the programming language is based as one of the components of the IT education contents.*

There are many various requirements (principles) in the process of developing programmes of education including the programmes of non-formal education, taking into consideration the aspects of marketability, competitiveness and sustainability of the programme, as well as the interests and needs of the audience, the didactical and legal basis of the programme development where great importance is given to the theory and practice of the curricular didactics.

Within the way of empirical research (expertize) it was concluded that the most appropriate way of implementing and acquiring the programme of the professional training in the distance education secondary school appears to be the combined manner of the distance education when acquiring of the theory occurs in the distance using the possibilities and resources of e-studies but the practical studies – partially as distance education studies and partially as full –time studies. The obtained results of the inferential statistics present the evidence of the consensus among the experts.

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TĪMEKĻA VIETNE “RASEŠANA” TELPISKĀS UN KONSTRUKTĪVĀS DOMĀŠANAS ATTĪSTĪŠANAI

Website “Technical Drawing” for Development of Spatial and Constructive Thinking

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Abstract. Nowadays, not every school of Latvia offers its pupils to acquire the basics of technical drawing. As a result, university lecturers often find that students lack the spatial and constructive thinking skills needed to successfully participate in graphics and design related courses. To try to improve the situation in early 2013, Riga Technical University lecturer Ieva Jurāne (Mg.sc.ing.), in collaboration with University of Liepaja Natural and Engineering Faculty, decided to develop a website „Technical Drawing” (<http://rasesana.it-studenti.liepu.edu.lv>), in which every interested person, irrespective of whether it is a student or a pupil, could independently solve a variety of technical drawing course related tasks, thus developing their spatial and constructive thinking skills, which later makes it easier to learn complex Engineering Graphics programs such as AutoCAD or SolidWorks. This publication is made to present the web sites „Technical Drawing” purpose, content and development process.

Keywords: constructive thinking, spatial thinking, technical drawing, website.

Ievads

Introduction

Mūsdienās ne katra Latvijas vispārējās izglītības iestāde spēj skolēnam piedāvāt apgūt rasēšanas, tehniskās grafikas vai tēlotāja ģeometrijas pamatus, kā rezultātā, nonākot augstskolā un izvēloties studijas kādā no specialitātēm, kuras prasa apgūt šāda satura priekšmetus, jauniešiem saskaras ar grūtībām. Neskatoties, ka mūsdienās telpiskās domāšanas spējas ir vajadzīgas vairāk nekā jebkad iepriekš, lai pareizi interpretētu telpisko objektu vai situācijas digitālo attēlojumu (Leopold, 2005), pasniedzējam nereti nākas konstatēt, ka jauniešiem trūkst telpiskās un konstruktīvās domāšanas iemaņu, kas nepieciešami ar projektēšanu saistītu studiju kursu sekmīgai apguvei.

Pat, ja kāds interesents izvēlas apgūt šīs tēmas patstāvīgi, nākas saskarties ar faktu, ka lielais vairums latviešu valodā pieejamo materiālu par šīm tēmām ir teksta dokumenti, kas nespēj sniegt praktiskās iemaņas un atgriezenisko saikni.

Rīgas Tehniskās universitātes mācību spēki strādā dažādos virzienos, lai uzlabotu esošo situāciju, mēģinot panākt mācību rezultātu uzlabošanu, iesaistot mācību procesā mūsdienu tehnoloģijas (Branoff, Dobelis, 2012; Jurāne, Leja, Veide, 2011).

2013. gada sākumā Rīgas Tehniskā universitātes lektore Ieva Jurāne (Mg.sc.ing.), kas ikdienā Rīgas Tehniskajā universitātē pasniedz priekšmetu „Tēlotāja ģeometrija un inženiergrafika”, sadarbībā ar Liepājas Universitātes Dabas un inženierzinātņu fakultātes mācībspēkiem, kam ir iepriekšēja pieredze mācību spēļu izstrādē, nolēma izstrādāt tīmekļa vietni „Rasēšana” (<http://rasesana.it-studenti.liepu.edu.lv>), kurā katrs interesents, neatkarīgi no tā vai tas ir skolēns vai students, patstāvīgi varētu risināt dažādus interaktīvus ar rasēšanas kursu saistītus uzdevumus (Jurāne, 2013), tādā veidā attīstot savas telpiskās un konstruktīvās domāšanas iemaņas, kas vēlāk atvieglotu tādu sarežģītu inženiergrafikas programmu apguvi kā AutoCAD vai SolidWorks.

Arī citur pasaulē vērojama līdzīga situācija – pasniedzēji sadarbojas ar programmētājiem, lai veidotu dažādus tīmeklī bāzētus interaktīvus mācību materiālus pamatiemaņu apguvei vai nostiprināšanai (Konukseven 2010; Contero, Company, Naya, Saorin, 2006).

Tīmekļa vietnes “Rasēšana” pirmā versija ***The first version of website “Technical Drawing”***

Pirmās tīmekļa vietnes „Rasēšana” versijas izstrādi veica Liepājas Universitātes studiju programmu „Datorzinātnes” un „Informācijas tehnoloģija” 1. kursa studenti. Tā kā gatavās e-mācību vides, piemēram, Moodle būtu sarežģīti pielāgot rasēšanas kursa specifisku uzdevumu risināšanai, tika nolemts izstrādāt jaunu tīmekļa vietni izmantojot PHP, HTML, CSS un SQL tehnoloģijas, bet tīmekļa vietnē iekļautie uzdevumi izmantojot Adobe Flash (ActionScript 2.0) un C# tehnoloģijas.

Lai pildītu tīmekļa vietnē izvietotos uzdevumus, lietotājam jāpiereģistrējas. Pēc reģistrācijas lietotājam pieejami četri uzdevumi:

1. uzdevums – Izometrijā attēlotā ķermeņa plaknes jāpārvieto uz atbilstošajiem laukumiem kompleksajā rasējumā. Jānosaka šo plakņu stāvokli telpā. Ja nepieciešams, var aplūkot ķermeņa 3D modeli. Uzdevumam pieejami 5 varianti.
2. uzdevums – Jāatrod telpiskā ķermeņa atbilstošos skatus kompleksajā rasējumā. Ja nepieciešams, vari aplūkot ķermeņa 3D modeli. Uzdevumam pieejami 20 varianti.
3. uzdevums – Jānosaka atbilstošais telpiskais ķermeni pēc dotajiem skatiem kompleksajā rasējumā. Uzdevumam pieejami 20 varianti.
4. uzdevums - Izmantojot Būla operācijas no grafiskajiem primitīviem jāizveido attēlā redzamais 2D ķermeni. Uzdevumam pieejami 4 varianti.

Tīmekļa vietne par katru no lietotājiem fiksē kurš uzdevums pildīts, cik reizes pildīts, pēdējo rezultātu (kļūdu skaitu), labāko rezultātu un vidējo rezultātu.

2014. gadā tika veikta izstrādātās tīmekļa vietnes aprobācija. Tīmekļa vietnes uzkrāto datu analīze un lietotāju aptaujas rezultāti parādīja, ka lietotāji pozitīvi novērtē tīmekļa vietnes ideju, tomēr tīmekļa vietnes dizains ne vienmēr ir intuitīvi saprotams. Grūtības rada pirmā un ceturrtā uzdevuma izpilde. Tā kā pirmais uzdevums pēc būtības sastāv no divām daļām, tad tā izpilde ir ilgstoša kā rezultāta zūd koncentrēšanās spējas uz uzdevuma otrās daļas izpildi. Savukārt ceturrtā uzdevuma izpildi apgrūtināja apstākļi, ka tā izstrādei izmantotā C# tehnoloģija paredzēja, ka uzdevumu sākotnēji nepieciešams lejupielādēt un uzinstalēt uz lietotāja datora, kas vairumam lietotāju bija sagādājis grūtības, kā rezultātā uzdevums netika pildīts. Ņemot vērā lietotāju atsauksmes 2015. gada sākumā tika pieņemts lēmums izstrādāt jaunu tīmekļa vietnes „Rasēšana” versiju, kurā būtu novērsti lietotāju norādītie trūkumi, kuras saturs tiktu papildināts ar jauniem uzdevumiem un kura spētu uzkrāt pilnīgākus datus par lietotāju.

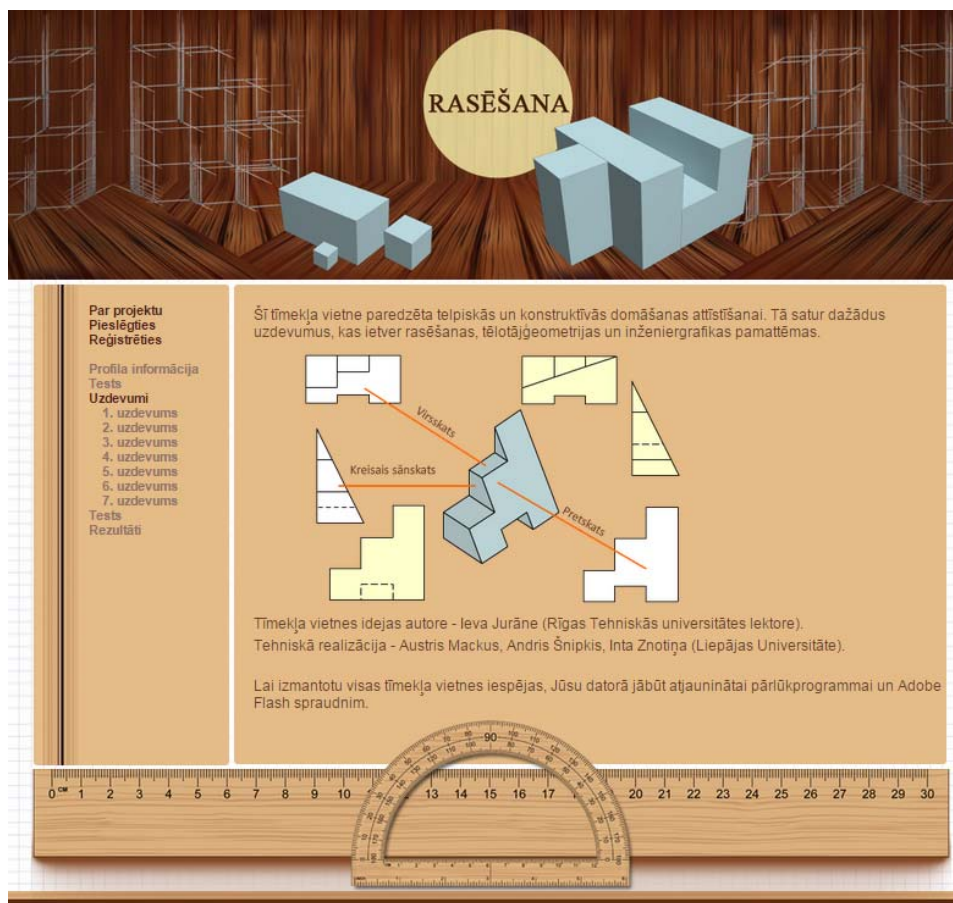
Tīmekļa vietnes “Rasēšana” jaunā versija *New version of website “Technical Drawing”*

Tīmekļa vietnes jaunās versijas izstrādei tika izvēlētas PHP, HTML, CSS, SQL, Javascript, jQuery, Ajax, Smarty „Template Engine” un Adobe Flash (ActionScript 3.0) tehnoloģijas.

Tīmekļa vietnes jaunās versijas izstrāde tika uzsākta ar dizaina nomainīšanu, izveidojot vietni praktiskāku un lietotājam vieglāk izprotamu (skat. 1. att.).

Pirms reģistrēšanās sistēmā lietotājam pieejama informācija par projektu un tīmekļa vietnē pieejamajiem uzdevumiem. Lai iegūtu pilnvērtīgākus datus par lietotāju, pirmajā reizē pēc pieslēgšanās sistēmai, lietotājam jāaizpilda anketa, kurā jāatbild uz jautājumiem, kas ļauj izdarīt secinājumus par lietotāja priekšzināšanām.

Pēc anketas aizpildīšanas, jaunajā tīmekļa vietnes versijā lietotājam kļūst pieejams Purdue telpisko rotāciju vizualizācijas tests (Guay, 1976). Tā kā šo testu augstskolu mācību spēki lieto daudzās tehniskajās universitātēs pasaulē, tad iegūtos rezultātus varēs salīdzināt savā starpā. Tests sastāv no 30 jautājumiem, kuri izveidoti tā, lai novērtētu pārbaudāmā spējas iztēloties jeb vizualizēt telpiska jeb trīs dimensiju objekta pagriešanu telpā. Uz katru testa jautājumu atļauts atbildēt tikai vienu reizi. Testa izpildei atvēlētas 20 minūtes. Jautājumi tiek uzdoti grūtību pieaugošā secībā, kā to izstrādājis testa autors 1976. gadā. Katra jautājuma piecu doto atbilžu secība tiek mainīta. Sākotnēji šo testu lietotājs var pildīt tikai vienu reizi. Pēc testa izpildes lietotājam kļūst aktīvi visi uzdevumi.



1. attēls. Tīmekļa vietnes „Rasēšana” sākuļlapas ekrāna šāviņš (jaunā versija)
Figure 1. Screen shot of website „Technical Drawing” (new version)

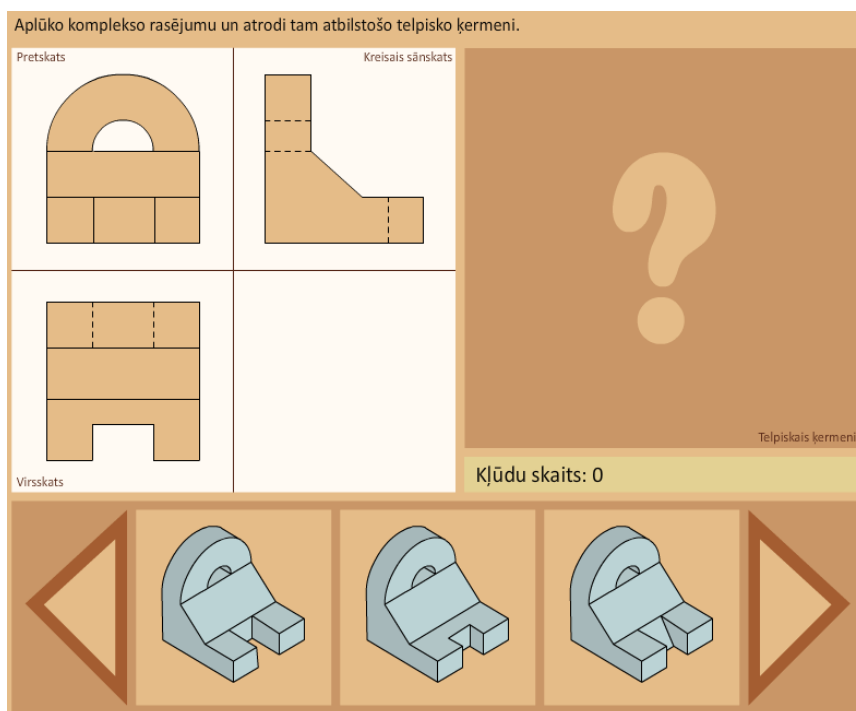
Ņemot vērā lietotāju atsauksmes, pirmajā versijā iekļauto 1. uzdevumu plānots sadalīt divos atsevišķos uzdevumos.

Visi uzdevumi, kas pirmajā versijā tika realizēti izmantojot Adobe Flash (Action Script 2.0), tiek pārveidoti izmantojot Adobe Flash (Action Script 3.0), kas ļauj paaugstināt to ātrdarbību. Pamatā Adobe Flash tehnoloģija tiek lietota dažāda tipa savietošanas uzdevumu realizācijai (skat. 2.att.).

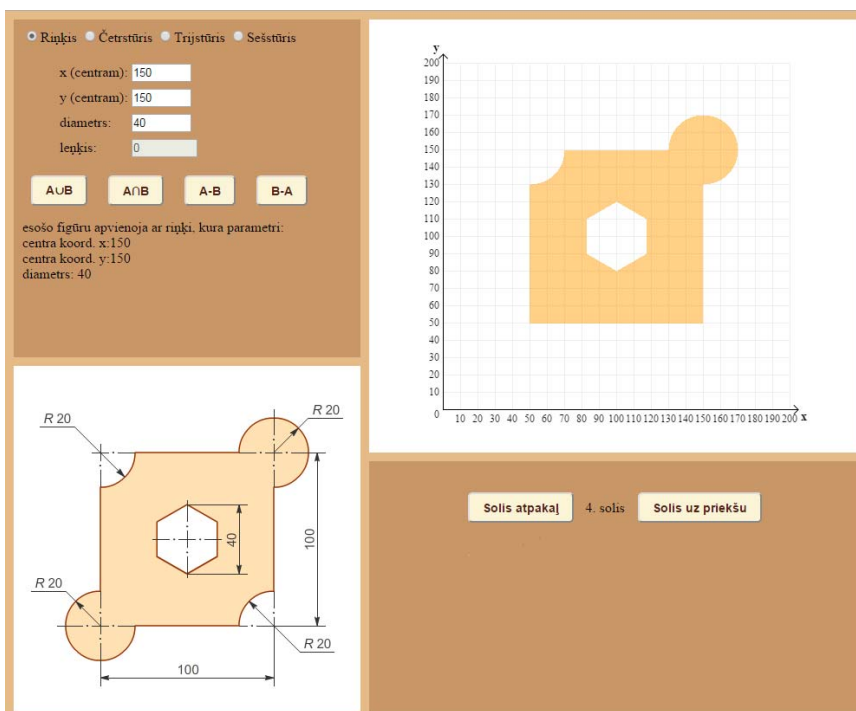
Uzsākot darbu pie jaunās versijas, tika meklēti jauni izstrādes rīki uzdevumam, kurš pirmajā versijā tika realizēts izmantojot C# tehnoloģiju un kura lietošana lietotājiem sagādāja grūtības. Tika pētītas vairākas šobrīd plaši lietotas tīmeklī bāzētu lietojumprogrammu izstrādes valodas un rīki (Adobe Flash (Action Script 3.0), HTML5, JavaScript, C# WEB), lai varētu izstrādāt tīmeklī bāzētu lietojumprogrammu, kas ļautu izmantojot Būla operācijas no grafiskajiem primitīviem izveido attēlā redzamo 2D ķermeni.

Izpētot sīkāk tīmeklī bāzētu lietojumprogrammu izstrādes valodas un rīkus tika konstatēts, ka neviens no tiem nespēj pilnvērtīgi realizēt Būla operācijas (apvienošanu, šķelšanu un atņemšanu) izmantojot gatavus grafiskos primitīvus, kā rezultātā, lai realizētu 2D objektu konstruēšanu, attēls jāzīmē pa pikseļiem.

Pēc uzdevuma prototipa izstrādes, kas ļauj realizēt divu objektu apvienošanu, šķelšanu un atņemšanu, tika nolemts turpināt uzdevuma (skat. 3. att.) izstrādi izmantojot HTML5 un JavaScript iespējas.



2. attēls. Savietošanas tipa uzdevuma ekrāna šāviņš
 Figure 2. Screen shot of matching task



3. attēls. Konstruēšanas uzdevuma ekrāna šāviņš
 Figure 3. Screen shot of construction task

Atšķirībā no pirmās tīmekļa vietnes „Rasēšana” versijas, jaunajā versijā plānots, situācijās, kad vienam uzdevumam ir desmit vai vairāk varianti, variantus dalīt divās grupās (vieglāki un sarežģītāki uzdevumi). Sākotnēji lietotājam būs pieejami vieglākie uzdevumi, kad tie visi būs izpildīti vai arī situācijā, kad lietotājam šī uzdevuma varianti labi padodas – iegūts noteikts punktu skaits (atkarīgs no uzdevuma), lietotājam būs pieejami sarežģītākie varianti. Lai tīmekļa vietne fiksētu, ka uzdevums ir izpildīts, lietotājam jāizpilda visi sarežģītie varianti vai jāiegūst noteikts punktu skaits.

Kad lietotājs sekmīgi izpildījis uzdevumus, lietotājam atkārtoti tiek piedāvāts izpildīt Purdue telpisko rotāciju vizualizācijas testu (Guay, 1976), tādā veidā nodrošinot lietotājam iespēju salīdzināt testa izpildes rezultātus pirms darba uzsākšanas tīmekļa vietnē „Rasēšana” un pēc tam, kad sekmīgi izpildīti vietnē ievietotie uzdevumi.

Secinājumi **Conclusions**

Tīmekļa vietnes „Rasēšana” priekšrocības ir tās vienkāršība un tūlītējais izpildītā uzdevuma novērtējums, kas lietotājam nodrošina iespēju patstāvīgi trenēties, kā arī neizslēdz iespējamību lietot tīmekļa vietnes uzdevumus klātienē nodarbību laikā. Tieši pastāvīgam treniņam ir liela nozīme telpiskās un konstruktīvās domāšanas attīstībā. (Kotarska –Bozena, 2008).

Tīmekļa vietnes pirmajā versijā iestrādātā uzdevumu vērtēšanas sistēma sniedza ne tikai lietotājam informāciju par uzdevuma izpildes rezultātu, bet nodrošināja arī pasniedzējam iespēju apskatīt konkrēta lietotāja izaugsmi. Jaunajā versijā plānots uzlabot vērtēšanas sistēmu, paredzot pasniedzējam iespēju ne tikai analizēt lietotāju un lietotāju grupu sasniegtos rezultātus, bet arī uzdevumu izpildei patērēto laiku.

Summary

The first version of web site „Technical Drawing” was developed in 2013. It was developed using PHP, HTML, CSS and SQL technology, but the interactive tasks included on the website were developed using Adobe Flash (ActionScript 2.0) and C # technologies. After registering, users are presented with four tasks, each with 4 to 20 variants. For each of the users the website records which task was done, how many times was it done, the last result (number of mistakes), the best and the average score.

After the web sites approbation which was carried out in 2014, it was concluded that users supported the idea and concept of the web site, but it is necessary to improve its design; One of the tasks should be divided into two tasks, in order to facilitate its completion and to shorten the time required to perform the task; as well as to redo the task, which was initially developed using C # technology. Since starting the task requires downloading and installing it in advance then the vast majority of users found it inconvenient.

Taking into consideration the user feedback, it was decided to develop a new version of the web site „Technical Drawing” at the beginning of 2015, which would avert the user deficiencies indicated and in which the content is updated with new tasks, including Purdue

Spatial Visualization Test Visualization of rotation (Guay, 1976), and which is able to accumulate more complete data about users and their activities.

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DELIVERING SOCIAL TELEREHABILITATION SERVICES

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Abstract. *Telerehabilitation is an emerging method of delivering rehabilitation services, which uses information and communication technologies to minimize distance and time barriers.*

Telerehabilitation is often considered a specialization of the wide field of tele-medicine; most of telerehabilitation services fall into three categories: clinical assessment (patient's functional abilities in his or her environment), diagnosis and clinical therapy.

Researches have recently underlined the potential of social media, mobile phones, and the Internet in general for improving mental health, supporting positive outcomes on addiction issues, sexual health, and homelessness.

This paper analyses the issues and implications tied to the development of social telerehabilitation services in Latvia, and reports on the first step of National science program VPP INOSOCTEREHI, a new three years multidisciplinary project on social rehabilitation, which is conducted by four Latvian Universities, and focuses on the use of mobile technologies in rehabilitation scope.

Keywords: *mobile technologies in rehabilitation, new media and health-care services, social rehabilitation, telerehabilitation services.*

What is social telerehabilitation

The World Health Organization describes rehabilitation for people with disabilities as a process aimed at enabling them to reach and maintain their optimal physical, sensory, intellectual, psychological and social functional levels. Rehabilitation provides disabled people with the tools they need to attain independence and self-determination.¹⁷

Rehabilitation cannot be restricted to curative medicine, in the strict sense of medical body medicine. Medical rehabilitation involves intensively trained clinicians, specialized facilities, expert coordination, and different allied health professionals, such as physiotherapists, psychologists, occupational therapists, and social workers. In fact, medical care doesn't necessarily end with the patients discharge from the hospital. It may help patients recovering their capabilities or becoming independent at home. Rehabilitation related to individuals' social sphere is called *social rehabilitation*. It includes services such as rehabilitation nursing, physiotherapy, occupational therapy, speech and language therapy, audiology, dietetics, prosthetics and orthotics, podiatry,

¹⁷<http://www.who.int/topics/rehabilitation/en/>; accessed 09/02/15.

clinical psychology, art therapy, music therapy and social work. The border line between clinical and social rehabilitation is not well defined, and this fact can explain the failure of social scientists and policy makers to consider medical rehabilitation distinct from community-based efforts and general medical care (Haig, 2013).

Telerehabilitation¹⁸ is the use of information and communication technologies to deliver rehabilitation services over a distance. There is a clear link of telerehabilitation to the field of telecare, and the term telerehabilitation is often used as a synonym of tele-medicine and usually refers to equipment and services that provide continuous, automatic and remote monitoring of care needs, emergencies and lifestyle changes. Figure 1 shows the interaction between telemedicine, telecare and telerehabilitation.

Nowadays, telerehabilitation encompasses a wide range of applications which use new technologies to trigger human responses, control equipment at distance, assist patients, minimize or treat disabilities, cure physical and social diseases. In fact, decreasing time and mobility expenses, computer technologies save costs in the delivery of rehabilitation services, especially for those who are at risk of disabilities associated with stroke, heart disease, diabetes, arthritis, Alzheimer and other forms of mental and physical pathologies.

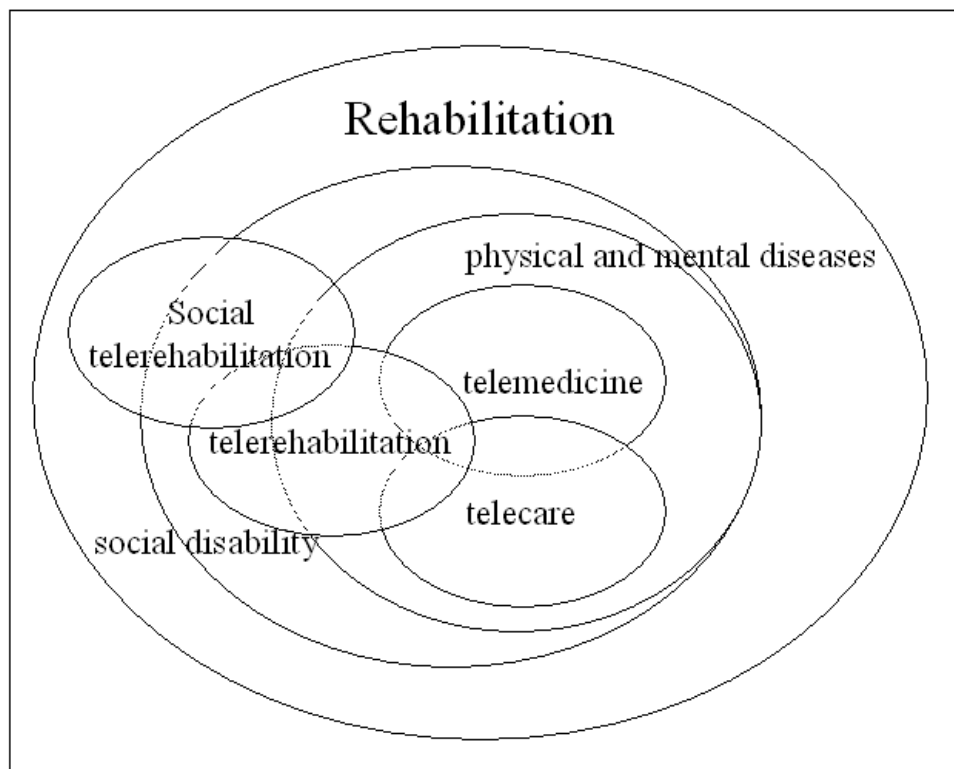


Figure 1. Interactions between telemedicine, telecare and telerehabilitation

¹⁸The term *telerehabilitation* first came to prominence in 1997 when the USA Department of Education's National Institute on Disability and Rehabilitation Research issued a set of proposed priorities for the new Rehabilitation Engineering Research Center in the area of what was called "tele-rehabilitation" (Winters, 2002).

Current literature confirms the extent of telerehabilitation in a variety of areas, and shows the advantages and effectivity in expanding the quality of, and access to, rehabilitation services for many types of patients in both rural and urban areas (Rogante et. al., 2010; Hailey et al, 2011; Gorst et al., 2014; Di Cerbo et al., 2015).

Telerehabilitation is often considered a specialization of the wide field of tele-medicine, and most of telerehabilitation services fall into three categories: clinical assessment (the patient's functional abilities in his or her environment), diagnosis and clinical therapy.

Recently, researchers and practitioners argue the importance of social telerehabilitation services for patients, caregivers and public institutions, e. g. services for children suffering from physical handicaps and emotional disturbances (Nilsson & Nilsson, 2011a, 2011b), for alcoholics (Simpson et al., 2005; Rose et al., 2012), and for patients with bipolar disorder (Osmani et al. 2013).

Research has underlined the potential for social media, mobile phones, and the Internet in general to improve mental health and physical health, treat addictions, and also help individuals experiencing homelessness (Freedman et. al., 2006; Luxton et al., 2011; Rice et al., 2012).

The scope of social telerehabilitation services faces challenges that set it apart from the broader telemedicine and telehealth arenas. It has been observed that one such challenge is that rehabilitation is often provided across both acute medical and community settings, often with different funding structures and rehabilitation protocols in place (Hill, 2010).

However, we are persuaded that social telerehabilitation is something more than the merely use of information and communication technology to support social rehabilitation in creating social rehabilitation services at distance. It should include the changes caused by rehabilitation distance services. Accordingly, a specific scope of social telerehabilitation is to make compliant rehabilitation technology with the social context, this is the health-care, family and working environments.

This view is one of the pillars of a research programme on social telerehabilitation, recently started in Latvia.

The Latvian National science programme VPP INOSOCTEREHI

National science programme VPP INOSOCTEREHI is a new three-year multidisciplinary project on social rehabilitation, conducted by four Latvian Universities,¹⁹ which investigates on the use of mobile technologies in rehabilitation scope.

¹⁹ The universities involved in the research program are Rezeknes Augstskola, Latvia University, Technical University of Riga, Liepaja University; the project is led by Rezeknes Augstskola.

In its first year of research activity, VPP INOSOCTEREHI project focuses on telerehabilitation solutions for balance disorder, aiming to broaden balance disorder prevention, and support diagnosis and treatments. Data previously acquired by Personality Socialization Research Institute (PSRI) of Rezeknes University using BioSway equipment (Baranauskienė et al., 2013), a portable balance system for testing and training patients, will be integrated with a new survey, and a Knowledge Platform will be realized. It will enclose and integrate competences, expertise and tools from different disciplinary fields (social pedagogy, special education, computer science, engineering, physiotherapy).

VPP INOSOCTEREHI research is principally driven by two goals:

1. extending people access to rehabilitation services, through the cutting of mobility costs;
2. increasing the quality of rehabilitation services, introducing new forms of prevention and monitoring in the health-care services.

In Latvia, rehabilitation care is currently provided by dedicated rehabilitation state hospitals and rehabilitation centers, while only a very small portion of the hospital sector is privately owned.

Despite many positive developments, Latvia health care services still don't meet the EU standards. Just like the other ex-soviet countries, in Latvia, until a few years ago (2009), life expectancy remained more than six years below the EU average of 79.8, principally because the objective of reducing cardiovascular mortality failed. After 2008, economic crisis reduced the financial resources available for health care, and the integration of care across providers still remains limited. In 2011, public spending on health in Latvia was about 3.7% of GDP, causing it to be one of the EU's highest rates of private, out-of-pocket health care expenditure. Personal insurance provides a mixture of complementary and supplementary coverage. It routinely covers those health care services and/or prescription drugs that are not statutorily financed. Patients' private expenditure on health care constituted 40% of total health financing, bringing total spending to 6.6% of GDP, which remains under the EU average for public health care funding (Terauda et al., 2014).

However, positive changes are in act, and new development strategies have been elaborated by the Ministry of Health, which emphasize the importance of patient centered health care, encouraging healthy lifestyle and physical activities, promoting healthy eating habits and aiming to the use of mobile technologies for implementing innovative solutions.²⁰

A pressure into creating telerehabilitation services come from the newly introduced home care service for the chronically ill, which is based on cooperation between general practitioners and home care providers.²¹

²⁰ See the site of the Ministry of health (<http://www.vm.gov.lv/en/>; accessed 09/02/15).

²¹ Commission for the Assessment of Health Condition and Working Ability, provides the possibility for patients to receive complex and problem-oriented care based on a rehabilitation plan written by a general practitioner or other medical specialist.

Rehabilitation at home is now an available practice, it is based on a rehabilitation plan developed by physical medicine and rehabilitation specialists (Mitenbergs et al., 2012).

Inpatient rehabilitation is provided at the National Rehabilitation Centre and at several multi-profile hospitals. It consists of a range of services supplied by a multidisciplinary rehabilitation team. There exists long-term medical rehabilitation programmes for patients with chronic functional limitations; patients' functional conditions are monitored at regular intervals (at least once a year) and that necessary different rehabilitation services are coordinated with other medical professionals, family doctors and municipalities' social services.

The National Health System pays for rehabilitation services if patients have a referral from the appropriate specialist, who also has to develop a medical rehabilitation plan, including the aims, technologies and conditions of completion of rehabilitation.

The research framework of VPP INOSOCTEREHI programme

VPP INOSOCTEREHI research programme is developed along two dimensions, one horizontal, and the other vertical.

The horizontal dimension concerns the definition of the social rehabilitation context in terms of services, actors and regulations. The situation in Latvia is analyzed and compared with that of European countries, in particular with that of Baltic countries. The aim is to find potential applications of new technologies in the various sectors of social rehabilitation, identify common elements in terms of services typologies, needs to be met, skills and specializations, educational programmes, tools and basic requirements, etc. The analysis should provide the basement for the definition of a general telerehabilitation business model. It should be used for the construction of sectorial services in order to create economies of scale and integrated social rehabilitation services, as well as improve their quality. A crucial goal of the research programme is the definition of an educational programme to be included in the higher education curriculum, inasmuch many different disciplines and skills contribute to the design, and implement of telerehabilitation services (medicine, psychiatry, psychology, physiotherapy, social pedagogy, computer science, economics and management, etc.).

The vertical dimension concerns the comparative analysis of the solutions about balance disorder, a complex disturbance that affects many people worldwide. The research programme aims at verifying the feasibility of smartphone applications in balance deficits scope. The balance disorder is analyzed according to three fields of application: prevention, diagnosis and treatment. The available commercial solutions are analyzed and compared, and the possibility of using smartphones to support all or part of the existing solutions and to develop new applications will be investigated.

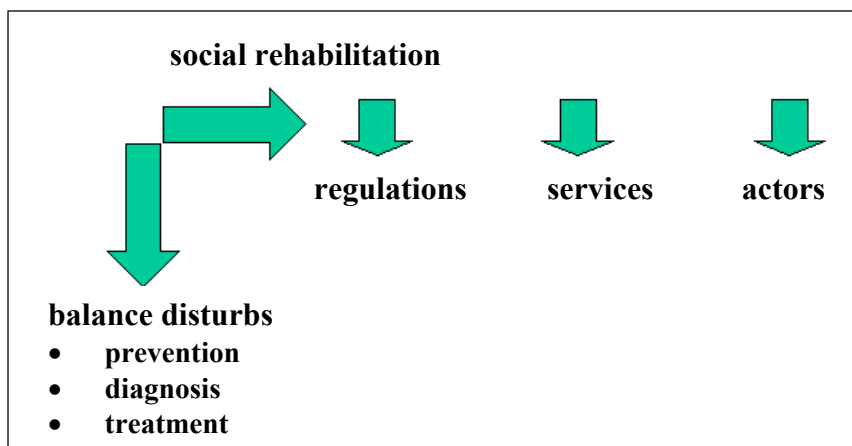


Figure 2. The research framework of VPP INOSOCTEREHI programme

The report on telerehabilitation in Scotland (Hill, 2010), has been one of the principal reference for defining our horizontal research. It identified opportunities and gave suggestions and recommendations in specific sectors, such as pulmonary rehabilitation, stroke rehabilitation, cognitive rehabilitation for people living with acquired brain injury, motor neuron disease, etc.

Telerehabilitation of balance disorder

Many people suffer from dizziness or imbalance during their lifetime. Human balance system involves a complex set of sensorimotor-control system (Figure 3), which includes sensory input from vision (sight), proprioception (touch), and the vestibular system (motion, equilibrium, spatial orientation). Problems with balance occur when there is a disruption in any of the vestibular, visual, or proprioceptive systems. The interlacing feedback mechanism which regulates the balance control can be disrupted by damage to one or more components through injury, disease, or aging process (Shumway-Cook & Woollacott, 1995). A person can feel disoriented if his/her sensory input sources (eyes, muscles and joints) are in conflict with one another.

This brings about that balance dysfunction can be caused by problems in any one or a combination of the contributing systems. Accordingly, most balance patients travel a long and frustrating road before finding help.

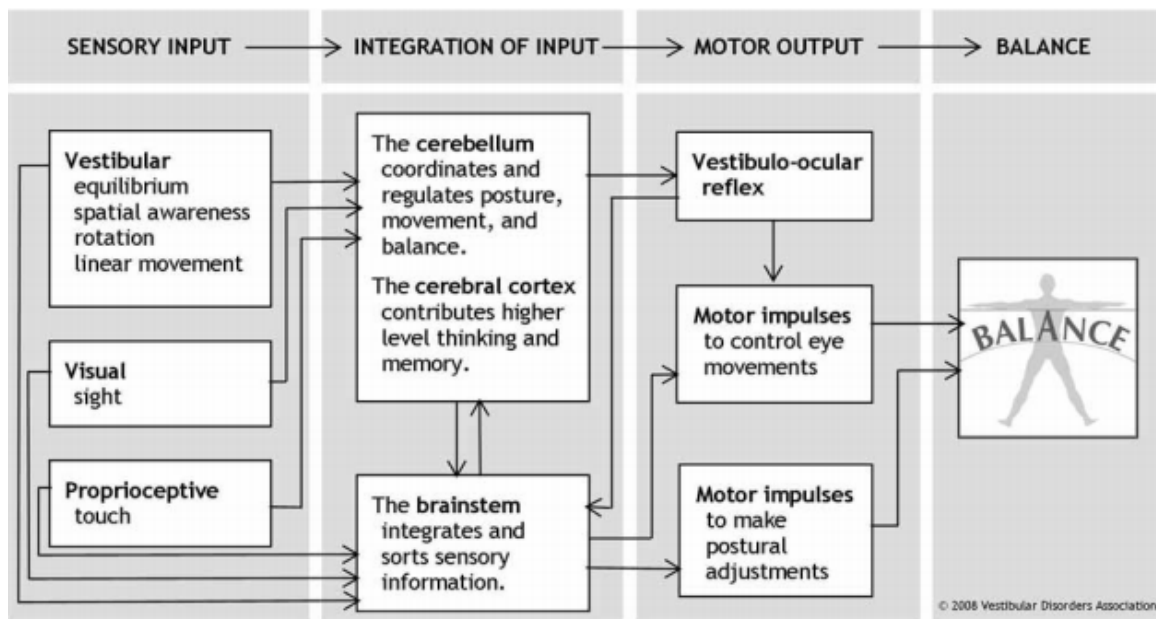


Figure 3. The balance control system (from Vestibular Disorder Association 2008)

Hearing examination, blood tests, an electronystagmogram (a test that measures eye movements and the muscles that control them), or imaging studies of patient head and brain are used for diagnosis of a balance disorder. A test, called posturography, is very popular: patient stands on a special movable platform in front of a patterned screen and the specialist measures how the patient body responds to movement of the platform, the patterned screen, or both.

Figure 4 shows the scheme of a new equipment that has recently been experimented. It is based on a position sensor and an optical sensor whose outputs are received, stored and processed by a computer through an eyetracker algorithm (Qu, & Purcell, 2015).

Other recent solutions are based on wearable devices. One of the them has been implemented using inertial sensors and sensor fusion processing to measure body posture and provide real time feedback to alert the patient to remain in the region of stability (Hsu et al., 2015).

The effectiveness of current interventions on balance disorder treatments is limited because patients tend to be not fully involved and adhere to the training protocol. Information and communication technologies are opening new opportunities, and many researches are increasing on rehabilitation facilities that simulate real environment (Bower et al., 2014; McEwen et al., 2014).

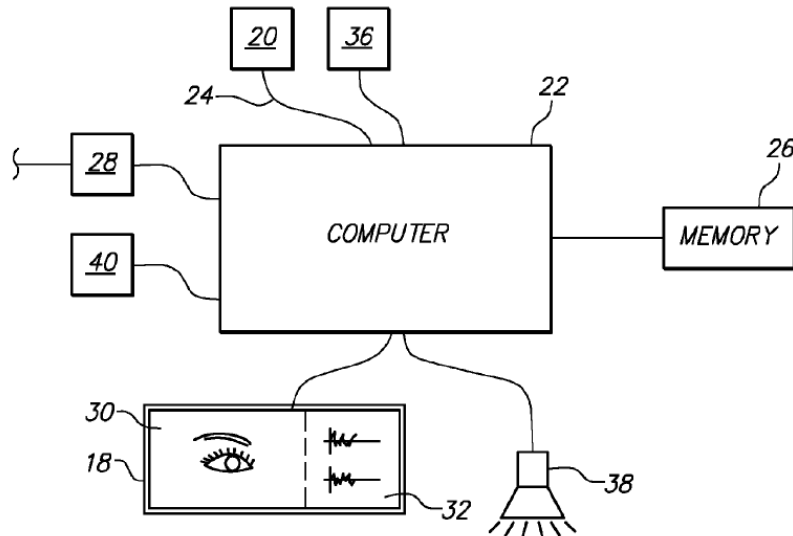


Figure 4. A new equipment for test balance disorders (from Qu, & Purcell, 2015)

At present, commercial equipment is available to test balance disturbs, and many of them are also used for patient training. Generally, they integrate force platform and video cameras in a computerized system (Browne & O'Hare, 2001); this kind of equipment was used in PSRI previous research (Figure 5).²²

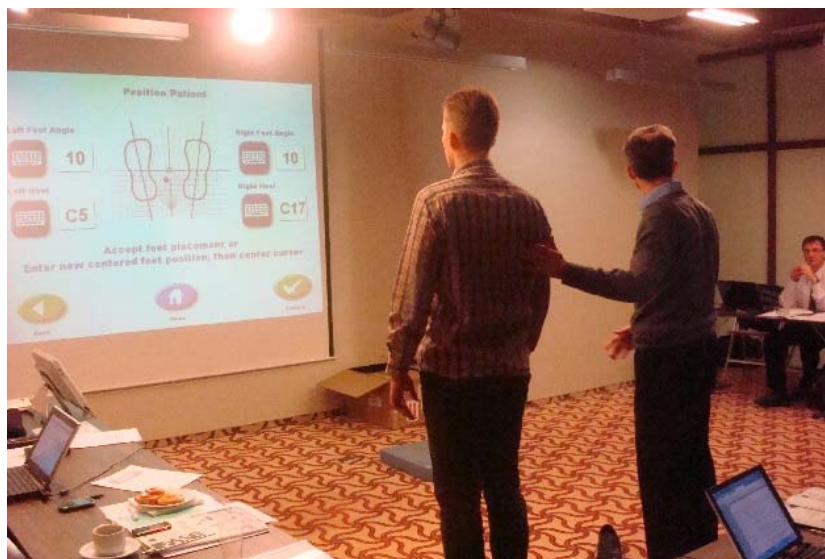


Figure 5. Experiment in VPP INOSOCTEREHI programme

However, since the aim of our research is social telerehabilitation, our investigation focuses on the social implication of prevention, diagnosis and treatment of balance disorders rehabilitation. There are aspects of rehabilitation that are relational, such as the doctor-patient relationship, the patient rapport with his/her family and his/her work environment. These aspects can negatively

²²LAT-LIT project "Designing a Model Geared towards Participation of People at Social Risk Groups in the Labour Market" (MODPART)", carried out by Rezeknes University (Latvia) and Šiauliai University (Lithuania).

affect the results of rehabilitation. Moreover, the use of information and communication technology entails the problem of digital divide; it is physical (lack of connectivity), cultural (not adequate skills to dispense services and/or use them), social (prejudices and biases), economic (not sustainable costs). In addition, one must keep in mind that, without the presence of medical staff, patients miss out something, that could be important. Nevertheless, patients are often able to make more progress at home with the support of their family or people close to them. All the above issues are context sensitive, depending from the specific disease and its rehabilitation process.

The goal of VPP INOSOCTEREHI research programme about telerehabilitation of balance disorders is to highlight its social implication, such as educational requirements and activities that should lead and support telerehabilitation process in order to ensure its feasibility and sustainability.

It implies the need of acquiring a theoretical and practical thorough knowledge, about rehabilitation technology used for balance disorders. Such knowledge is necessary for the definition of distance rehabilitation services, especially at home. Real benefits, problems and limitations of technology should be highlighted, and the greatest attention should be placed on how to minimize and overcome shortages and disadvantages tied to the social sphere. Suggestions and recommendations could be useful to improve the technology, adapting it to actual social environments.

Conclusions

VPP INOSOCTEREHI research programme is just at the beginning. However, some elements already appear evident, after the scanning of the principal social rehabilitation services in Latvia and the first activities carried out by the project participants.

The creation of social tele-rehabilitation services is not easy. The availability of technology is necessary but not sufficient for the realization of effective social telerehabilitation services. Technological solutions have to be dropped in different contexts, which may vary depending on the different rehabilitation branches. Moreover, delivering rehabilitation services at distance, on the one hand reduces the cost of mobility, but on the other hand can create new relational and control problems. However, the analysis of the current situation shows that information and communication technologies are little used in social rehabilitation. Although their potential is enormous, the specificity of social rehabilitation sectors shows the impossibility of defining general purpose social telerehabilitation solutions.

At the moment, our opinion is that advantages coming from telerehabilitation and its efficacy cannot be generalized and assumed without proof. It would be necessary to investigate the real feasibility of telerehabilitation focusing on specific telerehabilitation services, and define

models for evaluating their long-term advantages, cost effectiveness, possible improvement in quality of life and impact on public health burden.

The preliminary project activities gave us the opportunity to better define the scope of social telerehabilitation, clarifying its specificity and its interrelations with other branches (telemedicine and telecare), and this is a first basic step in our research.

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PROMOTION OF INTRINSIC MOTIVATION OF NEW GENERATION LEARNERS FOR LEARNING PHYSICS BY DIGITAL PHYSICS LABS

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Abstract. *The article deals with the role of digital Physics experiments in the promotion of intrinsic motivation of secondary school age learners for learning Physics. The methodological basis of research is inquiry-based learning. The article focuses on the second level of inquiry-based learning referred to as structured inquiry. The study is based on the sociological approach, with the emphasis on the new generation (Generation Z) and their exclusive relationship to technology. The research problem is formulated as a question: how does digital Physics laboratory promote intrinsic motivation of the new generation learners? Learners' intrinsic motivation is analysed on the basis of Self-Determination Theory. Despite this theory, motivation is based on three basic needs: a need for autonomy, a need for competency and a need for social relatedness. The article examines how digital Physics labs provide basic psychological needs for autonomy, competency and social relatedness of eighth-form learners.*

Keywords: *intrinsic motivation for learning Physics; inquiry-based learning; digital Physics labs.*

Introduction

Science is an important component of our European cultural heritage; it is particularly important in today's creative society. 'Yet in recent times fewer young people seem to be interested in science and technical subjects. Why is this?' (Osborne & Dillon, 2008, p.5). The subject of Physics is an integral part of science. The problem of the attractiveness of the subject of Physics is very wide, it is analysed from different aspects: the individualization of learning (Zacharia & Olympiou, 2010), collaborative learning (Nedic, Machotka & Nafalski, 2003), formation of the concepts of Physics (Bajpai, 2013).

Motivation for learning Physics is rarely examined from the sociological aspect which is based on the theory of generation. According to the sociological classification, persons born in 1977-1994 belong to Generation Y, whereas the ones born in 1995-2012 belong to Generation Z (McCrinkle & Wolfinger, 2010). Currently, learners of Generation Z attend basic school. Is motivation for learning Physics of new generation exceptional? Are new generation learners less interested in Physics than Gen Y learners? The problem of motivation for learning Physics was also important for the learners of Generation Y: 'A German learner at lower and upper secondary level regards Physics as very difficult to learn, very abstract and dominated by male learners. As a result, Physics at school continuously loses importance' (Fisher & Horstendal, 1997,

p.411). According to H.R. Fisher and M. Horstendal, a very abstract content of Physics is one of the reasons for reducing the Y-generation learners' interest in Physics.

The new Generation Z learns using new technologies that can facilitate the absorption of the complex content. The relationship of Generation Z with technologies has been precisely defined by A. Cross-Bystrom (2010): 'Generation Z *is* technology'. The statement presupposes a very close relationship with technologies since the generation itself is equaled to technologies. Learners of this generation have lived in the world closely intertwined with technologies since early childhood (Cross-Bystrom, 2010). Californian psychologist L. D. Rosen (2012) raises a question about what teachers know about young people who spend entire hours at the computer in different social networks. L. D. Rosen's question can be restated as follows: what do teachers know about the motivation of learners of Generation Z to study natural sciences and how is it affected by e-learning? (Peciuliauskiene, 2014).

It is assumed that two approaches could be distinguished while analyzing the role of new technology to study Physics: generalised approach (the aspect of generations) and a specific approach (specific experiments: virtual, digital, real) of using technologies in a specified place and time. However, the analysis of the employment of virtual learning platforms in specific conditions merely reveals the effect of specific technologies on the learning process and motivation to study Physics (Ince, Kirbaslar & Yolcu et al., 2014).

Not only new learning technologies (digital, virtual) provide new insights into the motivation for learning Physics, but also the conception of motivation, and its theoretically defined levels. The motivation for learning Physics can be analysed from the extrinsic and intrinsic aspects. J. Brophy (2008) suggests shifting from focusing on intrinsic motivation to focusing on how to motivate learners to learn, i.e. to find learning activities meaningful and worthwhile even though they do not necessarily feel pleasurable per se for the learners. A. Loukomies et al. (2013) support J. Brophy (2008) by claiming that their conclusions are in agreement with J. Brophy's (2008) and provide further evidence that, irrespectively of the context or country, learners learn science with regard to what they view as meaningful and worthwhile activities.

This situation necessitates for a deeper look into the problem of motivation for learning Physics – by the aspect of intrinsic motivation. The discussed situation highlights *the scientific problem* which is formulated as a question: What is the intrinsic motivation of the new generation learners for learning Physics and how is it determined by the experimental activity based on digital technologies?

The object of the research is the intrinsic motivation of learners for learning Physics.

The aim of the research is to reveal the impact of digital Physics labs on the intrinsic motivation of basic school learners for learning Physics.

The objectives of the research are as follows:

1. What is the impact of digital Physics labs on the intrinsic motivation of basic school learners?
2. What psychological learner needs determined by Self-Determination Theory are assured by digital Physics labs?
3. How is the motivation of new generation learners for learning Physics related to basic psychological needs determined by Self-Determination Theory, i.e. a need for autonomy, a need for competency and a need for social interaction?

Theoretical background

When searching for an answer to the question what factors determine the positive approach to the studies of natural sciences, first at all, we have to answer the question what motivation is. The conceptualisation of motivation is a big challenge. Motivation is a theoretical construct used to explain behaviour. Theories of human motivation have evolved from the emphasis on reactive responses to pressures (external reinforcement contingencies or internally felt needs) to an emphasis on intrinsically motivated, self-determined actions (Pardee, 1990).

There is a close relationship between extrinsic and intrinsic motivation which is explained by the Organismic Integration Theory (OIT). According to OIT, the regulation of behaviour may be autonomous (self-determined) or controlled, depending on the degree of internalisation. Intrinsically motivated individuals engage in certain activities freely, led by the feelings of interest and enjoyment (Ryan & Deci, 2002). Intrinsic motivation arises from a desire to learn a topic due to its inherent interests, self-fulfillment, enjoyment and achievement of mastery of the subject (Ryan & Deci, 2009). Intrinsic motivation is very important at school as “schools are not day camps or recreational centers” (Brophy, 2004, p.12). Intrinsic motivation contributes to the achievement, especially when people are self-employed. This actuality raises the question how to encourage intrinsic motivation.

People’s healthy tendencies toward growth and integrity can be explained by Self-Determination Theory (SDT) constructed by Edward L. Deci and Richard M. Ryan (2002). The main idea of SDT is that humans are active and growth-oriented, seeking for the actualisation of their potentialities and fulfilling their basic psychological needs. These needs include *autonomy, competency and social relatedness*. They move the lives of learners in desired and specific directions rather than being passive subjects. A person’s motivation in a particular situation is a result of the interaction between immediate social context and the individual’s need system that seeks fulfilment (Ryan & Deci 2002; Vansteenkiste & Ryan, 2013).

Individuals with different motivation orientations develop motivation towards science learning through being engaged in activities that may fulfil their basic psychological needs, but different aspects of the activity appeal differently to different learners (Loukomies et al., 2013). Autonomy-supportive teacher behaviour can be effective in fostering intrinsic motivation in learners (Reeve & Jang, 2006). Autonomy-supportive teacher behaviour can be supported by different levels of inquiry-based learning. H. Banchi & R. Bell (2008) identified four levels of inquiry-based learning: confirmation inquiry, structured inquiry, guided inquiry and open enquiry. The lowest level of inquiry (confirmative inquiry) corresponds to activities where learners know the possible outcomes of a project, and where a detailed description of activities and problems are provided. The second level of inquiry (structured inquiry) is reached in projects when learners are provided with a problem and the method for its solution. The third level (coordinated inquiry) is characterized by the fact that learners know the problem but have to find out how to solve it by themselves. The highest level (open inquiry) is reached when learners identify a problem, methods for its solution, and explanations for the cross-curricular phenomena themselves. Low autonomy is acquired by confirmation inquiry, a higher autonomy is gained by structured inquiry and guided inquiry, whereas the highest autonomy is obtained by open enquiry. The article deals with the application of the structured inquiry in Physics labs with digital devices which provide the autonomy of experimental activity.

Methodology

The research methodology is based on constructivist theory of education, which acknowledges structured inquiry as an efficient educational technology promoting a positive attitude towards the subjects of natural sciences and helping to apply the acquired knowledge in different situations, developing higher-level thinking abilities as well as promoting active learning processes that are based on knowledge and experience. Moreover, realist education philosophy stating that the reality of natural sciences is objective and cognisable is considered.

The instrument of quantitative research. Intrinsic Motivation Inventory (IMI), a valid and reliable instrument, was used to explore intrinsic motivation. E. McAuley, T. Duncan, and V.V. Tammen (1987) carried out a study to examine the validity of the IMI and found strong support for its validity. IMI is a multidimensional measurement device intended to assess participants' subjective experience related to a target activity in laboratory experiments (Ryan, 1982). This instrument allows assessing intrinsic motivation and self-regulation of learners. There are seven subscales in this instrument: the subscale of participants interest/enjoyment, perceived competency, effort, value/usefulness, felt pressure and tension, perceived choice (or autonomy of

activity) and relatedness. The first subscale (*interest/enjoyment*) is the main subscale of IMI and assesses the intrinsic motivation of learners. On the basis of this subscale, overall questionnaire is called Intrinsic Motivation Inventory. According to the Self-Determination Theory, the second subscale *feeling of competency*, the fifth subscale *perceived choice* and the seventh subscale *interpersonal interactions* are important for intrinsic motivation. The results of subscales are represented by the interval scale, which ranges from 1 to 100 points.

The sample and sampling of quantitative research. The research sample is reliable and representative (probability cluster sample). The sample included eighth-form learners of Lithuania. The research clusters were the largest cities of Lithuania. Classes were selected on the basis of probability cluster sample and all learners of a selected class were tested.

The research sample was reliable as it involved 385 learners. The total population was 25000 eighth-form learners (EMIS – Education Management Information System). The confidence interval being 5%, confidentiality level is 95%. Hence, the research sample should have included 379 respondents. Therefore, the probability (confidentiality level) is 95% that the obtained data can shift only by 5% from the population parameters (confidence interval). Eighth-form learners were tested using IMI questionnaire after digital Physics lab accomplished with digital devices.

Method of research. The learners accomplished a Physics lab using digital laboratory software Xplorer GLX. It is a tool of storage, presentation and analysis of the data of experimental measurements that operates with PASPORT sensors.

The learners were working in groups: on average three persons per group. In terms of inquiry-based levels, the lab conformed to the second level (structured inquiry). Before the accomplishment of the lab, the learners were introduced to the aim and procedure of the work, but they were not familiar with the result. After the accomplishment of the lab, the learners filled in IMI questionnaire that was meant to determine intrinsic learning motivation and its determinant factors.

Results

The study focused on the promotion of learners' intrinsic motivation to study Physics by digital Physics labs. We used IMI questionnaire which consisted of seven groups of questions – subscales (Table 1). From the viewpoint of Self-determination Theory, the following subscales are important: feeling of competency, perceived choice and interpersonal interactions. There are two scales of IMI that are related to personal effort and felt pressure and tension (Table 1) and one subscale related to value/usefulness.

A 100 point interval measurement scale was used to explore the intrinsic motivation of learners; therefore, parametrical data were obtained. On this basis, the mean, median and standard deviation were calculated for every subscale (interest/enjoyment; feeling of competency, effort; felt pressure and tension, perceived choice, value/usefulness, interpersonal interactions), as well as skewness coefficients of every subscale were drawn (Table 1).

Table 1. Key tendencies of learners' intrinsic motivation and its determinant factors

	1. Interest/ enjoyment	2. Feeling of competency	3. Effort	4. Felt pressure and tension	5. Perceived choice (autonomy)	6. Value/ usefulness	7. Interpersonal interactions
Mean	59,74	62,73	64,91	52,48	59,71	76,67	52,00
Median	60,00	63,00	64,00	52,00	60,00	80,00	55,00
Std. Deviation	11,590	14,272	13,941	12,814	13,032	23,392	19,632
Skewness	0,074	-0,443	-0,370	0,217	0,162	-0,905	-1,064
Std. Error of Skewness	0,295	0,295	0,295	0,295	0,295	0,295	0,295
Minimum	37	30	24	20	31	20	0
Maximum	80	90	100	92	91	100	90

The first subscale (interest/enjoyment) is the most significant one in IMI (Table 1) as it reveals learners' intrinsic motivation for learning Physics. Its mean is 59,74 points out of the total of 100 points. The research data demonstrate that the data of the subscale is distributed according to the normal distribution and is marked by positive skewness (Interest/enjoyment). The mean of the first subscale (interest/enjoyment) is closest to the mean of the fifth subscale (perceived choice or autonomy) (59,71). Distribution of the fifth subscale is also marked by a weak positive skewness and it approximates the normal distribution.

It should be stated that the assessment of the satisfaction of the basic psychological needs (autonomy, competency and interpersonal interaction) differs while conducting digital labs in Physics. Digital Physics labs mostly satisfy learners' need for the competency feeling: the mean of the second subscale is 62,73. Therefore, digital Physics labs provide preconditions for a learner to feel competent: "I think I am pretty good at this activity"; "I think I did pretty well at this activity, compared to other learners". It appeared that a need for interpersonal interaction is satisfied least of all by digital Physics labs. The mean of the seventh subscale equals to 52,00. The discrepancy between the second and seventh subscales equals to 10,73 (Table 1).

The research data reveal (Table 1) that while conducting digital Physics labs learners do not experience extensive emotional pressure and tension (the mean is 52,48). Nevertheless, accomplishment of digital Physics labs demands some effort (the mean is 64,91). According to IMI questionnaire, it is impossible to determine what demands more effort: the content of Physics lab or its digital means. Therefore, it is impossible to draw a conclusion that learners of the new generation consider digital Physics labs as demanding effort.

The study also attempted at exploring whether the means of the subscales differed statistically significantly from the point of view of Self-Determination Theory (Table 2). ANOVA data block was used to identify statistical significance of the differences in means. This statistical criterion is applied for more than two dependent samples when the data are parametrical.

Sphericity Assumed ($p = 0,000$) showed means that differed statistically significantly. Significant statistical differences of the means of the second (feeling of competency), fifth (perceived choice or autonomy) and seventh (interpersonal interactions) subscales were explored (Table 2).

Table 2. Results of ANOVA Bonferoni data block test. Pairwise Comparisons between main factor of Self-Determination theory: 2 - feeling of competency; 5 – perceived choice or autonomy; 7 – interpersonal interactions

(I) factor1	(J) factor1	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
2	5	3,015	2,204	0,528	-2,400	8,431
	7	10,727*	2,718	0,001	4,047	17,408
5	2	-3,015	2,204	0,528	-8,431	2,400
	7	7,712*	2,611	0,013	1,297	14,128
7	2	-10,727*	2,718	0,001	-17,408	-4,047
	5	-7,712*	2,611	0,013	-14,128	-1,297

Based on estimated marginal means

*a. Adjustment for multiple comparisons: Bonferroni. *The mean difference is significant at the ,05 level.*

The results of ANOVA Bonferoni test in the table of Pairwise Comparisons demonstrated statistically significant differences of the means of the seventh (interpersonal interactions) subscale from the second (feeling of competency) and fifth (perceived choice or autonomy) subscales (Table 2). The statistically significant difference occurred due to the fact that the mean of the seventh (interpersonal interactions) subscale was lower than those of the second and fifth subscales (Table 1). It was determined that the need of the learners of new generation for social interaction was less important in experimental activity in comparison to the feeling of competency ($p = 0,001$) or the feeling of autonomy of activity ($p = 0,013$) (Table2).

Correlation between the data of different subscales was also explored (Table 3). As it was mentioned earlier in the article, humans are actively seeking for the actualization of their potentialities fulfilling their basic psychological needs: needs for autonomy, competency and social relatedness. Therefore, it was important to determine how the data of the first (interest/enjoyment) subscale correlated with the data of the second (feeling competency), fifth (perceived choice) and seventh (interpersonal interactions) subscales.

The strongest statistically significant correlation was determined between learners' intrinsic motivation for learning Physics and the feeling of competency (the first and second subscales) ($r = 0,462^{**}$, $p = 0,01$). Hence, digital labs in Physics gave learners' the feeling of competency and promoted positive motivation for learning Physics.

Table 3. Promotion of the learners' intrinsic motivation for learning Physics through experimental activity: Pearson correlation coefficients between IMI questionnaire subscales

	Interest/enjoyment	Feeling of competency	Effort	Felt pressure and tension	Perceived Choice	Value/usefulness	Interpersonal interactions
Interest/enjoyment	1	0,462 ^{**}	-0,195	0,019	0,235 [*]	0,445 ^{**}	0,187
Feeling of competency		1	0,373 ^{**}	0,072	0,143	0,377 ^{**}	0,181
Effort			1	0,123	0,422 ^{**}	0,339 ^{**}	0,288 [*]
Felt pressure and tension				1	0,264 [*]	-0,092	0,280 [*]
Perceived Choice					1	-0,025	0,206
Value/usefulness						1	-0,125
Interpersonal interactions							1

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).

A statistically significant correlation was determined between learners' intrinsic motivation for learning Physics and the feeling of autonomy while accomplishing a Physics lab (the first and fifth subscales) ($r = 0,235^{*}$, $p = 0,01$). This correlation is significant in assessing the reliability of the questionnaire for motivation. In fact, to be confident in one's assessment of intrinsic motivation, one needs to find that the free-choice behaviour and the self-reports of interest/enjoyment are significantly correlated (Ryan, Koestner and Deci, 1991). A statistically insignificant correlation was determined between intrinsic

motivation for learning Physics (the first subscale) and interpersonal interaction (the seventh subscale) ($r = 0,187$, $p = 0,05$).

Correlational analysis demonstrated (Table 3) that digital labs in Physics created the feelings of activity value and usefulness and established strong and statistically significant correlation with intrinsic motivation for learning Physics ($r = 0,445^{**}$, $p = 0,01$). The data on the value/usefulness of experimental activity was marked by strong and statistically significant correlations with the data of the subscale of feeling of competency ($r = 0,377^{**}$, $p = 0,01$) and with the one of effort ($r = 0,339^{**}$, $p = 0,01$). Value/usefulness of experimental activity enhanced the feeling of competency of the learners of Generation Z; however, it demanded more effort. Three statistically significant correlations that were determined in the subscale of value/usefulness suggested that the learners of Generation Z were characterized by a pragmatic approach to experimental activity.

According to R.M. Ryan, R. Koestner and E.L. Deci (1991), when participants were ego involved, they engaged in pressured persistence during a free choice period and this behaviour did not correlate with the self-reports of interest/enjoyment. Conclusions of R.M. Ryan, R. Koestner and E.L. Deci (1991) were drawn with reference to the studies of intrinsic motivation of preceding generations (Generation X or Generation Y). The research of new generation learners' intrinsic motivation for learning Physics that was based on the promotion of motivation for learning demonstrated (Table 3) that the learners were ego involved because the data of the fourth subscale (felt pressure and tension) did not statistically significantly correlate with the data of the first subscale (interest/enjoyment).

Discussion

The research involved the analysis of the results of Physics labs that are attributed to structured inquiry in terms of the Inquiry Theory. While accomplishing structured inquiry labs, the learners could communicate in groups and search for an unknown outcome of the lab. Despite the inquiry theory, learners had to be engaged in the learning process and encouraged to share and discuss ideas with peers. The inquiry learners needed to design experiments, decide upon appropriate data to collect, as well as to tabulate their findings (Wolf & Fraser, 2008). Stephen J. Wolf & Barry J. Fraser (2008) analysed how eighth-form learners explored activity of static electricity and determined that learners in the inquiry classes worked more closely and offered advice and suggestions. According to the sociological characteristics of generations, the research participants in S. J. Wolf & B. J. Fraser's (2008) study belonged to Generation Y. Hence, social interaction was important for learners of Generation Y while accomplishing labs in static electricity. Our research also involved learners' social interaction (as a component of Self-Determination Theory). It

appeared that the respondents attributed the least amount of points to the need for real social interaction while accomplishing digital labs in Physics (Table 1). The data of our research presuppose that learners of the new generation (Z) are less inclined to communicate in the real environment, i.e. in a group of learners accomplishing a lab. A component of their real social interaction does not statistically correlate with the intrinsic motivation for learning Physics (Table 3).

A. Loukomies et al. (2013) maintain that, in terms of inquiry strategy, it is important to employ not only learners' prior knowledge but also the basic psychological needs they want to fulfil. The current research embodied the design of the enhanced intrinsic motivation by supporting learners' innate psychological needs. The conducted research reveals that basic psychological needs (for autonomy, competency and social relatedness) are significant for the intrinsic motivation of new generation learners for studying Physics. The most expressed among them is a need for competency recognition (Table 1).

We agree with A. Loukomies et al. (2013) that "different learners value aspects intended to enhance motivation differently; and therefore, various motivational features make it easier to affect different learners with one sequence" (p. 2536). A well designed activity that encompasses support for new generation learners' basic psychological needs and especially for support perceived competency is a reasonable way of enhancing new generation learners' intrinsic motivation towards digital Physics labs.

Conclusion

1. Digital labs in Physics are most often accomplished at school. Their impact on the intrinsic motivation of new generation (Z) learners, or the so-called learners of technology generation, is significant; however, it is not essential. According to IMI questionnaire, the mean of learners' intrinsic motivation for learning Physics is 59,74 points out of the total of 100 points. Basic school learners are convinced about the value, practical applicability and benefit for the future of digital labs in Physics. The mean of the subscale of value/usefulness is 76,67 out of the total of 100 and is higher than that of other subscales (of IMI). Awareness of the value of experimental activity is an important factor of a new generation learner's intrinsic motivation for learning Physics.
2. The peculiarities of the intrinsic motivation of new generation learners for experimental activity are revealed on the basis of Self-Determination Theory. According to this theory, intrinsic motivation for learning occurs when basic psychological needs (for autonomy, competency and social relatedness) are satisfied. Digital labs in Physics provide highest satisfaction of new generation learners' need for competency, and the lowest satisfaction for the need of interpersonal interactions (the difference is statistically significant: $p = 0,001$). Moreover, digital labs in Physics

provide better satisfaction of the need for autonomy as compared to the need of interpersonal interactions (the difference is statistically significant: $p = 0,0013$).

3. Correlational analysis of the main components of Self-Determination Theory reveals that the strongest and statistically significant correlation is manifested between learners' intrinsic motivation for learning Physics and their feeling of competency ($r = 0,462^{**}$, when $p = 0,01$), as well as between intrinsic motivation for learning Physics and the feeling of autonomy while accomplishing a lab (the first and fifth subscales) ($r = 0,235^*$, when $p = 0,01$). The correlation between learners' intrinsic motivation for learning Physics and their feeling of competency is stronger than the correlation between motivation to learn Physics and the feeling of autonomy while accomplishing a digital lab.

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ANALYSIS OF THE RESULTS OF THE PEDAGOGICAL RESEARCH AND EEG IN THE ASPECT OF EFFECTIVE MODERN TEACHING AIDS IN THE TECHNICAL EDUCATION

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***Abstract.** The development of computer technology is reflected in among other things, the development of modern didactics. Current pedagogy and media education, as a fast developing discipline of general pedagogy, is a topic of a number of studies. Applying the modern multimedia aids at various stages and in various types of education is considered as an indispensable element of modern didactics, due to new opportunities the modern media offers. The paper deals with didactic innovations based on research conducted within pedagogy on the observable social changes induced by development in information technology. The main objective of the paper is to address the issue how to apply modern technology and research findings on the functioning of the brain in order to improve the effectiveness of the learning process. The paper presents only the results of a pilot study, which can be used as a basis for further research using medical equipment for analyzing EEG brain waves for didactic purposes.*

***Keywords:** IT, computer simulation, neurodidactics, multimedia, media education, didactics, information society.*

Introduction

The ability to operate personal computers and related IT devices is an indispensable skill in modern information society. For the young generation to develop the skill, they are to be regularly and permanently exposed to the latest achievements in technology. That is why it is vital to popularize the idea of information technology in the school in various forms and at various levels of education, from kindergarten to university. The development of computer technology is reflected, among others, in the development of modern didactics. It has to be noted that the education programmes and curricula, although developed by outstanding specialists, may become outdated before they actually reach the classroom. The publishing of textbooks may take even years so that teachers are often rightly concerned about the validity and currency of the textbook content. Sometimes, in the pursuit of their individual interests, students get updated about the latest scientific and technological findings by surfing the Internet. (Freedman, 2011; Gerhard, 2011) On the one hand, it is a positive phenomenon, on the other hand it makes educators think how to keep teaching curricula updated. This, in turn, implies further questions: how to pass on the

knowledge by means of modern and more attractive teaching aids? The main purpose of the didactic process is to transfer as much knowledge as possible, in the most effective and fastest way, activating the learner to perform tasks individually and thereby raising his/her interest in the subject, helping to acquire the knowledge permanently. Like other subjects of academic research, didactics also follows the changes in the social environment and its range of interest concerns meeting current requirements in the field of education. (Carr, 2012)

A young person should be able to face a new role and challenges of living in an information society, the role based on the recent developments in electronics and information technology. Education in this area has to be a multi-stage process starting as early as possible and offering a chance of learning how to use modern technology in the process of education and later in work. A widely known model of the didactic activity relations between teachers and students T-S (Fig.1) does not sufficiently reflect the reactions between the subjects.



Figure 1. The model of the didactic activity relations between teachers and students (T-S)

A current model of presented relations should be undoubtedly enriched by the additional subjects that take part in the given process. One of the elements is the didactic material (DM) and didactic computer programme (DCP). The above presented plane model which consists of two basic subjects: a teacher (T) and students (S) transforms into the spatial system represented by the Fig. 2. The given model can be called the new model or otherwise heuristic-ergonomic model.

At the deeper graphic analysis, this model also interprets power of the connection of each elements (apexes). Their value represents a length of a vector or their mutual system (the resultant). The didactic tetrahedron shows the didactic space with an undefined number of possible didactic situations. Each of the situations can be materialized inside by four vectors led out of every apex of the tetrahedron - the pole. The location of particular didactic situation intensifies the interconnections, which allows to the univocal presentation of the correlation of each subjects. (Barski, 1998; Prauzner, 2010)

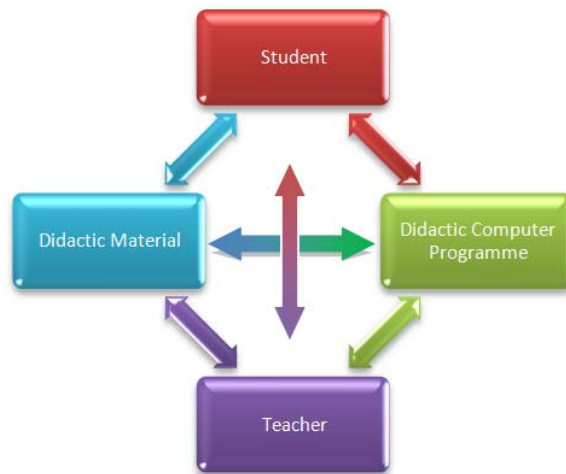


Figure 2. The model of the didactic activity relations T-S-DM-DCP - the didactic tetrahedron

Institute of Technological and Safety Education offers full-time and part-time studies for future engineers of the following specializations: Management of Health and Safety and Occupational and Environmental Safety. Three-term post-graduate courses Education for Safety are intended especially for teachers who gain knowledge necessary for teaching such subjects as Education for Safety, Pro-health Education, or Civil Protection. At present the OHS education is conducted in line with current trends in teaching methodology and forms of communication. Classes take place in laboratories and classrooms equipped with multimedia facilities. Field activities organized in companies and civil service institutions are also considered to be attractive. The instructors are highly qualified specialists dealing with various domains of safety. They conduct lectures, classes, field activities and laboratory classes using advanced didactic aids. Due to technological new solutions simulation programs more and more in reality are copying reality of phenomena. During teaching for electrical engineering laboratory practical exercises are conducted with the measurement of the parameter inductive sensors. The operation of these sensors can also be simulated in specialized programs and the results compared with actual measurements. Inductive sensors are widely used as magnetic field sensors for threat detection and alarm systems (Ptak & Borowik, 2012; Ptak & Prauzner, 2013). The operation of these sensors can also be simulated in specialized programs and the results compared with actual measurements. (Janiczek & Ptak, 2007; Prauzner & Ptak, 2014)

This method consists in giving appropriate incentives stimulating, being aimed possibly to all senses into the way as most faithful copying the reality of the happening occurrence. The components of a computer simulation, then, are as follows: the system in which relations between objects hold and the physical

and mathematical models being the basis of computer simulation by the user. A computer simulation offers a highly reliable representation of conditions obtaining in the real world as well as actions exerted upon the object examined. Because of that, computer simulations are a viable alternative to analytical methods, which may not always be applicable to solving problems of high complexity.

Methods of Research

Scientific studies have been carried out on the basis of two methods. The first -in 2012/13 academic year the research conducted on the classical methodology involving statistical analysis of teaching effects, e.g. grades obtained by students of Technological and Safety Education - Jan Długosz Academy in Częstochowa, Poland. I conducted the stage with 118 students participating in the survey. In order to conduct the research, I separated from the existing laboratory groups – the experimental groups, from both computer and electro – electronic classes. In those groups I held classes personally, which made it possible to introduce innovation into the course of classes and a thorough evaluation of the learning progress. During this stage of research, I introduced to the experimental group new didactic solutions, which were based on new didactic measures with the use of multimedia techniques, especially simulation programs based on: FEM (Finite Element Method), FDS (Fire Dynamics Simulator), A* Search Algorithm and another technology. The control group also participated in the research, without having any innovations introduced. Computer simulations make it possible to visualize the teaching process, facilitate reasoning and help students in performing tasks and developing practical skills. The independent variables assumed in the study were: the initial state of knowledge in the students before the experiment started, the number of students under scrutiny and the didactic aids used in both groups (transparencies, multimedia presentations, academic course books and computer programmes). In the experimental group the classes were conducted in a computer room, using individual computer stands with simulation software. They started with a short presentation stating the aim of the class and explaining how to use the simulation programme. The classes in the control group were conducted in the traditional form, by giving instructions, presentations and using a course book. Since the effectiveness of the didactic process is a complex issue which can be interpreted by means of a number of factors, the study analyses selected dependent variables on the basis of which it is possible to determine this kind of effectiveness. These variables include:

- a) *Learning new information, or acquisition of new knowledge.* The indicator of which was assumed to be the number of particular grades obtained in the final test by students in both groups. The data was used

as a basis for obtaining further statistics. It was also assumed that a student's activity in the class is a measure of knowledge acquisition.

- b) *Being active during the classes, that is the assessment of changes in attitudes and behaviour of individuals when performing tasks.* Here, the observation of students' behaviour by the class instructor and the graphically represented data obtained from the EEG tests in the experimental group were used as indicators. Using the QEEG to track the brain waves of the particular frequencies makes it possible to observe the activity of the particular brain regions when one is learning. This can be directly equated with cognitive activity occurring during classes. In EEG it is possible to analyse changes in the potential generated by brain cells, i.e. the brain's spontaneous activity occurring in response to external complex stimuli coming from the simulation programme. The results of the experiments were thoroughly analysed by an EEG technician. It was found out that under the influence of visual and auditory stimuli in the form of animations, narratives, and solving the tasks included in the simulation programme, the brain changes temporary frequency of selected waves. This results in an observable change in the kind of brain activity from relaxation (dormant state) to the state of full concentration and alertness. The paper does not aim to link EEG parameters with different teaching methods but it offers a reliable method for examining the dependent variable in the experimental group.

The division of students into the control and experimental group differed as far as the initial level of students' knowledge and their average marks of analyzed subjects were concerned. Due to the fact that marks from particular subjects could have been subjective, I created the test concerning the basics of computer science and electrotechnology in order to check their knowledge.(Tab.1) The analysis of the results - made in a correct manner showed the actual level of students' knowledge. Groups with a lower average marks were assigned to the experimental groups and students with higher average marks to the control group. Due to the fact that the average marks did not significantly differ from each other, it was possible to state that students represented a similar state of knowledge. The group members were selected in the way as stated, since the level of the input knowledge was clearly determined and, in my opinion, it was not a factor which could affect the final assessment of results obtained in both groups. Besides, selecting the group members of slightly lower input level was motivated by the desire to compensate for the differences among students and assist those whose academic performance may be weaker. There exists a large correlation between the content of teaching subjects and the ability to share it. It is essential to teach students the methods of instruction and the manner to share the content, which requires not only

theoretical knowledge, but also practical knowledge in taking actions, developing skills in choosing the work methods, communication with students, and skills in establishing the cooperation. In order to evaluate whether the effect of teaching in the control group and in the experimental group was comparable or differed in the two groups, I conducted the final test. Poland has a grading scale: 5-highest, 4, 3, 2-lowest. The results obtained gave me the possibility to compare the marks in two groups. I used the method of the statistical analysis – using a non-parametric test for independence chi-square distribution, for the purpose of a closer analysis of the data and the indications whether the didactic aids used in the experimental group had an essential influence on the level of students' knowledge. The analysis of the collected data consists in an attempt to verify the hypothesis that two qualitative features in the population are independent. Due to this method one can make sure, whether data contracted in the many-divided board delivers a sufficient proof for the relation between the two variables. The analysis of the results confirmed the hypothesis of the research and induced me to formulate the present conclusions.

The second method - at the same time, the studies were performed on selected students in experimental groups with medical equipment for analyzing brain waves in EEG (electroencephalography), too. The presence of an EEG rhythm indicates activity of individual neural cells at a certain location and corresponds to electrical pulses forming rhythmic patterns of brain waves. For each band of waves generated by the brain, a specific type of neurotransmitters is produced, which affect the functioning of the organism. The measurements of currents generated by neurons in the idle state show that the patterns recorded in the stage of the experiment for different individuals are different. This is due to the fact that various people have different abilities, disorders, or preferences. It has to be noted that the present work is to be treated as a pilot study which has to be followed by a more comprehensive research. Still, the results obtained appear to be significant and interesting, particularly to pedagogues. Pedagogy, as a science focused on the human being, often draws on the findings of medicine and psychology. New interdisciplinary labels, such as neuropedagogy or neurodidactics have attracted interest of pedagogues (Żylińska, 2013). The objective that neurodidactics seeks to meet is to design a new brain-friendly method of teaching and learning. Thus, from the viewpoint of the teacher's work, neurodidactics seems to be a very attractive and promising notion.

The presence of an EEG rhythm indicates activity of neural cells at a certain location and corresponds to electrical pulses forming rhythmic patterns of brain waves. For each band of waves generated by the brain, a specific type of neurotransmitters is produced, which affect the functioning of the organism. The best known neurotransmitters include adrenaline, noradrenaline, dopamine, serotonin and endorphins. All the brain wave components are generated all the time but some of them can be fostered at will and by systematic training. By increasing the share of the desired wave bands, we automatically increase the

production of the neurotransmitters and affect the functioning of our organism, boosting the activity of the brain regions which are the most important for learning. Electromagnetic signals were recorded from electrodes located at various places of the scalp and body such that they show the highest degree of activity: analyzing colours, motion, shape, depth, visual associations, assessment and making decisions, auditory perception, speech comprehension, object recognition, object categorization, understanding symbols, abstract notions and geometrical relations, meaning of words, identifying situations, working memory, volition, temporal relations, control over a sequence of events, planning, responses to external stimuli and simulations in the model of the world. The participants, who volunteered to take part in the experiment, were selected in a random way. It has to be noted that the tests are non-invasive and do not have any negative influence on health. They were carried out in two stages at the Biofeedback Experimental Lab at the Jan Długosz University in Częstochowa. The stage consisted in analyzing the brains' operation in the same individuals during activities performed while working with a multimedia computer programme. The programme exploits effects of simulating the operation of digital systems.

Results of Research

Table 2. Population of students

Group	Population	%
control	73	61,8
experimental	45	38,2
sum	118	100

Table 3. Test χ^2

test value χ^2	degrees of freedom	The level of significance
61,2	df=2	p<0,001

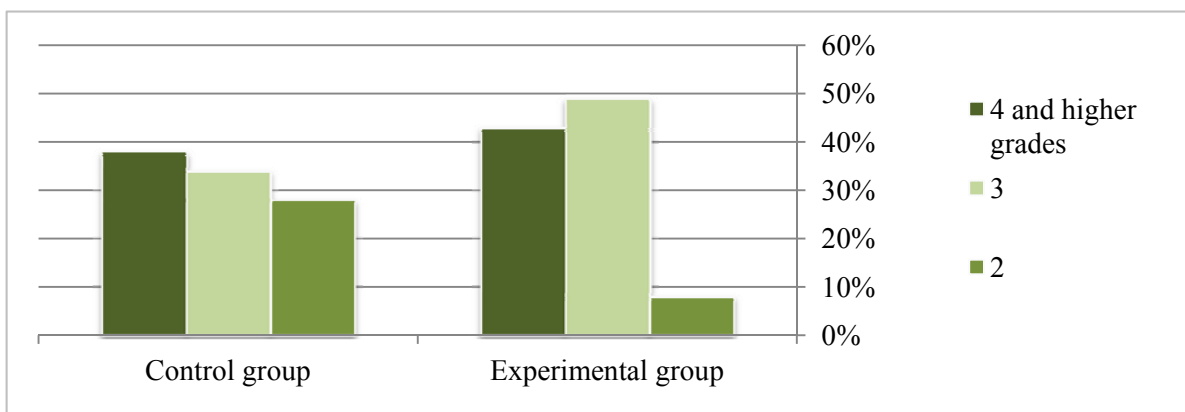


Figure 3. Scheme two-dimensional: ESTIMATION – GROUPS

Since the calculated $\chi^2 = 61,2$ is greater than the critical $\chi^2 = 5,991$ it can be concluded that the variables are tied. We therefore reject the null hypothesis that the features examined are independent and we assume the alternative hypothesis that there is a significant relationship between the features.

The following recorded wave bands were analyzed:

- THETA It is referred to as a gate to learning and memory, as it accompanies creative processes and learning. It reduces stress, enhances intuition and other super-sensory kinds of perception and skills. It represents subjective emotional states of intuition, creativity, fantasizing, imagery. The excess of THETA waves lowers concentration, causes difficulties in focusing on the learning process and deteriorates cognitive performance. Theta waves of the frequency 4-8 Hz are of crucial importance in memorising. These waves are related to the activity of the limbic system responsible for experiencing emotions. Strong emotions, especially positive ones facilitate memorising but the optimal condition of the mind is achieved with gamma waves being dominant.
- BETA1 It is closely linked to inspiration and energy, accompanying activity, logical and analytical thinking, intellectual involvement and verbal communication. Beta waves of higher frequencies indicate aggression or anxiety. It represents subjective emotional states of alertness and concentration. Tasks are completed fast and with ease. Neurons travel at a very high speed. One can fulfill ambitious aims and reach for the top. New ideas emerge instantly.
- GAMMA represents subjective emotional states of thinking, integrative thinking and associative processes. Activities and behaviour: processing information of high degree of difficulty, combining various modalities and associations. Gamma waves are believed to represent the most efficient mental effort and creative work.

The studies were carried out during the student's work with the simulation program.

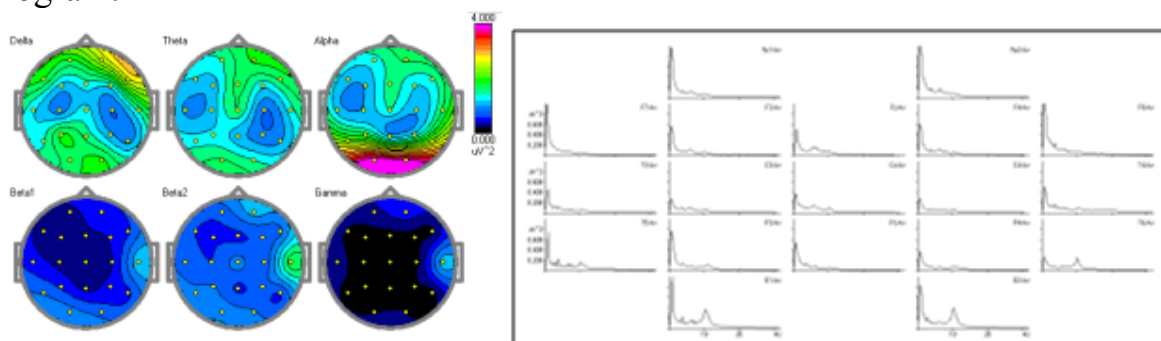


Figure 4. The example: student's map of power of an EEG spectrum expressed in μV for various frequencies (wave type-activity state) and power spectrum graphs.

Conclusions

- Modern didactic aids help develop students' abilities by boosting the following: learning, thinking, searching abilities, ability to act, communication skills and co-operation.
- A number of conducted researches has proved that the use of new didactic measures undoubtedly has a positive impact on the didactic process. Of course, it is difficult to mention only the positive values of the given didactic aid, because there are some of the measures which have a negative influence, although they should support this process. It is necessary to carefully evaluate their usefulness, because often the novelty of a given aid does not guarantee its usefulness. The introduction of didactic aids during classes should be based on special evaluation by the person who conducts classes. In many cases, the introduction of new aids, will not only make the didactic process less attractive, but also will not arise the interest of students.
- The presence of an EEG rhythm indicates that the brain is engaged in some activity, in which millions of neurons can be participating in a synchronized mode. The amplitude of the currents generated by neurons for the various frequencies measured at various electrode locations increases as a result of activating the brain lobes, which, as far as is known, are responsible for specific human behavioural patterns and actions.
- Using the EEG-based method makes it possible to assess an individual's input conditions, related to his/her aptitude for certain cognitive tasks and possibly related to previously acquired skills.
- It can be observed that the brain is active all the time, regardless whether it is in idle state or engaged in intense work. Because of that, all stimuli reaching the brain affect its operation, also by interfering with it. Taking the effectiveness of learning into account, this means that the exterior conditions accompanying learning should be appropriate and free from signals which can potentially distract the mind from working on a task.
- The effectiveness of learning depends not only on the time but also on the depth of information processing. That means that the quality of learning materials and the student's involvement in the process of learning are conducive to educational success. The simulation programme is rich in didactic properties and stimulates practically all the brain areas, which was observed in the majority of subjects.
- During the experiments, some differences in brain activation were also observed among the individuals, and the brain activity was not always fully predictable. It has to be therefore concluded that simulation programmes can be received differently by different people.
- Using the experimental factor, i.e., the simulation programme significantly boosted the activity of the particular brain regions, which was testified by

the recorded waveforms showing characteristic excitation of the brain during the learning process.

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APPLICATION OF DASYP LAB IN TEACHING ELECTRICAL ENGINEERING

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Abstract. *The teaching of subjects connected with electricity, such as electrotechnics or electronics is an important part of school and technical university curricula. Due to the recent development of computer technology, laboratory exercises can be performed through simulation. Such simulations can be performed in a virtual environment measurement. The paper presents an example simulation process of a measuring system in the software environment DasyLab.*

Keywords: *DasyLab environment, electricity subjects, simulation, teaching.*

Introduction

The recent years have witnessed a fast technological progress in the field of computer science. Due to the development of information technology and electronics a concept has appeared of a device not existing in reality but performing a certain function for the user, and employing both material and non-material means. All the functions of a traditional measuring device are performed by its hardware, in the case of a virtual device or system it is not so. In a computer measuring system with a graphic interface, what is performed by the hardware is the acquisition and processing of data and what is performed by the software is the functions of the graphic user interface. According to some definitions, such a device can be treated as a virtual device. This term has been created also to refer to new software devices for the computer-supported designing of measuring-information systems (Winiecki, 2001; Rak, 1999). Such devices enable the use of an instrument or a system by means of the graphic interface. The development of measuring techniques and virtual measuring devices has been stimulated by:

- fast technological progress, especially in the production of computers,
- availability of supporting software suited to the user's needs,
- wide possibilities of processing, analysis, and visualisation of measurement results,
- economical factors: virtual devices are cheaper than traditional devices of a similar class.

The choice of content to be represented and the way of representing it on the particular panels of the virtual device are up to the user. The record of measurements can be created automatically and stored on the disk or printed. The software is a crucial component of the measuring system and determines the way and extent to which the device is utilized. It enables convenient monitoring

of the measuring process, archivization of and access to data, their analysis and processing and presenting results in a required form (Winiecki, 2003; Ptak & Prauzner, 2010; Petrilli, 2001; Hull & John, 1988). In the next part of the paper presents a practical application of modeling software package DasyLab. Shows an example of a project implemented at the laboratory classes with students.

Development of measuring devices

The evolution of measuring devices has taken place due to the fast development of science and technology. Changes could be observed in the methods of processing measuring signals, the principles of designing devices, the ways of utilizing measuring equipment and levels of interaction among the particular devices in a system. The first generation of measuring devices included analogue devices operated manually from the front panel. The result of the measurement was read from the position of an indicator on the scale displaying numbers and measuring units (Laughton & Warne, 2003). When a/c converters were invented, the second generation of measuring devices was introduced, which became digital, with discrete measuring signals. The metrological parameters were significantly improved in these devices by eliminating reading errors but the device was still operated manually (Wilson, 2005; Sellars, 1995). The next generation was that of the so called systemic devices (Winiecki, 2001; Rak, 1999; Swisulski, 2004), which could be either used as an independent measuring device or it could be remotely controlled by providing channels of external digital communications, i.e. digital interfaces. The current generation of measuring devices includes virtual devices, consisting of a general-use computer with software and systemic devices or measuring devices of a new generation, such as measuring cards (Prauzner & Ptak, 2014; Smetana & Stracapova, 2013; Beamish, 2000).

Functional modules in the DasyLab package

Specialized programs enable not only analysis of signals from measuring sensors but also simulation of such signals in the programming environment. The programs have to be fairly easy to install and to adapt to the user's preferences. These requirements are met by integrated measuring environments based on object programming, such as DasyLab produced by National Instruments (Ptak & Prauzner, 2010).

The fact that it is easy to construct a measuring schema with the types of analyses required and that it is possible to represent them in real time is also of great value. It only takes minutes to create one's own application for data acquisition and analysis by means of DasyLab. The analysis of complex acquisition and control problems is fact and does not require additional programming. The symbols of particular modules, representing input and output

blocks, displays, and operations are simply to be placed in a Worksheet window and connected (Swisulski, 2004; Kurkowski & Ptak, 2001).

Functional modules and functions are grouped by themes in DasyLab. The basic groups are input-output modules. Here are found elements responsible for acquiring the signal from the measuring card connected directly to the inductive sensor (Figure 1). The signal, typically a voltage one, is in the analogue form.

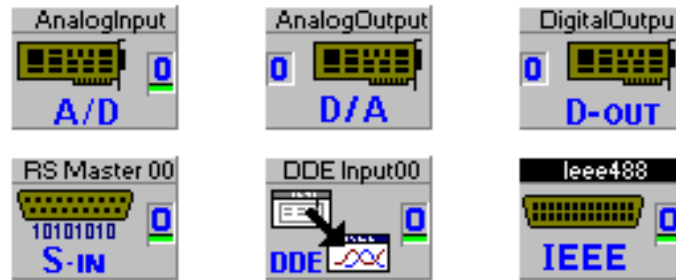


Figure 1. Functional modules – input-output

The signal has to be subsequently modified by signal processing modules so that it is suitable for analysis. It has to be amplified and filtered in order to eliminate interference and noise from the grid. The amplified and purified signal is the basis for establishing characteristic parameters of the measuring signal, such as amplitude, frequency, and phase of the fundamental harmonic, as well as for applying the functions of the FFT (Figure 2).

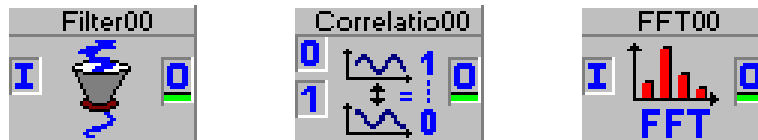


Figure 2. Functional modules – amplification and filtering

By means of the statistical modules, it is possible to obtain average, minimal, and maximal values (Figure 3). It is also possible to draw a histogram of the input signal and determine the minimal and maximal values for a specific stream of data by prescribing the number of periods of the signal to be analysed.



Figure 3. Functional modules – statistical analysis

The process of analysing measuring signals from inductive sensors can be controlled by means of controlling modules, which enable the starting and stopping of the analysis by additional controlling signals, or by the operator. They also control the particular parameters during the analysis by means of various kinds of controllers acquiring data from external devices or by means of variables input to the system (Figure 4).

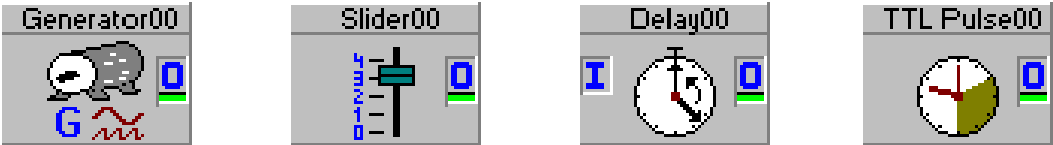


Figure 4. Functional modules – control and regulation

The data processed and developed on the basis of signals from inductive sensors can be represented in a graphical and numerical form as time characteristics, or as two-variable functions (Figure 5). The parameters which are relevant for the measurement can be input as analogue or digital indicators directly at any point of the analysis.

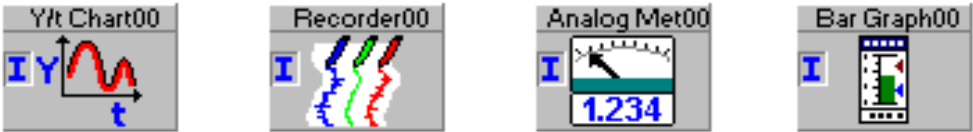


Figure 5. Functional modules – display and recording

The output data can be subjected to mathematical analysis to establish accuracy and eliminate measuring errors (Figure 6).

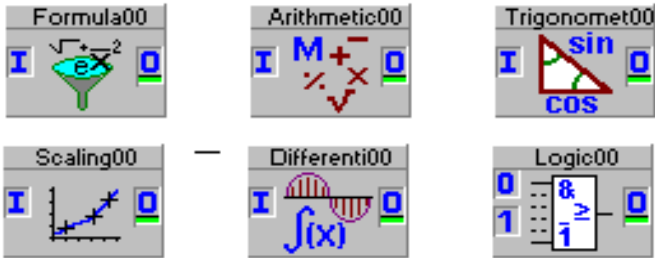


Figure 6. Functional modules – mathematical analysis

There is yet another group of modules, the generating modules, for simulating the measuring signal. This is useful at the stage of constructing the system for measuring signal analysis, before the analysis proper begins (Zloto et al., 2012).

Application of DasyLab package in teaching technical subjects

The traditional classroom or lab for teaching electrotechnics and electronics consists of a number of terminals for conducting previously prepared experiments. The experiments are about connecting a number of measuring devices and performing measurements in the so obtained system. Students' task is to select the devices properly and to connect them in accordance with the instructions provided. After performing the measurements, students write down the results in a protocol, on the basis of which they prepare a report. The report additionally includes calculations, tables and graphs representing the results, as well as conclusions from the experiment.

Due to the fast development of computer technology it is possible to employ in the teaching various computer programmes, whose two main tasks are:

- simulating the operation of electrical or electronic systems in the computer independently of the hardware or connecting it to the traditional measuring device,
- controlling traditional measuring devices by means of a computer programme, which displays a virtual control panel for the user. Results can be recorded directly in the programme. On the basis of the results it is possible to perform any operations involving their processing or graphical representation.

The DasyLab system enables the user to tackle all problems connected with data acquisition and processing. What is innovative is the great simplicity of using the programme by constructing a scenario for the analysis by means of icons. Connecting icons represents the path of data flow and its analysis, constituting the data flow worksheet shown schematically by Kurkowski & Ptak (2001).

The ease of creating the measuring schema required for the analyses we need and the possibility of representing them graphically in real time are an important advantage of the software. DasyLab makes it possible to create one's own application for data acquisition and analysis within a few minutes. It also makes it possible to solve even complicated acquisition-control problems without any additional programming. The symbols of modules required are simply placed in the worksheet window and connected. The modules represent input blocks, output blocks, displays, and each of numerous operations which can be performed by the programme. The DasyLab software package constitutes a unit as a measuring system with a measuring card and a PC computer. It includes a module responsible for data acquisition and adaptation to the format suitable to be input to the computer. Measuring data processed in this way is analysed by special software operating in the Windows environment. The computer performs a central role by controlling the processes of data acquisition, its processing and analysis, and then the presentation of results in a

form chosen by the user. Results can be also archived so that access to them is possible at any time they are required for further examination.

The DasyLab environment can be used for modelling various measuring and simulation systems created within the measuring system on the basis of the programming modules available.

For example, for the measurements of the coating thickness with the inductive converter, a measuring system was modelled as presented in Fig. 7.

Inductive sensors are widely used as magnetic field sensors for threat detection and alarm systems (Ptak & Prauzner, 2013; Prauzner, 2014). During teaching for electrical engineering laboratory practical exercises are conducted with the measurement of the parameter inductive sensors (Prauzner, 2012). The operation of these sensors can also be simulated in specialized programs and the results compared with actual measurements.

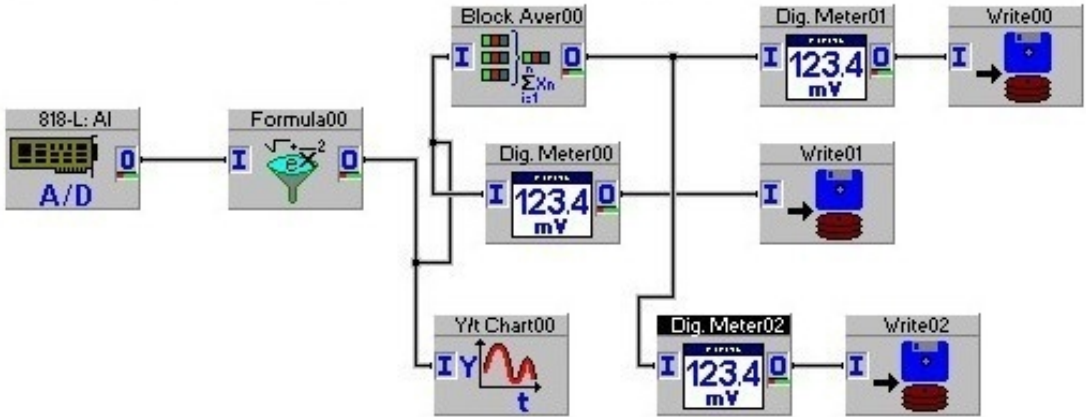


Figure 7. Measuring system modelled in the DasyLab programme

Below will be presented the particular stages of modelling the system for measuring the coating thickness. Such a system can be built during the simulation class with computers with the DasyLab package. This system can be subsequently examined in the virtual environment before it is used in laboratory classes or employed for measuring real industrial objects.

In order to adjust DasyLab to the requirements of the measurements of the coating thickness, a measuring system was especially designed. At first a system for generating a signal feeding the sensor was built together with the measuring part, representing results on the display as temporal waveforms or as values in the case of using the digital display module (Figure 8).

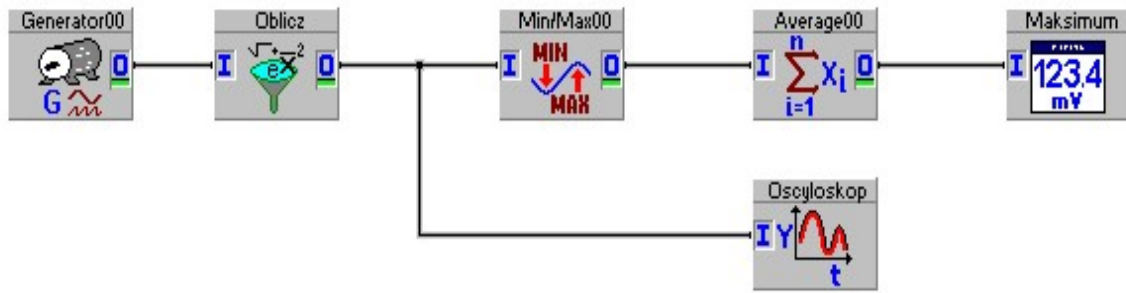


Figure 8. Diagram of the programme system simulating the measuring signal and its acquisition in the DasyLab environment

The signal simulation block consists of a sinusoidal generator of constant amplitude and signal frequency. The signal is generated and then amplified so that it fits the other parts of the system. The signal is transferred directly onto the oscilloscope output as time characteristics. Since the information on the coating thickness is encoded in the amplitude of the sinusoid signal, the amplified signal is brought to the module determining the maximal and minimal values of the waveform examined. The maximal value obtained in this way is then averaged to stabilise it and presented on the digital display.

The existing measuring system was subsequently extended to include a part enabling adjustment of the sinusoid signal frequency and amplitude. The other parts of the system were not modified (Figure 9).

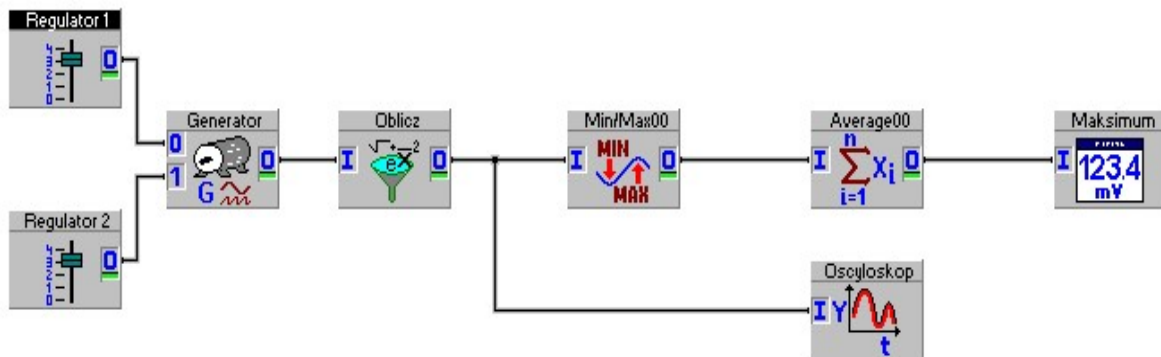


Figure 9. Diagram of the programming system with adjustable generator frequency and amplitude

Since the measuring signal is subject to external interference of about a few tens of hertz coming from the grid and of radio frequency from the ambient environment, the system includes signal filtering modules. In this way an optimal operating spectrum is selected for the measuring system (Figure 10).

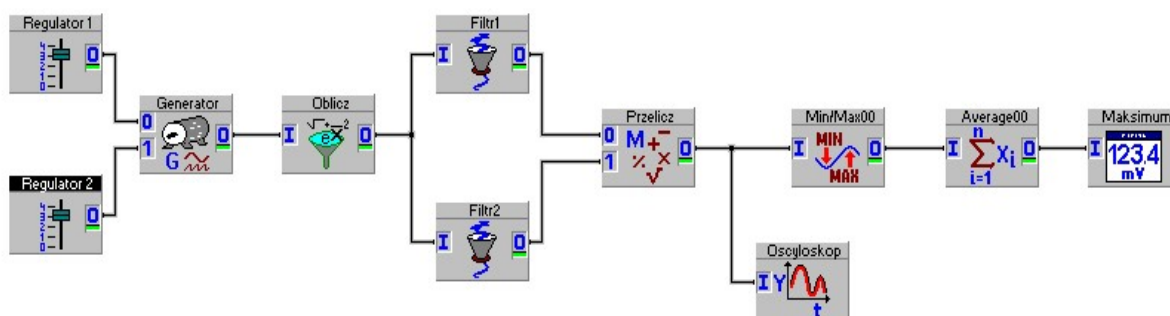


Figure 10. Diagram of the programming system with filtering the measuring signal

This system additionally includes a module adjusting the signal from both filters and transforming the two measuring trajectories into one common signal.

The version of system presented in Figure 11 had the acquisition path of the measuring signal amplitude modified.

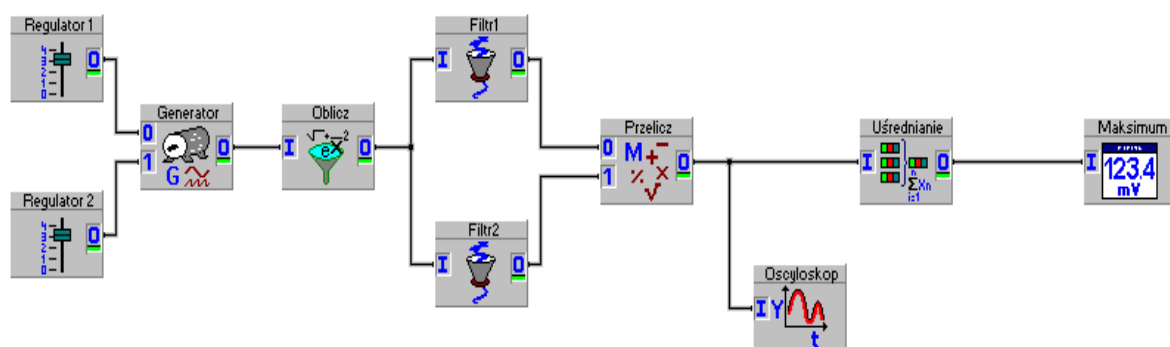


Figure 11. Diagram of the system averaging the amplitude for a prescribed number of samples

Instead of the module analyzing the maximal and minimal value of the signal and the module for averaging the two, there is a module averaging the amplitude by analyzing a sufficient number of signal samples.

With the signal averaging module it is possible to adjust the parameters during the system operation. In the previous version it was necessary to interrupt measurements, introduce corrections and only then resume operation. In the new version the so called coefficients have been introduced the value of which is input into the system through built-in regulators: knobs, or two different kinds of slides.

So far, the system for measuring the coating thickness is capable of representing a simulated signal whose amplitude corresponds to the sought value of thickness. The amplitude is presented on the display, but the coating thickness has to be derived from it outside the DasyLab environment. Naturally, then, the next step is the implementation of this operation into the measuring system. To obtain this, more coefficients were introduced and the sought value is computed in the mathematical module.

Again, the value of the coating thickness so obtained is presented in the digital form on the display. The fully extended version of the system is presented in Figure 12.

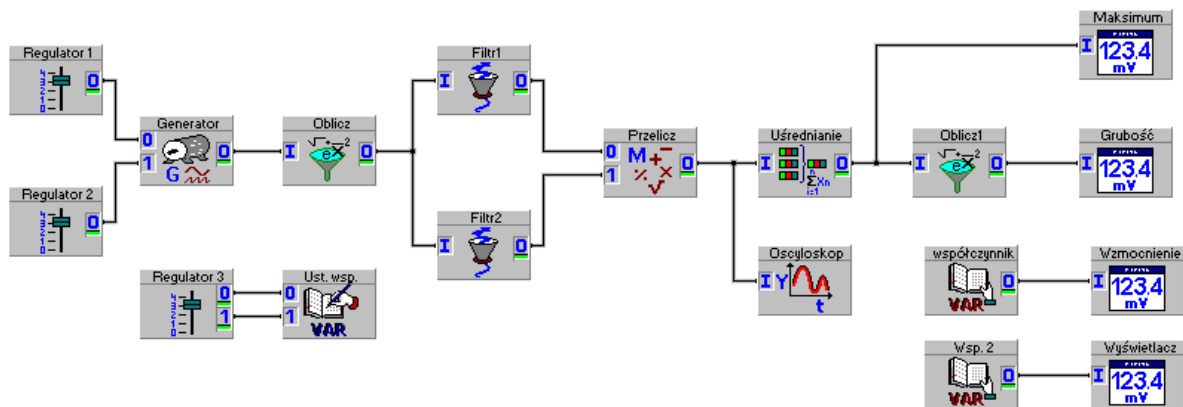


Figure 12. Diagram of the system yielding the coating thickness as output

The system presented above is almost a complete version of a device for measuring coating thickness. What can still be added to it is modules recording results obtained.

By using computer-aided learning results achieved not available for learning using conventional teaching methods. Many of the systems that you can build and analyze them in a computer program is not can be realized in the classical laboratory because of financial constraints or too little extensive equipment base. The most interesting element, however, remains an immediate opportunity to experiment and test his ideas in a virtual software environment. This allows to achieve very good results both in terms of objectives of teaching and skills acquired during the educational process (Ptak & Prauzner, 2010; Zloto et al., 2012).

Conclusions

On the basis of the considerations presented above it is possible to draw the following conclusions:

- the DasyLab programming environment uses a graphical programming language therefore enabling developing a measuring system in the form of a diagram,
- by means of the programming environment DasyLab it is possible to configure the existing measuring system, to develop an algorithm for signal processing on the basis of existing procedures and to build one's own graphic interface for representing the results of measurements and results of measuring data processing,
- applying the special-purpose software package offers significant advantages over the traditional teaching methods,

- using the DasyLab software teaches independent thinking, seeking solutions to problems and drawing conclusions on the basis of experiments conducted and results obtained,
- a number of systems can be built for the sake of analyzing their operation in a simulated software environment, which reduces cost of conducting such experiments as compared to the traditional electronics laboratory,
- the system developed is an open and flexible solution, whose configuration can be extended and altered very quickly, to suit the current requirements of the user,
- the measuring systems offers an opportunity of experimenting in the virtual software environment.

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ВИРТУАЛЬНЫЕ ЭЛЕКТРОННЫЕ БИБЛИОТЕКИ ДЛЯ ПРОФЕССИОНАЛЬНОГО ОБРАЗОВАНИЯ

Virtual Digital Libraries for Professional Education

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Abstract. *The article is devoted actual problems of support of the system of professional education on the basis of development corporate network and virtual libraries of colleges. Some important results of applied researches on creation of the corporate network of Uzbekistan libraries are given. The information about the basic information sources (databases, multimedia encyclopedias and characteristics of other resources) actively used in educational process and virtual libraries are included too.*

Keywords: *corporate network, Cloudy Computing, digital library, database, virtual library, professional education, multimedia.*

Введение *Introduction*

Очевидно, что профессиональное образование является фундаментом как развития экономики страны, так и развития общества в целом. Промышленность, сельское хозяйство требуют специалистов высокой квалификации, подготовленных на основе современных технологий обучения. 21 век – это век информационных технологий, которые активно внедряются как в производственной сфере, так и в системе обучения, подготовки кадров. Сегодня сложно представить современный вуз, колледж, лицей и даже школу, где не применялись бы средства вычислительной техники и телекоммуникаций.

Для Узбекистана профессиональное образование имеет особое значение, т.к. в колледжах республики учатся большая часть молодёжи, стремящаяся получить знания, которые помогут им в карьерном росте, в организации собственного бизнеса, продолжении обучения в вузах. В настоящее время в системе специального профессионального образования (ССПО) Республики Узбекистан функционирует 1534 колледжей, где учатся более 2 млн. студентов. В республике ведутся активно работы по созданию информационно-образовательной инфраструктуры, создана корпоративная вузовская сеть, формируются электронные библиотеки.

Непрерывное образование сегодня – это насущная необходимость особенно в ССПО. Специалисты должны успевать освоить их, инновационные методы, производственные приёмы, технические средства. Одним из решений этих проблем является развитие корпоративной сети

колледжей и создание специализированных учебных и научных лабораторий.

Корпоративная сеть и виртуальная библиотека колледжей *Corporate network and virtual library of colleges*

В 2013 году в республике запустили первую корпоративную сеть библиотек 61 вузов. Этот опыт в 2014 г начал применяться в более чем 100 колледжах республики как пилотный проект. Целью корпоративной сети - повысить уровень информационного обеспечения не только учебного процесса в системе специального и профессионального образования, но и оказать поддержку тем, кто уже завершил обучение и нуждается в профессиональном развитии на своих рабочих местах.

Корпоративная сеть это идеальный инструмент и техническая основа для формирования виртуальной информационной среды (виртуальной библиотеки) на основе распределённых электронных библиотек колледжей. Созданная виртуальная библиотека колледжей реализована на основе Автоматизированной библиотечной системы ARMAT (Rakhmatullaev, 2012, 2014). и имеет возможности:

1. Работать как в локальных вычислительных сетях, так и в корпоративных Интранет сетях без ограничения количества пользователей при условии, что клиентской платформой является OS Windows;
2. Формировать и обрабатывать электронные каталоги и полнотекстовые базы данных электронных учебников, книг, периодических изданий, справочно-методической литературы и др., а также формировать сводный электронный каталог библиотек колледжей в корпоративной сети;
3. Обрабатывать и описывать любые виды изданий, как традиционные (книги, учебники, журналы, статьи и т.д.), так и нетрадиционные (аудио- и видеоматериалы, компьютерные файлы и программы, картографические материалы и ноты и т.д.);
4. Обеспечить совместимость с международным стандартом ядра DUBLINCore для описания библиографических данных и поддерживать электронные каталоги на коммуникативных форматах MARC21, UNIMARC и RUSMARC;
5. Вводить данные в электронный каталог в упрощенной форме по структуре DUBLINCore и затем конвертировать в структуру MARC;
6. Осуществлять дистанционный доступ к электронным библиотечным ресурсам через Интернет, позволяет заимствовать записи у других библиотек, находить необходимую научно-

образовательную информацию из всех распределенных источников;

7. Создавать личный электронный кабинет для библиотек и читателей, вести учет их заказов (статистику), дистанционно обслуживать, подавать заказы как по электронному каталогу библиотеки, так литературы, которая в ней отсутствует.

При создании такой корпоративной сети электронных библиотек активно используется концепция Cloud Computing или Облачных технологий (Armbrust, 2011).

Главными технологическими особенностями при использовании Cloud Computing при создании виртуальной библиотеки колледжей являются:

1. Централизация при формировании сводного электронного каталога (СЭК) библиотек колледжей, что позволяет получить максимум информации о местонахождении источника. СЭК расположен в Институте повышения квалификации и переподготовки кадров СПО, где налажена надежная система администрирования баз данных;
2. Децентрализация хранения самих источников информации (распределенная сеть полнотекстовых баз данных), что дает возможность для соблюдения авторских прав на сами источники при обращении к ним. Каждый колледж имеет право сохранить за собой право предоставлять источник информации на бесплатной или платной основе в «Облаке» корпоративной сети;
3. Эффективное использование ресурсов (технических, программных, кадровых) в корпоративной сети, за счет централизованного администрирования, хранения, контроля записей и распространения информационных ресурсов.

Реализация проекта позволило:

- Формировать полнотекстовые научно-образовательные базы данных (включая базы данных электронных учебников, диссертаций, научных статей, мультимедия (учебные кино-, мультипликационные фильмы, музыкальные произведения и др.) по стандартам отвечающим международным требованиям;
- Сократить затраты финансовых, трудовых и материальных ресурсов библиотек на создание и поддержку электронных каталогов, других видов библиотечно-информационных ресурсов;
- Оперативно обеспечить учащихся и преподавателей необходимой образовательной информацией в сети электронных библиотек;
- Повысит скорость поиска данных в электронных библиотеках от 1000 до 1500 раз (по сравнению с традиционными методами поиска);

- Обеспечить корпоративный обмен информацией между пилотными библиотеками колледжей.

Базы данных научно – образовательной информации *Data bases of scientific and educational information*

Корпоративная сеть была бы не эффективна, если бы не создаваемые информационные научно-образовательные ресурсы для виртуальной библиотеки. Ниже даны характеристики некоторых наиболее важных источников научно-образовательной информации. Они включают как базы данных редких изданий для изучения исторического наследия средней Азии, так и современные источники, используемые в учебном процессе.

Среди этих редких изданий в фонде Национальной библиотеки Узбекистана имени Алишера Навои хранится единственное в своем роде собрание печатного материала, заключенного в 594 томах и носящего название «Туркестанский сборник сочинений и статей, относящихся к Средней Азии вообще и Туркестанскому краю в особенности». Сборник начал составляться в 1870 г. в Туркестанской Публичной библиотеке по приказу генерал-губернатора Туркестанского края Кауфмана. (ныне Национальная библиотека Узбекистана им. Алишера Навои). Сборник включает 10710 наименований публикаций в виде книг, журнальных и газетных вырезок, карт, иллюстраций, диаграмм, планов и чертежей. В настоящее время сборник оцифрован и теперь предоставляет для открытого пользования читателям библиотеки. Данный материал имеет важное международное значение, т.к. позволяет получить бесценную информацию о развитии стран Средней Азии, России, Казахстана, Западного Китая, Индии, Ирана, Афганистана в период: конец XIX и начало XX веков. Документы включают редкую информацию о развитии науки, экономики и образования того времени. Сборник имеет редкий фонд документов по этнографии, который сопровождается хорошо сохранившимися фотографиями XIX века. Фотографии запечатлели лица, одежду, быт людей различных национальностей, живших в этом крае. Имеются фотографии, в которых представлены и архитектурные памятники, здания, сооружения и т.д. Они имеют важное значение для изучения быта, истории архитектуры того периода.

Сборник помогает восстановить всю жизнь края во всех подробностях от состояния социально-экономического развития, изучения производительных сил, богатейших ресурсов до исследования исторического прошлого, быта, традиций, обычаев и нравов народов, населявших край, театра военных событий, завоеваний и освободительных войн, а также ознакомится с исследовательскими трудами и записками научных экспедиций выдающихся географов, этнографов, историков: Н.М. Пржевальского, И.В. Мушкетова, Н.А. Северцова. Н.А. Маева,

В.Ф. Ошанина, А.П. Федченко и других. Изучение сборника дает возможность понять важные этапы и тенденции развития Востока конца XIX и начала XX веков. Информация, данная в сборнике, может заполнить пробелы, которые имеются в изучении Средней Азии и соседних с ней стран.

Мультимедиа энциклопедии *Multimedia encyclopedias*

При поддержке Научно-технический парка «Компьютер-Азия», являющийся в Узбекистане лидером в области создания мультимедиа-энциклопедий, реализованы ряд интересных проектов для поддержки не только учебного процесса, но и предоставлению широкого доступа к культурному достоянию республики. Наиболее интересной разработкой является Мультимедийная энциклопедия «Амир Темуру: Личность, Государство, Ренессанс» и посвящена Великому Амиру Темуру (Тамерлан) и эпохе ренессанса тимуридов. Эта энциклопедия содержит информацию не только об истории тимуридов, о походах великого полководца, но об изобразительном искусстве, народном ремесле, искусстве архитектуры и строительства в конце XIV и начале XXV веков в Междуречье. Она включает более 300 электронных копий цветных миниатюр, музейных экспонатов, архитектурных памятников эпохи Тимуридов, «генеалогическое дерево» предков Тимура. Электронная энциклопедия имеет интересное техническое решение - автоматизированная поисковую карту о походах великого полководца. По карте можно организовать виртуальное путешествие по историческим местам, по которым прошли войска Тимура, получить ценную хронологическую информацию по завоеванным им территориям.

Другая мультимедиа-энциклопедия “Аль-Фергани и Аль-Бухари: Созидание цивилизации” включает разделы, посвященные развитию до-Исламской культуры Центральной Азии, имеющую тысячелетнюю историю, обогащенную Зороастрийской, Эллинистической, Буддистской и Христианской культурами, а также влиянием торговых и культурных отношений в период процветания Великого Шелкового Пути. Описанию 8-9 веков, когда новая культура только переживала свое возникновение. Глава “Аль-Бухари” посвящена великому мухаддису (ученому, мыслителю), которого люди называли “Султаном Науки Хадис”. Энциклопедия кроме описательных статей и иллюстраций включает многомерное изображение архитектурных и культурных памятников того периода. Многие из этих памятников восстановлены как виртуальные образы по описаниям или по сохранившимся фрагментам. Электронная энциклопедия является по сути собранием статей об истории Ислама и имеет важное значение для изучения истории Востока.

Мультимедийный диск “Восточная миниатюра (14-17вв.)” представляет коллекцию из 374 книжных миниатюр 14-17 века, периода ярчайшего взлета художественной культуры Среднего Востока. Мировое признание получили средневековые школы миниатюрной живописи Ширази и Тебриза, Исфахана и Герата, Самарканда и Бухары. Выдающаяся школа художественной миниатюры действовала при Тимуридах в Герате, где лучшим из лучших был блистательный Камалиддин Бехзад. Его миниатюры красноречиво рассказывают о жизни, об ритуалах, обычаях, ремеслах того периода.

Мультимедиа-энциклопедия „ТЕРМЕЗ-2500” включает ценнейшие исторические материалы об южных регионах Узбекистана и прилегающих территориях, начиная с каменного века до наших дней. Она содержит 11 основных разделов, 12 видео, интерактивную электронную карту, разделов теста и музыки.

Мультимедийная база данных «ШАШМАКОМ» посвящена Шашмаком - одному из наиболее существенных явлений традиционной музыкальной культуры в Средней Азии. Подготовлен на английском языке и включает 18 информационных блоков, 101 фотоиллюстраций и 35 музыкальных композиций макамов. Данная разработка имеет важное значение для сохранения музыкального культурного наследия узбекского народа, а также для ознакомления студентов, преподавателей, ученых и специалистов зарубежных стран с местными культурными традициями и музыкальным фольклором.

Мультимедиа баз данных “Бойсун” включает:

- Мультимедийный диск посвящен раскрытию развития культуры, этнографии и традиции региона Бойсун (Сурхандарьинская область), признанного в 2001 году ЮНЕСКО как „Щедевр Устного и Нематериального Наследия Человечества”.
- Регион имеет древнюю культуру с периода Кушан и обоготворенную сочетанием согдийских, тюркских и восточно-персидских культур.
- Сохранившиеся своеобразная культура, образ жизни, традиции и народное искусство, фольклор, танцы региона Бойсуна представлены в виде 24 текстового блока, 138 фотоиллюстраций, 14 видосюжетов и 20 фольклорных песен.

Мультимедиа-справочник «Узбекистан» раскрывает историю края, современный потенциал Республики Узбекистан в области экономики, социального развития, науки, туризма. Подготовлен на узбекском, русском и английском языках. /Содержание: 657 информационных блоков, 833 фотоиллюстраций, 16 узбекских классических песен, 5 видов электронных карт Узбекистана: административная, экономическая, природная, туристическая, природных ресурсов/

Мультимедийный диск «Суфизм в Центральной Азии» рассказывает о появлении и развитии Суфизма в Центральной Азии. Подготовлен на английском языке. /Содержание: 70 информационных блоков, 385 уникальных фотоиллюстраций, 15 песен и 18 музыкальных композиций на танбуре/

Мультимедиа-гайд «САМАРКАНД: Исторические памятники», рассказывает о 60 исторических памятниках, расположенных в городе Самарканде и окрестностях. Подготовлен на русском и английском языках. Содержание: 60 информационных блоков, 572 уникальных фотоиллюстраций, 18 музыкальных композиций на танбуре, интерактивная электронная карта архитектурных памятников Самарканда.

Мультимедийный диск «Восточная миниатюра (14-17 вв)» представляет коллекцию книжных миниатюр Среднего Востока в 14-17 веках, из них 114 миниатюр Камолиддина Бехзада и его школы. Подготовлен на английском языке. Содержание: 374 миниатюры, 15 музыкальных композиций на танбуре.

Мультимедиа-энциклопедия “ТЕРМЕЗ-2500” раскрывает историю южных регионов Узбекистана и прилегающей территории начиная с каменного века до наших дней. Подготовлена на английском языке. Содержание: 158 информационных блоков; 940 уникальных фотоиллюстраций; 12 видео (анимация); 28 классических музыкальных композиций на древних восточных инструментах; интерактивная электронная карта 23 объектов-городищ древней Сурхандарьи; игра-тест с более 100 вопросами по материалам CD.

Мультимедиа-альманах «Узбекистан, устремленный в XXI век» посвящен происходящим изменениям, реформам в социально-экономической жизни Суверенного Узбекистана. База данных подготовлена на узбекском, русском и английском языках.

В настоящее время работы по оцифровыванию редких фондов, созданию электронных баз данных и мультимедиа-энциклопедий продолжаются. В виртуальной библиотеке корпоративной сети колледжей планируется уделять больше внимания созданию мультимедиа ресурсов по тематике технического профиля: строительной, машиностроение и др.

Заключение **Conclusion**

Эффективность работы виртуальной библиотеки для системы профессионального образования, которая базируется на корпоративной сети библиотек колледжей, заключается в том, что она позволяет:

- существенно повысить уровень научных разработок и эффективность учебного процесса в колледжах ССПО, освоения материалов учащимися за счет оперативного доступа к ценным

электронным научно-образовательным ресурсам, организации интерактивного режима обучения, включая телеконференции и теле-лекции и развития системы дистанционного обучения и тестирования знаний;

- сократить затраты финансовых, трудовых и материальных ресурсов библиотек на создание и поддержку электронных каталогов, других видов библиотечно-информационных ресурсов а также массовых услуг пользователям;
- повысить уровень преподавания и освоения учебного материала за счет эффективного использования мультимедиа технологий, систем имитационного моделирования, электронных учебников и баз данных, а также развития платформы дистанционного образования;
- формировать полнотекстовые научно-образовательные базы данных (включая базы данных электронных учебников, диссертаций, научных статей, мультимедиа (учебные кино-, мультипликационные фильмы, музыкальные произведения и др.) по стандартам, отвечающим международным требованиям;
- дать возможность реализации системы непрерывного онлайн образования для слушателей и студентов, завершивших обучение, но нуждающихся в дальнейшем получении знаний по своей профессии.

Summary

For Uzbekistan professional education has special value as most part of youth study in colleges, trying to receive knowledge which will help them with their career, in organisation of own business, continuation their education in high schools. Now in the System of special and professional education of Republic Uzbekistan there are 1534 colleges and more than 2 million students. The first corporate network of 61 academic libraries of 61 has developed. This experience has started to be applied in more than 100 colleges as the pilot project. The purpose of a corporate network is to raise level of information assistance for not only educational process, but also to give support specialists who has already finished training and needs professional development on the workplaces. The corporate network is the ideal tool and technical basis for creation the virtual information environment (virtual library) on the basis of the distributed electronic libraries of colleges. It allows to raise essentially level of scientific researches and efficiency of educational process in colleges, adoption of important materials by students thanks to the operative access to useful electronic scientifically-educational resources, the organization of the interactive mode of training, including teleconferences and tele-lectures and developments of the system of distance training and testing of the knowledge.

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TEAM WORK DEVELOPMENT ACROSS THE CURRICULUM FOR INFORMATION TECHNOLOGY STUDENTS AT LIEPĀJA UNIVERSITY: PROCESSES, OUTCOMES AND LESSONS LEARNED

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Abstract. *Teamwork skills are key feature for Information Technology (IT) specialists. The university IT curriculum contains both IT specific courses, and comprehensive courses. Due to limited amount of the learning courses and efficient achievement of learning goals, it is necessary to look for opportunities to integrate activities developing social and communication skills courses into IT specific courses. Managing the teamwork that is close to practice, it is necessary to solve the problems of teaching and learning organisation, and assessment of individual learning outcomes and competences. In Liepāja University, the student teamwork has been managed for several years as integral part of Software Engineering courses and study projects. The course management system Moodle has been used in learning process providing possibilities to evaluate both assignments submitted by students and their learning behaviour. The current paper describes and analyses the experience of academic staff of Liepāja University.*

Keywords: *assessment, blended learning, Computer-Supported Collaborative Learning, e-learning, generic competences, teamwork.*

Introduction

Social collaboration, characterized by mutual peer-to-peer and student-to-mentor relations, plays a significant role in teaching and learning process. Effective communication and teamwork are two important generic skills requirements for successful engineers (Kashefia, 2012). The teamwork competency is highly valued by organizations that need cooperation between their members in order to achieve their objectives (Iglesias-Pradas et al., 2014).

Soft skills (such as teamwork, verbal and written communication, time management, problem solving, and flexibility) and personal attributes (such as risk tolerance, collegiality, patience, work ethic, identification of opportunity, sense of social responsibility, and appreciation for diversity) play a critical role in the workplace. Successfully applying technical knowledge in practice often requires an ability to tolerate ambiguity and to negotiate and work well with others from different backgrounds and disciplines. These overarching considerations are important for promoting successful professional practice in a variety of career paths (ACM/IEEE-CS, 2013).

In organizational environments, group evidence and its identification are usually measured, and its knowledge and structure are used in the professional accreditation concerning the teamwork competences (Salas et al., 2013). Accreditation Board for Engineering and Technology (ABET) has emphasised teamwork skills in the criteria for accrediting engineering programs of universities and colleges (Lingard, 2010). So, Computing guidelines states that graduates must demonstrate “an ability to function effectively on teams to accomplish a common goal” (ABET, 2014).

Collaborative learning becomes popular in higher education. Most popular form of collaborative learning is computer-supported collaborative learning. Universities try to integrate collaborative learning in study process because of promises to involve students in more active learning. “Many educators are discovering that online platforms can be used in order to provide the solution to problems in groups, and to develop communication skills whilst the students’ knowledge is increased” (Horizon, 2014).

The cooperative model proposes that learning is produced more successfully when small groups of students share information and debate it together. Doing so in groups allows them to build mental models and, therefore, knowledge (Vogel et al., 2001). Collaborative learning means that there is not only collaborative activities like discussion topic but this collaborative task is place for active learning and interaction. E-learning environments, like Moodle, offer a lot of activities that can be used for collaborative learning: wiki, discussion forum, seminar, chat and others (Ulmane-Ozolins, 2011). It is widely accepted that students should build their own knowledge in an active manner (Alexander, 2006).

The collaborative learning model, represented in Fig.1, put together Tuckman’s group development model (Smith, 2005) and learning individual and teamwork activities. The model demonstrates the meeting points of collaborative learning in three levels – teacher, team and individual student.

(Sfard, 1998) offers two metaphors for teaching and learning – an acquisition and the participation approach. Acquisition approach put main focus on textbooks and study resources to support acquisition and partly on the teaching skill of lecturer. Key aspects of an acquisition approach to learning include knowledge, fact, concept, and attainment, the having of knowledge. In the participation metaphor main focus is on the nature of learning in belonging, participating, communicating, and becoming a member of a community. Both metaphors are effective for higher education just have to carefully balance.

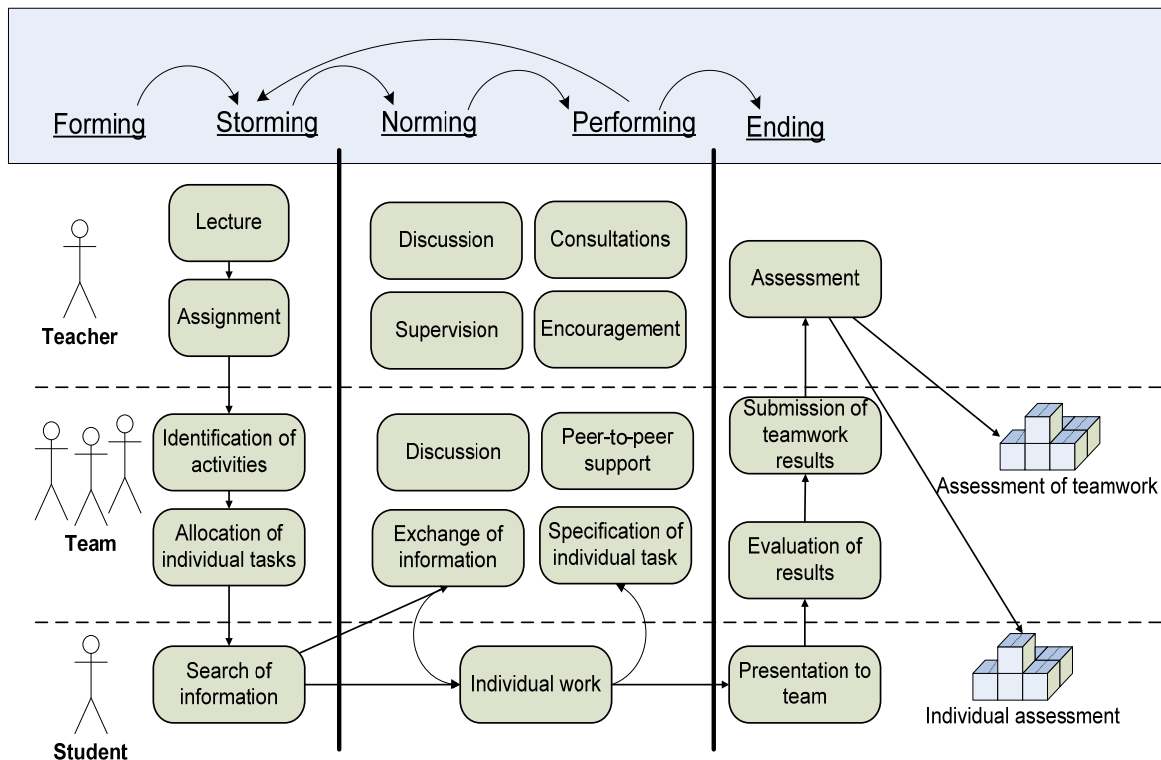


Figure 1. Tuckman's group development model and students' teamwork organization

Many universities include the teamwork competences in their study programs and, therefore, should do the teamwork assessment to verify the extent to which such competency is acquired by means of evidence (Fidalgo-Blanco et al., 2015). The development of teamwork leaves evidence of three types: individual (participation, cooperation, monitoring, leadership, efficiency, etc.), group (mission and objectives, standards, map of responsibilities, etc.) and results (Perez-Martinez et al., 2014). The Fig. 2 represent the model of students individual and teamwork learning efforts resulting in team project deliverables and students' individual final grades. The most crucial problem in teamwork assessment is evaluation of individual contribution of each team member. It can be assessed by peer-to-peer evaluation (performed by each team member), by students self-evaluation, and analysing learners behaviour basing in information provided by logfiles of Learning Management System (LMS).

Students' self-evaluation and peer-to-peer evaluation surveys are the most common used tools for monitoring and assessing development of teamwork competences (Jansone, 2011). In order to carry out the monitoring and individual evaluation in a teamwork context, various tools have been developed: surveys that measure the perception of students, self-evaluation questionnaires and peer-to-peer evaluation. (Perez-Martinez et al., 2014).

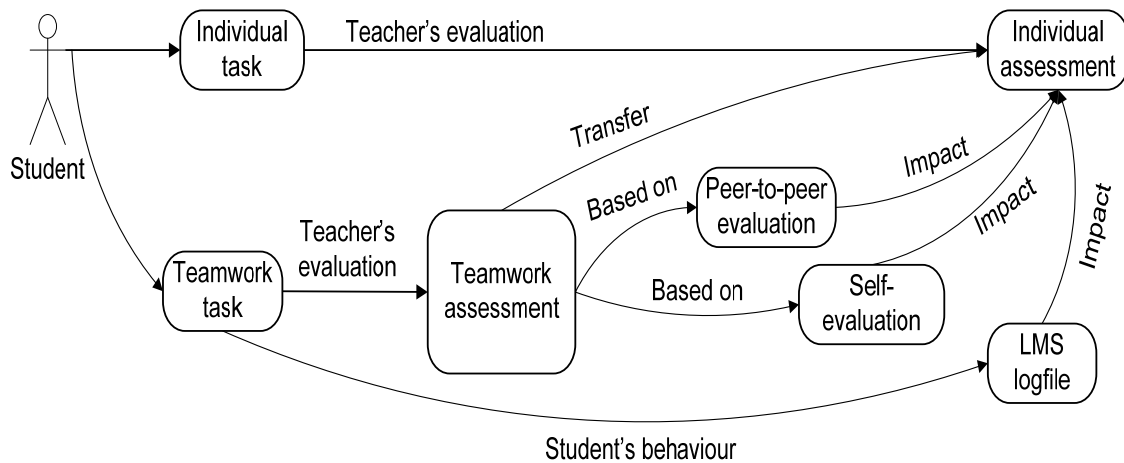


Figure 2. Student’s individual assessment in context of teamwork

Besides, the number of interactions throughout the teamwork processes directly influences the outcomes of the learning within the teamwork. Therefore interactions can be considered as indicators in order to evaluate the teamwork process. (Fidalgo-Blanco et al., 2015). Previous studies on the influence of different types of user interactions, in learning contexts based on IT show that the number of interactions is related with learning results. (Agudo-Peregrina et al., 2014).

A Learning Management Systems (LMS) provide data about student-to-system interactions. The student-to-content interactions take place primarily in the wiki and the content management system, associated with the group and result evidence (Fidalgo-Blanco et al., 2015). LMS store quantitative data about forum interactions. These data act as a tool that helps in the prediction, intervention and decision making. In general, an additional processing of information is required so that it may be useful for individual evaluation of the teamwork competences.

However, the monitoring individual evidence in the teamwork and evaluating its performance requires a great deal of time for the teaching staff (the effort should be multiplied by the number of students), because monitoring and assessment of the individual evidences require a qualitative analysis of all of the interactions in the virtual learning environment (Fidalgo-Blanco et al., 2015).

Based on the above rationales regarding teamwork and development of generic skills, the following research hypotheses are defined:

Hypothesis H1. The student teamwork activities have positive effect on learning outcomes of software engineering courses.

Hypothesis H2. There is a correlation between student activity in teamwork-supported virtual learning environment and his/her individual learning success.

Method

In order to carry out the empirical analysis 16 students from Liepāja University were selected and grouped into 5 project teams, i.e., 3 to 4 members in each team, among second year Computer Science and Information Technology undergraduates (academic year 2014-2015).

The teams have been working the whole academic year (two terms) with learning tasks of several Software Engineering courses, i.e., Software Project Management (SPM), Database Management Systems (DBMS I, DBMS II), Information Systems Analysis and Design (ISAD), Object-Oriented Analysis and Modelling (OOAM), and Software Quality and Testing (SQT). At the end of the academic year, the teams should submit and present the completed web-based database project, including running software code, data structures, and full documentation, such as Software Project Management Plan (SPMP), System Operational Concept Description (SOCD), Software Requirements Specifications (SRS), Software Design Description (SDD), Software Description (SWD), Software Test Documentation (TST), Software User Documentation (SUD), etc. Fig. 3 represents the framework of the Software Engineering courses and deliverables of students' software project. The teamwork concludes with application and presentation of students' annual projects that includes the software project documentation and other deliverables developed by the teams.

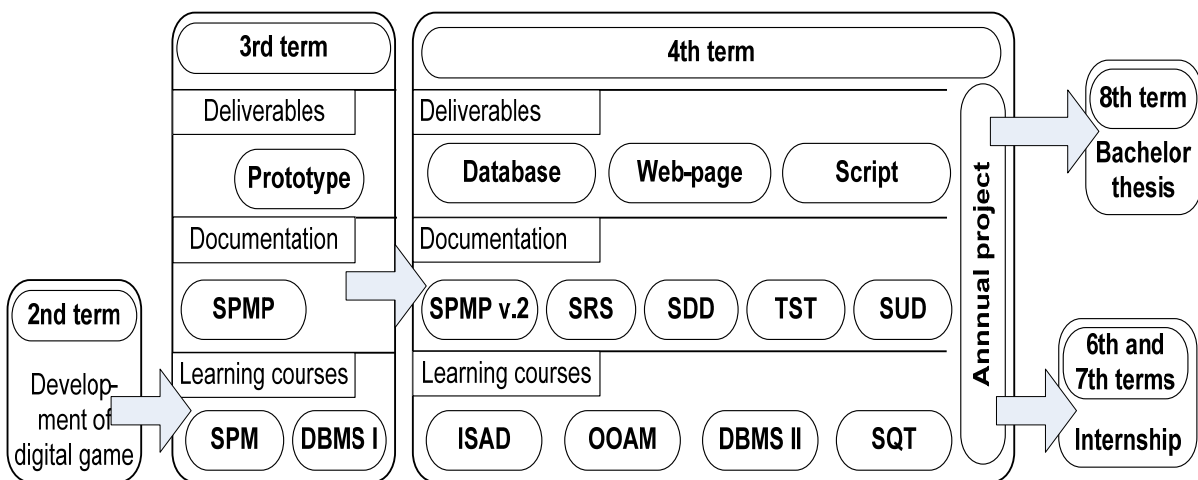


Figure 3. Software Engineering courses and deliverables of students' software projects

Before starting the Software Engineering projects in second year, the students have some previous experience of teamwork at the end of the first year (second term) when they develop the digital educational game project. The first year project provides possibilities for the students to apply knowledge and skills of programming, web-design, computer graphics and animation, and multimedia.

Hence student’s teamwork skills had been assessed in several courses and study project. The grades are calculated from different assessments based on teamwork outcomes. Besides the teamwork tasks, each student should complete set of individual assignments. The student’s final individual assessment is combination of teamwork and individual assessments. All outcomes teamwork and individual assignments have been submitted and stored in Course Management System (CMS) Moodle. The research study is based on analysis of Moodle logfile data describing user behaviour in virtual learning environment and individual learning performance.

In addition, a self-evaluation survey has been conducted in middle of fourth term to evaluate effectiveness of the teamwork. The survey contains two groups of questions: (a) one group for self-assessment of students’ communication and teamwork skills, (b) another group for self-assessment of teamwork effect on learning of Software Engineering courses. A five-point Likert scale has been used for each question providing rating from strong agree to strong disagree.

Results

The CMS Moodle provides information about the individual interaction of student and resources of virtual learning environment. The information provided by the Moodle describes time of access the learning resource, and name and kind of the accessed resource. So, during the first term, the 16 students (5 teams) created 11,892 clicks in the Moodle course Software Project Management. Table 1 presents the statistics of team activities in virtual learning environment

Table 1. Descriptive statistics of team activities in virtual learning environment

Clicks by all students		Clicks by team leaders		Clicks by rest team members	
<i>Average</i>	<i>Standard deviation</i>	<i>Average</i>	<i>Standard deviation</i>	<i>Average</i>	<i>Standard deviation</i>
353.05	145.15	453.40	113.24	283.90	80.50

In order to test the suitability of information provided by CMS Moodle logfiles as predictor of students’ individual performance (research hypothesis H2), the correlation between the student individual activities in virtual learning environment and their success rate was calculated. For the current studies, the Spearman’s rank correlation has been used. In order to evaluate team leaders effect on learning outcomes of their teams, the correlation coefficient has been calculated twice: (a) for all students and (b) for students excluding leaders data. In the context of the current studies, the team leader is student made most number of click in CMS Moodle among his/her teammates. Table 2 presents two coefficients of Spearman’s rank correlation between individual grades and clicks made by students in Moodle.

Table 2. Spearman’s rank correlation between individual grades and clicks made by students in Moodle

Grades to clicks (by all students)	Grades to clicks (by all students, excluding team leaders)
0.5464	0.7091

In order to test the research hypothesis H1 of the current studies, several steps has been completed. At first, using CMS Moodle logfiles, average grade of individual assignments and average grade of teamwork assignment for each student have been calculated. Fig. 4 represents the results of the given calculations. It is easy to observe that assessments of teamwork tasks are higher than assessments of individual tasks for all students.

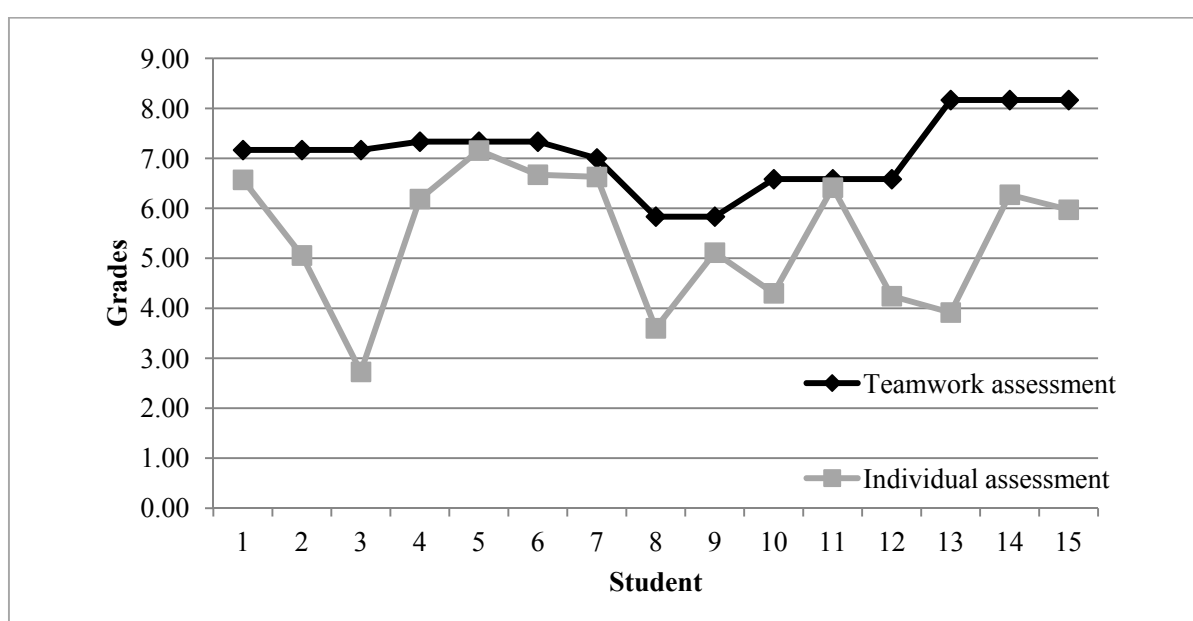


Figure 4. Teamwork and individual assessment

Basing on the previous observation, the t-test has been used to test the statistical hypothesis: (a) null hypothesis – “average grades for teamwork and individual tasks are similar”, (b) alternative hypothesis – “average grades for teamwork and individual tasks have significant difference”. Table 3 presents the results of the hypothesis testing.

Table 3. Statistics for hypothesis testing on teamwork and individual assessment

Grades of teamwork tasks		Grades of individual tasks	
Average	7.094	Average	5.389
Variation	0.544	Variation	1.832
$t_{\alpha, v} = 0.063$; $t\text{-value} = 4.287$ $\alpha = 0.95$; $v = 28$; $H_0: \mu = \mu_0$; $H_A: \mu \neq \mu_0$			

Discussion

On the basis of the obtained results, the main conclusion is that the student teamwork activities have positive effect on learning outcomes of software engineering courses. It is argued both by data represented in Fig. 4, and by test of statistical hypothesis (see Table 3), and by students' self-evaluation survey. In Fig. 4, the average grades of teamwork tasks are higher than grades of individual tasks for each student. The use of t-test confirms the observations statistically. It can be argued by positive influence of teammates, higher individual responsibility on teamwork deliverables, and complimentary effect of peer-to-peer learning, mutual support, and influence of other social factors. In informal interviews, some of the students points out that they are slightly afraid to cause inconvenience to teammates, and therefore they put additional effort in order to complete their individual task in teamwork in required time frame and with acceptable quality.

In overview, the students recognize that "teamwork supplements knowledge and skills acquired in Software Engineering courses" and "promotes understanding of relationships between different Software Engineering courses". They agree that during the completion of teamwork assignments the mutual knowledge sharing had taken the place. The students have contradictory opinions on "the need for additional instructions on teamwork". Part of students confirms the necessity, but other ones reject that. All students agree that "virtual learning environment provides necessary tools for teamwork".

The results of the current studies demonstrate that there is a correlation between student activity in virtual learning environment and his/her individual learning success. The values of Spearman' rank correlation coefficients in Table 2 confirm this statement. Slightly higher value is obtained if team leaders have excluded from calculations. The reason is that the team leader should perform additional activities for managing teamwork and submitting deliverables of the teamwork. These additional activities of weak (as learner) team leader do not cause better assessment.

The authors of the current studies accept the potential critics on reliability of the results of the current analysis do to small number of measurements. However, the similar studies have performed more than five years, and informal interviews with students and their self-evaluation survey in previous years indicates the same results.

Conclusions

Due to the demand for developed teamwork competences of university graduates teamwork activities have been playing more essential role in Computing programs. Even though the importance of communication and teamwork skills is well understood, finding the efficient teaching methodology and reasonable ways of evaluation of teamwork skills is big challenge.

The assessment of teamwork competences cannot be based only on the results of team activities. It is necessary to assess also individual activities of each student and in an objective manner to evaluate individual contribution to production of team deliverables. One way doing so is the use of data describing learners' behaviour that are stored in logfiles of Learning Management Systems. The current study confirms relation between students' active interaction in LMS and their learning outcomes.

In addition, the current analyses argue that teamwork improves students' communication skills and advances knowledge of theoretical background of learning content.

The further studies will focus on looking for the more efficient ways how to improve individual assessment in context of teamwork and development of software tools for analysis of learners' behaviour.

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MODERNIZATION OF NURSING EDUCATION AND NURSE' IT COMPETENCE

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***Abstract.** The use of technology in nursing is not new; in fact, nurses have become proficient in utilizing and adapting complex technology into caring nursing practice. Since nurses are the largest group of health care providers, discipline-specific competencies in the use of ICT and other technologies are imperative. This realization has catalyzed the steady development of nursing informatics. Nursing schools demonstrate use of recognized approaches to teaching and learning in their programs, including, but not limited to, adult education, self-directed learning, e-learning and clinical simulation. The article' aims are to review modernization of nursing education and to assess nurse' IT competence according to professional skills comparing groups with different educational background and work experience.*

***Keywords:** Competence, Education, Information Technology, Nursing.*

Introduction

The nursing is one of many rapidly developing fields of human activity, in which working environment is strongly influenced by progress of information technologies and the development of computerization. The modern nursing system effective working and the availability, medical and nursing information processing are unthinkable without the computer and the Internet. Information technology, Internet and WWW is an important factor in the nursing education and clinical practice. The nursing accepts an active position in the use of information technology in the nursing degree programs and in the practical field. Coming of these technologies reflects peer relationships between nursing educators, nursing practitioners, technicians, students and technology as such.

The use of technology in nursing is not new, in fact, nurses have become proficient in utilizing and adapting complex technology into caring nursing practice for decades, at least since the time of F. Nightingale in the United Kingdom and even earlier, when J. Mance founded the first hospital in Montreal, Canada in 1642. Various forms of machinery such as ventilators and physiological monitors were first used in intensive and critical care settings, and are now currently used in adapted form in less acute areas, even in home care (Brief History of Nursing Informatics in Canada).

Nursing education is directed by guidelines of the World Health Organization, the European law and the laws of the members' states. Despite the growing convergence in educational systems and approach, at this time there no uniformity in the way nursing education is organized in Europe. Nursing schools

demonstrate use of recognized approaches to teaching and learning in their programs, including, but not limited to, adult education, self-directed learning, e-learning and clinical simulation, as according Žydzīūnaitė (2002), nursing doesn't have the permanent, identifying mental model that defines and evaluates the quality of nursing. The author, based on studies conducted by other authors, argue that nurse competence involves more than the psychomotor skills, nursing standards specifies the level of nursing activity, in which the concrete tasks are expected to realize in the specific, specialized nursing field. By analyzing competencies of nursing degree programs students and practicing nurses, is noted that mastering skills, support by using IT, allows possibilities to realize complex nursing activities in the development of advanced nursing practice (Ševcovienė, 2010).

The article' aims are to review modernization of nursing education and to assess nurse' IT competence according to professional skills comparing groups with different educational background and work experience.

Theoretical Framework

Historically, competence was related to the nature of the nurse's role as a practical bedside nurse. This system of competence presumed a clearly defined purpose, the production of the bedside nurse, whose primary function was to care for the sick person. By the second half of the twentieth century, the practical nursing care of patients was linked to and synthesised with a theoretical knowledge base, linking underlying theory to the clinical practice of patient care. As argued Bielinienė (2007), nursing practice is focused to the health and to the human and based on a systematic problem-solving method by a worldwide. Nurses must be “*generalist*”, mastering extensive set of multidisciplinary competencies. In accordance with the international declarations, one of the twenty-first century nursing practice directions are: assurance of health care quality and adequate use of technology; multi-professional team work; autonomous nurses work in hospitals and communities. The context of good practice: nursing practice isn't focused on the execution of tasks, but to the patient is raised.

The intellectual, professional, academic and practical competencies that nursing graduates must acquire are informed by the European Tuning project (2009). The programme must also provide the programme hours specified in Directive 2013/55/EC and be at least equal to a first cycle (end of cycle) qualification of the European Higher Education Area (EHEA) (see Fig. 1).

Programmes should offer a flexible, blended approach to learning, and draw on the full range of modern learning methods and modes of delivery in both academic and practice settings. There are learning opportunities wherever nurses practise. Learning should be shared with other nursing students, and also

with students from other disciplines to improve teamwork and service integration.

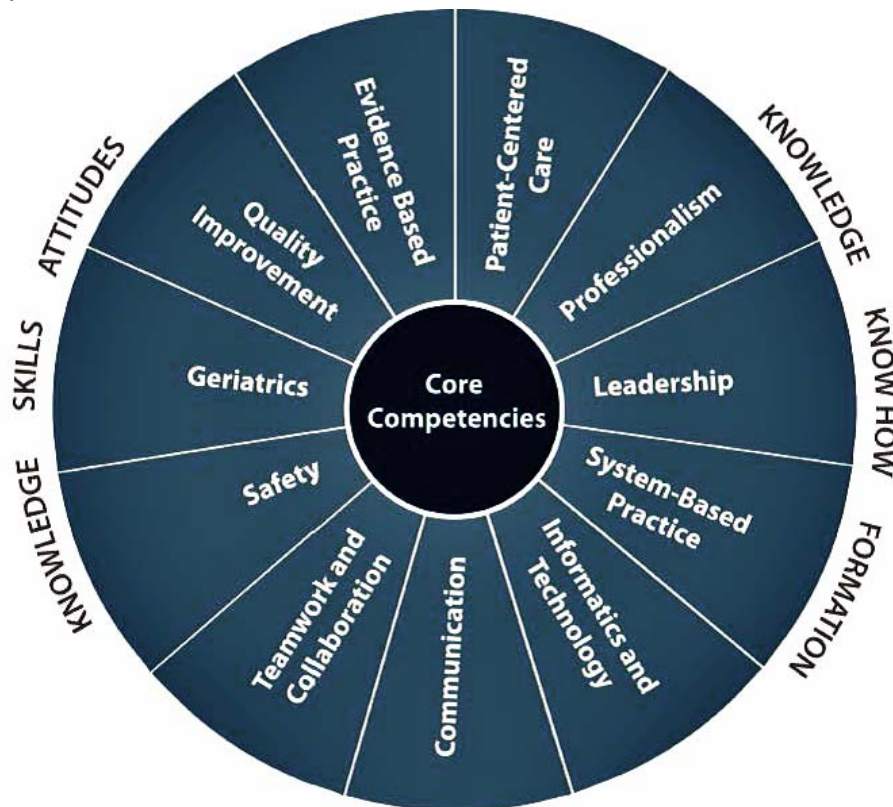


Figure 1. Nurse core competencies
(according by the Maine Nursing Core Competencies, 2013)

Students should become increasingly self-directed and independent, and able to make use of a variety of resources, because the future of nursing in today’s world requires an examination of how we educate and what content we impart to nurses. Just as clinical practice needs to be grounded in evidence, effective nursing education is dependent upon the development and use of andragogic and pedagogic evidence. Educational research findings must be transformed into useable education strategies. There is a need for nursing education strategies that engage students in critical thinking while allowing practice in safe environments. However, opportunities to train for some health-related events are severely limited (Farraet al., 2015). For example, acute period of myocardial infarction, stroke, various operations and etc., but practice is needed to prepare a well-trained healthcare team to respond to these conditions.

Internationally, simulation is recognised as an innovative pedagogic approach that has gained much popularity and hence provides the focus for this special edition. Simulated practice learning has been used as an adjunct to clinical skills gained in practice settings for a number of years. Life size manikins were first used to support learning in 1911, becoming more popular in the 1950s. Today, simulation encompasses a range of delivery methods and modes including low-fidelity basic simulators such as a simulated wound site, high-fidelity interactive manikins with life-like qualities, role play, case studies

and virtual online environments (Moule, 2011). The main incentive to establish medical simulation training has been to improve the quality of instruction in nursing as a step towards better quality of healthcare and increased patient safety. The Circle of Learning (see Fig. 2) reflects the continuing process of attaining, maintaining, and enhancing clinical competence (Thomseth, 2011).

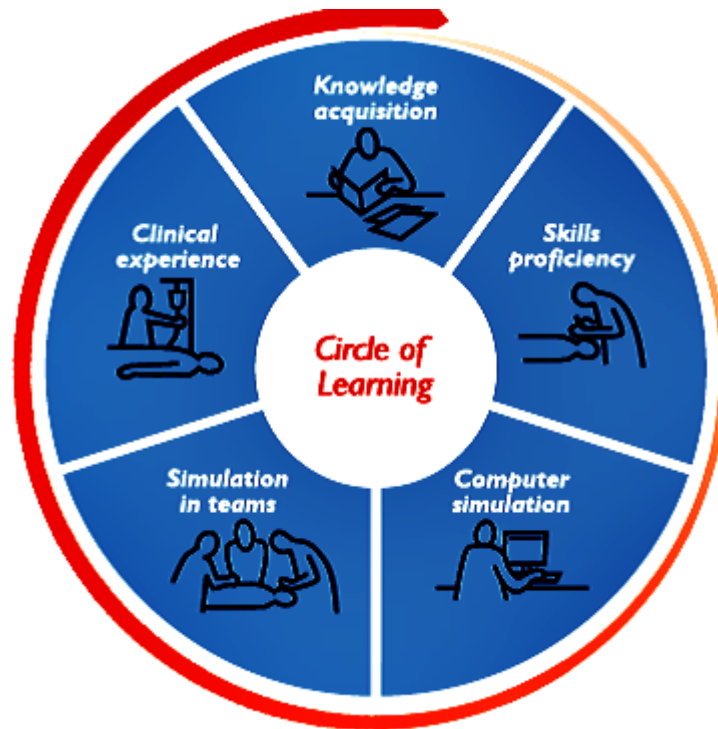


Figure 2. The Circle of learning reflects the continuing process of attaining, enhancing, and maintaining clinical competencies (according by Thomseth, 2011)

Students are exposed to a realistic situation that could be community or hospital based and will need to combine their assessment and clinical decision-making skills with communication, teamwork and management to care for the simulated patient(s). Following the simulation, the learners are able to reflect on their performances with a facilitator. By discussing their areas of strength and development in line with current evidence, they can begin to improve their competence, and ultimately, confidence. This learning can be consolidated back into practice. Why simulation? Teaching using simulation needs to occur in a realistic environment so that when the learners return to the workplace, they can easily apply what is learned.

Second innovative teaching intervention is virtual reality simulation (VRS). Virtual Reality is a broad term encompassing a wide range of technology (Blade & Padgett, 2002), which can vary from desktop computer simulations to head-mounted displays with sophisticated motion tracking to spatialized audio systems to multi-wall 3D projection systems. While the technology varies, the common theme of VRS is to provide a humane computer interface that simulates an alternate three-dimensional environment and presents multisensory

stimulation to the user (e.g., some combination of visual, auditory, haptic, olfactory, proprioceptive, inertial, etc.) and allows the user to interact with the synthetic environment in real time (Stanney & Cohn, 2009; Stanney and Zyda, 2002). According to Farra et al. (2015), VRS refers to an interactive desktop computer simulation, which is preferred for its low cost, wide accessibility and ability to embed such simulations with a website for distribution. The use of VRS as an education method is grounded by the theory of situated cognition. Learners must apply and practice in realistic environments. In summary, the theory is based upon concepts of embeddedness (cognition is fixed in context specific representations), extension (cognitive systems exist in a physical and social environment) and embodiment (cognition is dependent on the sensorimotor brain and body).

Educational technology, through virtual reality and interactive multimedia, is supported as an avenue to bring situated learning into the classroom. The framework of situated cognition virtual simulations provides a learning opportunity that has the critical characteristics of a traditional apprenticeship. Interactivity is a key to learning. Moreover, situated cognition fosters the expansion of individual cognitive knowledge along with social and physical interactions thus facilitating cognitive, affective, and psychomotor learning (Farra et al. 2015).

It is claimed that the technology assisted learning (TAL) is increasingly becoming important for both formal and non-formal education. Perform research has compared different learning media and produced some evidence suggesting that TAL, if adequately designed and implemented, can generate learning outcomes comparable to or even better than those attainable by traditional, classroom-based learning. TAL teaching is said to provide a new paradigm for imparting knowledge, where by students are able to learn any time, even when they are at home. As a result, learners can progress on their own initiative to study the content of the course (Parai et al., 2015). In the study process numerous technological resources (database) and materials, such as e-books, videos, interactive animations and etc., are used by the nursing programme to enhance student learning. This is with the intention of helping the students understand the concepts better and clear, to make the method of delivery easy and interesting, and to facilitate easy access to education materials at the convenience of learner. Though incorporating TAL in the teaching – learning process may benefit in terms of easy delivery and easy access to information, it is questionable whether TAL guarantees knowledge gain. In addition, it is worth noting that learning engagement underscores the importance of participation in study and often has a positive association with emotional engagement, as signified by learning interest or satisfaction. Therefore, student attitude and acceptance of a training method are important precursors to the success of any educational method (Jwayyed et al., 2011).

In summary, the application of the IT technology in the nursing training process facilitates learning, when training is conducted under the „right conditions“. The right conditions include: feedback is provided during the learning experience, learners engage in repetitive practice, simulation is integrated into the normal training schedule, learners practice with increasing levels of difficulty, adaptable to multiple learning strategies, a wide variety of clinical conditions are provided, learning on the simulator occurs in a controlled Environment, individualized learning and team learning are provided, learning outcomes are clearly defined, ensures the simulator is a valid learning tool.

Empirical Research Material and Methods

In research, realization has made the literature analysis and instantly quantitative and qualitative study was performed. Sample consisted of 318 respondents. 308 questionnaires filled in correctly were evaluated. The reversibility of the questionnaires was 77.18 per cent.

Respondents for the research were chosen from two educational institutions providing professional nursing and two health care institutions.

The research was conducted using the authors concluded *Nurse clinical competence scale* on the basis of Finland scientists Meretoja *Nursing competence scale* (2003), with the written consent of the author.

Methods of research: closed questions – data analysis performed using: statistic analysis. All data was entered into a computer database and analyzed using SPSS thirteen-one. Significance was set at $P < 0.05$. Descriptive statistics were used, correlation (Spearman coefficient) and variance (ANOVAs test) analysis. Phenomenological qualitative content analysis was applied to the examination of additional content of the respondents. The data were analyzed by forming two respondents groups order to the accuracy. The first group: practicing and graduate, extended students were assigned for this group too. The second group was made of the second and third-year nurse students.

Survey Results

Advanced nursing practice describes the work or what nurses “do” in the role. There is no single definition, but agreement that advanced nursing practice extends the traditional scope of nursing, involves highly autonomous practice, maximizes the use of nursing knowledge, and contributes to the development of the profession (Byrant-Lukosius et al., 2004). What’s means nurse’s clinical competence? It is the habitual capability and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community is being served.

Research results discovered that: 49, 35 per cent respondents to evaluate their competence as a very high (Fig. 3.).

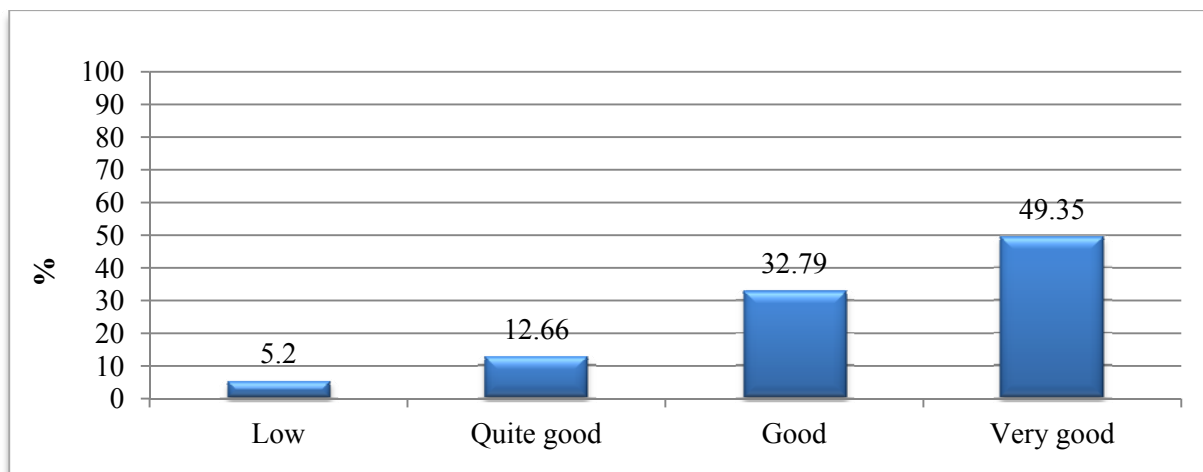


Figure 3. Level of Competence

In the figure 4 we can see that practicing nurse and graduate in most cases of them activities using *utilizing information technology in them work* (average grade - 2.4). Students will mainly use *incorporating IT knowledge to provide optimal care* (average grade - 0.77).

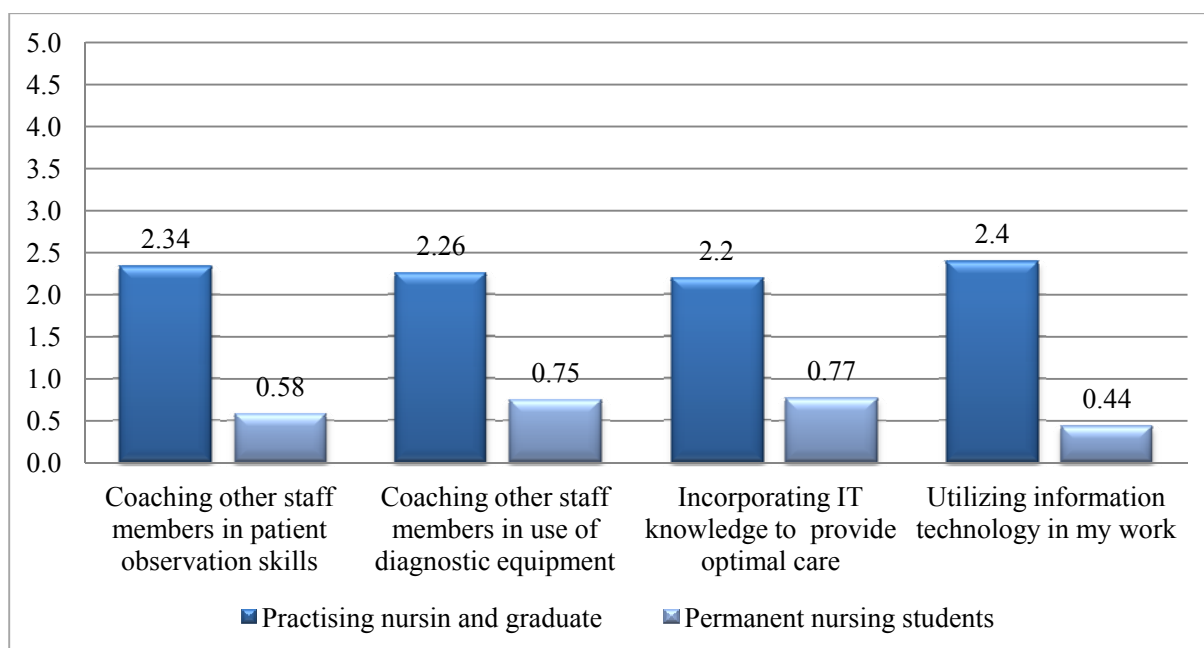


Figure 4. Assessment of IT competence elements by considering at the terms of rates (average grade)

Practising nursing and graduate which their level of competence to evaluate higher score often *coaching other staff members in patient observation skills* ($p=0,2$; $p=0,02$). There was a significant relationship between the use of the competence element and the level of competence. By comparing the second and third-year nursing student answers, obtained results was confirmed the practical experience influence for use frequency of all IT competence' elements. Third-year nurse students more often use IT competencies in the practice (Table1).

Table 1. Comparison of using IT competence' elements averages by the practical experience

No	Competence element	I st group. Practising nursing and graduate				F; p	II nd group. Students		F; p
		Level of Health Care			Graduate		Course		
		I st	II nd	III rd			II nd	III rd	
		M (St.D)	M (St.D)	M (St.D)	M (St.D)		M (St.D)	M (St.D)	
1	2	3	4	5	6	7	8	9	10
1.	Coaching other staff members in patient observation skills	2,32 (1,13)	2,37 (1,09)	2,41 (1,17)	2,34 (1,12)	0,70 0,59	0,28 (0,83)	1,55 (1,45)	10,30 0,00*
2.	Coaching other staff members in use of diagnostic equipment	2,32 (1,11)	2,30 (1,13)	2,68 (0,97)	2,26 (1,18)	0,67 0,61	0,43 (0,78)	1,68 (1,47)	11,34 0,00*
3.	Incorporating IT knowledge to provide optimal care	2,23 (1,11)	2,22 (1,05)	2,16 (1,24)	2,20 (1,05)	0,06 0,99	0,47 (1,02)	1,52 (1,34)	10,90 0,00*
4.	Utilizing information technology in my work	2,58 (1,07)	2,44 (1,06)	2,38 (1,26)	2,40 (1,11)	0,59 0,67	0,28 (0,77)	1,4 (1,43)	4,34 0,004*

*Statistically significant $F > 1$; $p < 0,05$ – significant, $p < 0,01$ – very significant, $p < 0,001$ – particularly significant

The education has significant influence for three IT competences' elements in the first respondents group, while in the second group – than one (Table 2). It was determined a particularly significant impact of the education to *coaching other staff members in patient observation skills* in the practicing nurses and graduates group ($F=8,996$, $p=0,00$).

Table 2. Comparison of using IT competence' elements averages by the education

No	Competence element	I st group. Practising nursing and graduate				II nd group. Students		
		Medical school	College	University	F; p	College	University	F; p
		M (St.D)	M (St.D)	M (St.D)		M (St.D)	M (St.D)	
1	2	3	4	5	6	7	8	9
1.	Coaching other staff members in patient observation skills	2,37 (1,09)	2,39 (1,07)	2,34 (1,12)	8,99 0,00*	0,42 (0,99)	0,7 (1,21)	0,40 0,67

Table 2 continued on next page

Table 2 continued

1	2	3	4	5	6	7	8	9
2.	Coaching other staff members in use of diagnostic equipment	2,30 (1,13)	2,31 (1,14)	2,26 (1,18)	4,72 0,001*	0,65 (1,28)	0,87 (1,31)	1,15 0,34
3.	Incorporating IT knowledge to provide optimal care	2,22 (1,05)	2,23 (1,05)	2,20 (1,05)	1,29 0,27	0,71 (1,19)	0,83 (1,32)	0,22 0,93
4.	Utilizing information technology in my work	2,44 (1,07)	2,46 (1,06)	2,40 (1,11)	3,75 0,01*	0,42 (0,92)	0,47 (1,04)	0,99 0,42

* Statistically significant $p < 0,05$ – significant, $p < 0,01$ – very significant, $p < 0,001$ – particularly significant

The respondents identified the achievement of permanent knowledge, professional development by introducing innovations in the nursing in the field of the use of technologies. Both for the nurses' practitioners and students it is important: „advanced technology and the ability to use them, by ensuring the quality of nursing and reducing potential risk by providing services“. The purpose of technology using in nursing are defined as: „the ability of nursing staff to work with new diagnostic equipment and the ability to identify the patient's problems <...> to cooperate in the development and disseminating of data nursing research and improvements of the implementation of information technology <...> in the applications models of nursing and individual nursing“.

Revealed the following key sings of advanced nursing competence: experience and cleverness, analysis and assessment of care, training, and leadership, and the need of new modern technology competence.

In summary, the necessary points in all areas as in deployment technology assisted learning in study process, as in expanding the use of IT in the practice.

Conclusions

1. Modernization of nursing education based on inclusion of IT into the study process creates conditions for health educators provide more exemplars of how research evidence can be moved through the various stages of the model to advance practice and sustain learning outcomes.
2. Comparing rate of use of nursing IT competence elements in the practice regarding to the factors which determinate competence, was appointed that in the practice of group of practicing nurses and graduates the level of competence impact has with one element and impact of education for three elements. For the students' statistical meaningful and reliable impact of practical activities was appointed for all four elements.

3. Main features of advanced nursing clinical competence are: experience and cleverness, monitoring and evaluation of care training and leadership and needs of new competency of modern technology. The advanced technology and the ability to use them, by ensuring the quality of nursing and reducing potential risk by providing services is important for the nurses practitioners and students.

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USING HIGH PERFORMANCE COMPUTING AND OPEN SOURCE TECHNOLOGIES FOR SOLVING BEHAVIOUR ANALYTICS PROBLEMS IN E-LEARNING

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Abstract. *In this paper the authors describe solution for solving various analytical problems in E-learning, Course Management Systems like Moodle by using HPC (High Performance Computing) and Apache Hadoop open source technologies in Liepaja University. The problem is that nowadays there are collecting huge amounts of analytics data from several gigabytes to petabytes, which is hard to store, process, analyse and visualize. This article reflects one of the solutions concerning distributed parallel processing of huge amounts of data across inexpensive, industry-standard servers that can store and process the data, can scale without limits and provides technological opportunities of reliable, scalable and distributed computing.*

Keywords: *Apache Hadoop, Big Data, E-Learning technologies, High Performance Computing, online learning platform, open-source software.*

Introduction

Nowadays the count of internet users and the role of internet appliance in the studies rapidly increase. At the moment the Internet is the first source, where students search materials for their researches and theses etc. The large part of students use the Internet as compulsory tool for studies at school, as well as for attending online libraries and conferences. Therefore, the number of those students increases, who use the Internet as the primary technical auxiliary tool in order to search and use the necessary information. Therefore, it is possible to say that it is very important to use technological solutions and software tools, in order to summarize and collect information, which is necessary for knowledge acquisition and to provide effective knowledge transfer between teachers and students at any university. As one of the solutions it is necessary to mention application of E-Learning education methods and means in the education process of higher schools.

The term “e-learning” was defined in alignment with a definition by Rosenberg (Rosenberg, 2001). According to Rosenberg, the first and the most important feature of e-learning is that it takes place in the network environment. This means that computer of the learner is in constant communication with the central server. Also e-learning materials are accessible via an Internet browser on a personal computer (Ninoriya et al., 2011). So in our opinion, E-Learning is online process in a network where students use computer equipment with

installed Internet browser to connect to the central education server to get online E-Learning materials and collaborate with educator.

E-learning is a method of education which utilizes a wide spectrum of technologies in the learning process, mainly the Internet or is computer-based. It is naturally related to distance learning, but nowadays it is commonly used to support face-to-face learning as well. *Learning Management Systems* (LMS) provides effective maintenance of particular courses and facilitate communication within the student community and between educators and students (Drazdilova et al., 2010).

Nowadays, the major part of the educational centres (universities, institutes, colleges and schools) are use some e-Learning tools as an integral part of their learning systems; to enhance their traditional learning systems or to use an alternative approach for virtual learning environment. These tools may be based on content management or learning content management (Rosenberg, 2011).

Distance learning education process in Liepaja University have used certain technological solutions, such as Blackboard Learning System since 2005.

BlackBoard Inc. *Virtual Learning Environment* (VLE) is an online web server software, which provides course management, customizable open architecture, and scalable design that allows educators to communicate with students through information systems with authentication.

The alternative to Blackboard Learning System solution is Moodle online learning platform, which has been used at Liepaja University from 2010. Moodle has proven to be an immensely popular and important tool in distance education. One feature provided by Moodle is a rich source of information about student access to online materials. The open-source software learning platform is focused on managing students, tracking progress and delivering online courses, not authoring the contents. It's expected by the year 2020 that 50% of all university courses will be provided and delivered online.

Moodle, the popular *Virtual Learning Environment* (VLE) or, using the term *Course Management System* (CMS), is a flexible open-source software and online learning platform. Moodle is currently one of the most popular open-source course management systems in online education. Some evaluations have also indicated that Moodle is one of the top-rated programs when compared to other open-source course management systems (Graf&List, 2005). Moodle's unique focus on pedagogy allows online learning to cross over from the traditional educational area of factual recall and memorization into the area of social networking (Rogers et al., 2009).

By 5 March 2015:

- Moodle had a user-base of 54,049 registered sites with 71,509,781 users in 7,699,073 courses in 226 countries (Moodle.net, 2015).
- In Latvia there are 75 registered Moodle websites totally and Liepaja University Moodle site is one of them with 2500 users in total, 500

new users are added every year, approximately 300 users are active online every month.

With log data growing so rapidly and rise of structured and unstructured data today, it is necessary to find effective technological solutions of data storage, management and analysis. Legacy systems will remain necessary for specific high-value, low-volume workloads, and contribute to the use of Hadoop ecosystem, optimizing the data management structure in Liepaja University by putting the right *Big Data* workloads in the right systems. Hadoop can handle all types of data from disparate systems: structured and unstructured data, log files, pictures, audio files, communications records, emails – just about anything you can think of, regardless of its native format. Even when different types of data are stored in unrelated systems, you can dump it all into your Hadoop cluster with no prior need for a schema. In other words, you do not need to know how you intend to query your data before you store it; Hadoop lets you decide later and over time it can reveal questions you never even thought to ask. Apache Hadoop is an open-source software, which pioneered a fundamentally new way of storing and processing data. With Hadoop, no data is too big. And in modern hyper-connected world where more and more data are created every day, Hadoop's breakthrough advantages mean that businesses and organizations can now find value in data that was recently considered useless (Cloudera, 2015).

The aim of this study is to find potential solutions of high performance computing technologies together with data warehousing and large storage database system tools, applications of cluster networks and the modern information technologies in order to promote massive behavioural statistics data storing, processing, analysing and visualizing.

The research object of this research is to explore various data mining and analytics tools for analysing students' behaviour in the distance learning process. *Course Management Systems* like Moodle platform are successful e-learning tools to provide students access to courses in distance learning. E-learning systems store large amount of data based on the history of user interactions with the system, so we explore advanced *HPC* (High Performance Computing) and Apache Hadoop open source technologies for collecting huge amounts of analytics data from several gigabytes to petabytes in future.

Objectives of the research are: to analyse pedagogical and technical literature as well as articles on computer science that evaluate e-learning process; to study the existing behavioural user activity log data mining and analysing tools and implementation thereof in Liepaja University; to define effective data storage and also reliable, scalable and distributed computing in distance learning; to identify the performance tools of behavioural user activity log data mining and analysing tools.

Expected results is anticipated that implementation of *HPC* and Apache Hadoop open source technologies in E-Learning Moodle platform will significantly contribute to improvement of the efficiency and also will provide

unlimited storage about registered users activities and behaviours data as well as will provide high performance statistics analysis and visualisation.

According of this research results the next step will be necessary to develop a solution based on industry-standard servers that can store and process data, scale data without limits and provide technological opportunities of reliable, scalable and distributed computing with *HPC* and Apache Hadoop open source technologies and implement them in the Learning Moodle platform.

General position

The tables are filled with data, using various statistics tools, which can be obtained about Moodle user activities: Moodle statistics, AWstats, MooDog, Gismo and technical implementation thereof.

In this paper, we examine behaviours of Moodle data statistics from Liepaja University, using various technological tools. When students interact so intensively with Moodle platform, the question arises: *How huge amounts of analytics data is it possible to transfer/deliver to provide fast data storing, processing, analysing and effective management?* Moodle system record users behaviours in the log files. There is a great amount of data stored in the Moodle system about the activities of users, both educators and students. The stored activity information typically is „who, what, where, when was doing”. Moodle records each action within the *VLE*, it registers each user who initiated that action, the time of initiation and location. The recorded data column refers to all the data that have been recorded in the log file. A typical example of user behaviour information from a Moodle log can be extracted with such options:

- 1) Total Page views - records the number of times any page within the course space was accessed.
- 2) Total unique users - number of unique users that have accessed the course space at least once.
- 3) Total unique actions - number of unique actions that have been carried out in the course space at least once and the nature of each action depends on the context of the activity or resource used. Typical Moodle actions are View, Add, Delete etc.
- 4) Total unique pages - number of pages that make up the structure of a course space.
- 5) Total IP addresses - unique IP addresses which have been recorded to have accessed the course space at least once.
- 6) Mean session length - refers to the average amount of time that users spend inside the course space. It should be noted that Moodle log files do not record the login and log off data of users. Therefore, this metric is an approximation and is based on the automatic log off time, as set by the administrators. This metric is an approximation, it is perhaps

more meaningful to focus on its fluctuations over time, rather than on the value of the metric itself.

The idea of analysing student behaviour in Moodle is implemented with other middle-ware tools as well:

- 1) GISMO is a graphical interactive monitoring tool that provides useful visualization of students' activities in online courses to instructors. With GISMO instructors can examine various aspects of distance students, such as the attendance to courses, reading of materials, submission of assignments. Users of the popular learning management system Moodle may benefit from GISMO for their teaching activities. With respect to the standard reports provided by Moodle (which basically allow teachers to see if an individual student has viewed a specific resource or participated on a specific activity on a specific day), GISMO provides comprehensive visualizations that give an overview of the whole class, not only a specific student or a particular resource. With GISMO, instructors can perform analysis of the whole class, and may have a „clear picture” of what the class is doing, or has done within a period in the past (GISMO, 2015).

The GISMO project (Mazza and Milani) offers visualisations of various statistics in the Moodle log files, and performs little automatic analysis (Mazza & Milani, 2005).

- 2) Moodog (Zhang), another Moodle log file analysis tool, performs a similar role with an emphasis on visualisation of data rather than analysis. Moodog is superior to the original Moodle log file facility in several aspects: (1) it provides aggregated and meaningful statistical reports; (2) it visualizes the results, which make comparisons between multiple students much easier; (3) not only does Moodog display the activities that a student has performed, but also identifies the materials a student has not yet viewed; and (4) it has the capability to remind students to view those materials that they have not yet downloaded (Zhang et al., 2007).
- 3) AWStats log analyser for showing all possible information Moodle's log contains. AWStats is a free powerful tool with multiple features and it is able to generate advanced web, streaming, ftp or mail server statistics, also graphically. It can analyse log files from all major server tools like Apache log files (NCSA combined/XLF/ELF log format or common/CLF log format), WebStar, IIS (W3C log format) and a lot of other web, proxy, wap, streaming servers, mail servers and some ftp servers (AWStats, 2015).

Results

Certain descriptions with figures about registered and non-registered users activities for data measures and other parameters. The data for the analysis below were collected within the period between September 2011 and August 2014 for a number of modules in different full-time courses from Moodle log file data.

Moodle provides a rich set of information about how often and how intensely students interacted with Moodle. Fig. 1 shows all activity statistics for students and educators. The statistics shows six fields of activity data: guest, students, non-editing teacher, educators, course authors, manager and total summary. Fig. 1 shows that the most intensive activities take place within the academic year from September until August in Liepaja University. It can be concluded that the most users activity is beginning of study semesters that is from September to January and from February to August.

Fig. 2 shows the expanded information about general number of users, who are connected to the Moodle system, and expanded statistics of unique users connections is also shown. The number of unique users within these years was changing from 250 to 400 depending on the academic year in Liepaja University.

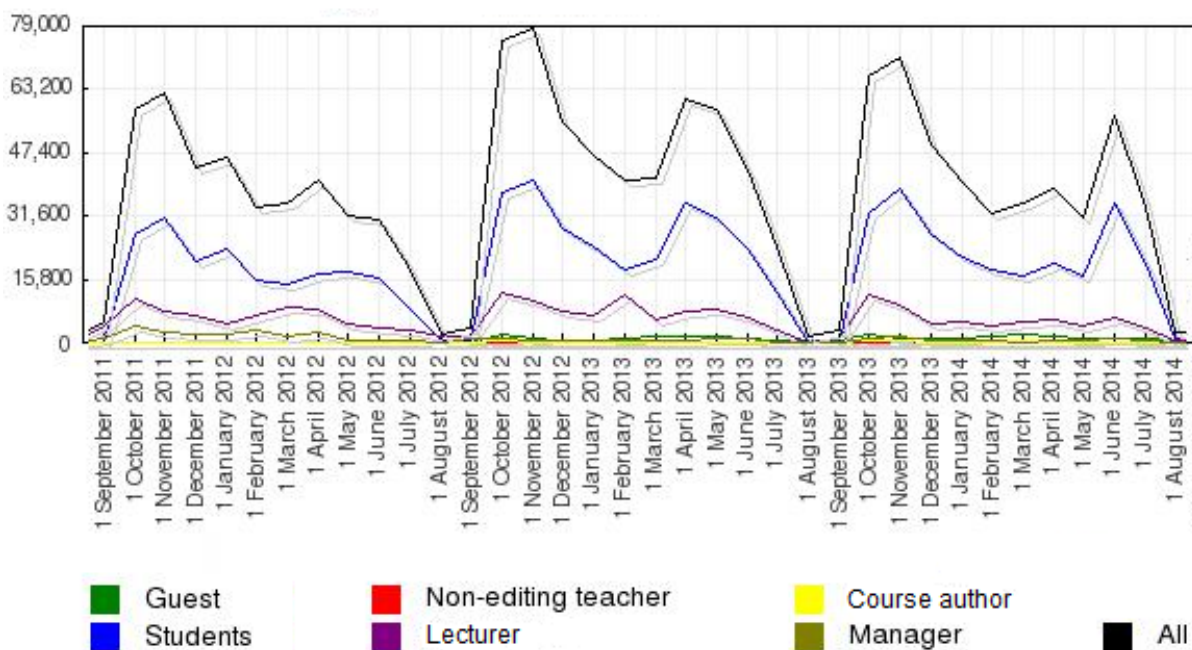


Figure 1. All activity (all roles) as measured by Moodle

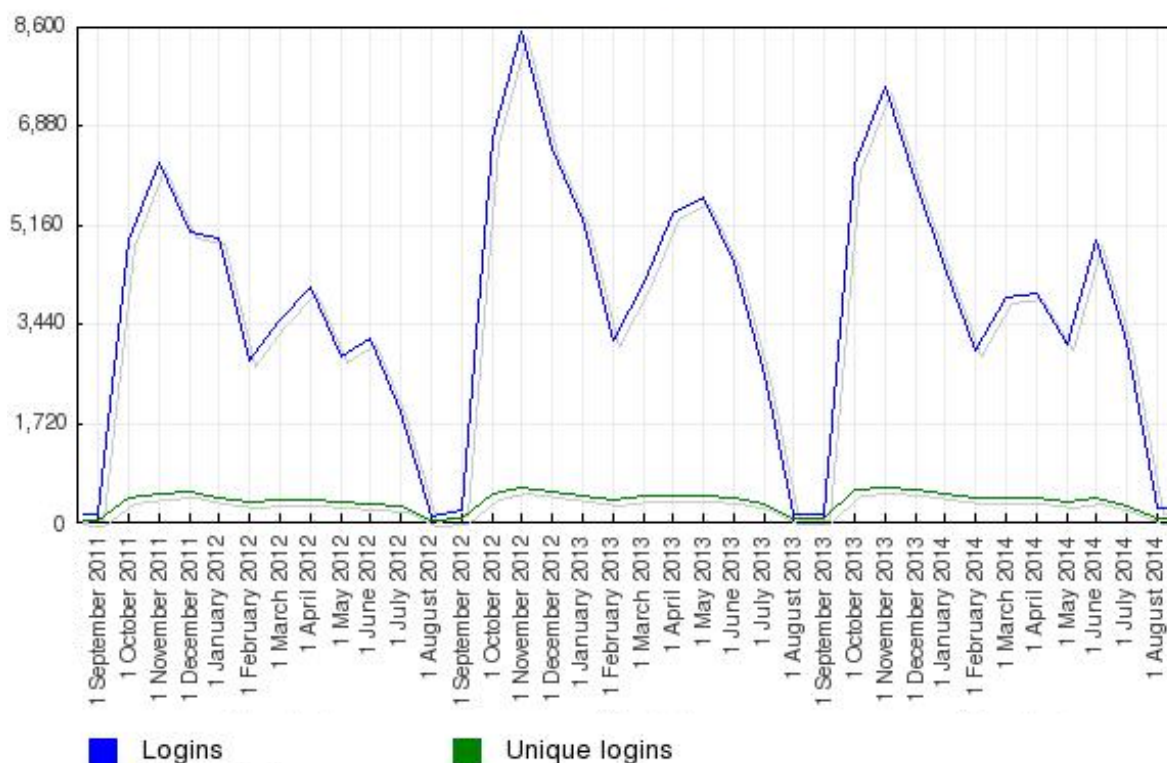


Figure 2. All logins and unique logins activity as measured by Moodle

Additional expanded statistical data can be obtained by using AWStats log file records. Fig. 3 shows the monthly report („Mēnešu atskaite”) for the period from January 2014 until December 2014. This report shows unique users per month („Unikālie apmeklētāji”), the number of visits („Vizīšu skaits”), the number of used pages („Lapu skaits”), the hits („Trāpījumi”) and volume in bytes („Baiti”).

Generalised information about log file data sizes:

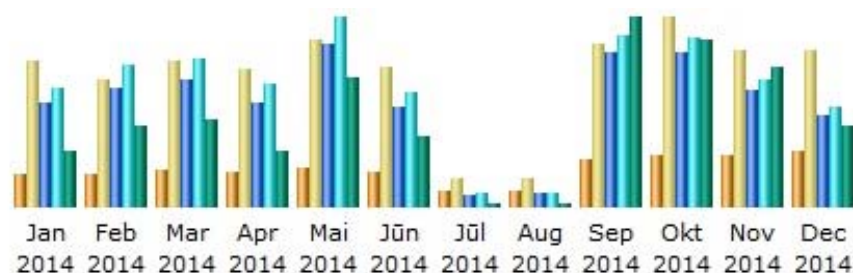
1. Moodle system stores approximately 150 MB log files in average per year with the existing load, see Fig. 1 and Fig. 2.
2. AWStats statistical system stores 50 MB log files in average per month with the existing load, see Fig. 3.

Summarizing the above-mentioned information, in order to compute the size of the all the log files for the period from 2010 until 2015 it is obtained:

1. Moodle statistics data reach 800 MB.
2. AWStats statistics data reach 2500 MB.

Assuming that the number of users can increase by ten times, then the log file size will reach:

1. Moodle yearly statistics data file will reach 1500 MB.
2. AWStats statistics monthly data file will reach 500 MB and 6000 MB in a year.



Mēnesis	Unikālie apmeklētāji	Vizīšu skaits	Lapas	Trāpījumi	Baiti
Jan 2014	949	4164	177916	203732	8.71 GB
Feb 2014	940	3582	201765	240780	12.55 GB
Mar 2014	1049	4161	218937	254817	13.46 GB
Apr 2014	972	3885	176701	209608	8.54 GB
Mai 2014	1125	4741	277374	323339	19.86 GB
Jūn 2014	970	3941	168942	194863	10.81 GB
Jūl 2014	445	809	19053	23037	641.90 MB
Aug 2014	453	785	21788	24464	648.83 MB
Sep 2014	1339	4615	263907	291791	29.26 GB
Okt 2014	1464	5367	263285	290795	25.85 GB
Nov 2014	1464	4457	199585	217662	21.48 GB
Dec 2014	1597	4417	157794	172223	12.44 GB
Kopā	12767	44924	2147047	2447111	164.22 GB

Figure 3. Monthly activity for period from January to December 2014 as measured by AWStats

If such intense activities are anticipated, it can be concluded that in order to collect data for the next ten years, the volume of the log files will reach approximately:

1. Moodle statistics data file for 10 years will reach 15000 MB.
2. AWStats statistics data reach 60000 MB.

A large part of the volume in the Moodle system database is taken by study materials and students works. With the increase of the interest of using the offered functions of Moodle in the study process management, the number of courses and learning materials also increases, therefore the volume of the data base also becomes larger. Large data volume is also created by student works, which are uploaded and collected within the study process. The data volume in Moodle database is increased by the growing number of study works each academic year, because the works from the former years are not usually deleted from databases, but are kept in the same database as archive. In future all of this information could be eligible as to *Big Data* and it could be also necessity providing high throughput access to application data.

Such large volume data are not only to be stored and managed, but also analytical actions should be done in order to acquire the full information about

the online education in Liepaja University. This means that it would be advisable to be prepared for it in advance and introduce hybrid architecture with *HPC* and Hadoop ecosystem technologies for storing the users activities and processing of *Big Data*. As opposed to a standard supported databases for Moodle system, HadoopDB is an open source parallel database capable of performing high speed analytics and *Big Data* management problems as well as combine the scalability of Hadoop with the high performance of relation databases on structured data.

Big Data is the equivalent of HPC, which could also be called high-performance commercial computing or scientific supercomputing. *Big Data* can also solve large computing problems, but it is less about equations and more about discovering patterns. Hadoop enables distributed data processing for *Big Data* applications across a large number of servers. Hadoop cluster runs Hadoop's open source distributed processing software on low-cost commodity computers. Typically one machine in the cluster is designated as the NameNode and another machine as the JobTracker; these are the masters. The rest of the machines in the cluster act as both DataNode and TaskTracker; these are the slaves (Hadoop, 2015). The idea is that distributed, parallel processing will result in redundancy and stronger application performance across clouds to prevent failure. A Hadoop cluster is a special type of computational cluster designed specifically for storing and analysing huge amounts of structured and unstructured data in a distributed computing environment. A Hadoop cluster can be build with various tools and techniques such as StackIQ Warehouse-grade Automation Platform and Rolls like tools. StackIQ Cluster Manager integrated with Hortonworks Data Platform provides a software solution that comes with everything needed to install, configure, deploy and manage Hadoop cluster.

Conclusion and future work

It is necessary work on other researches about moving users activities data to the *HDFS* (Hadoop Distributed File System) and processing with Hadoop ecosystem tools, in order to improve online education processes and management.

The most problematic factor shaping the future of online education is something we cannot actually touch or see that is *Big Data* and analytics.

The main aim of the *Big Data* data analytics is to make decisions in Liepaja University to able to give more effective and thoughtful solutions in respect to the online learning strategy, allowing users behavioural analytics to data scientists and predictive modellers to analyse large volumes of transaction data, as well as other forms and types of data, therefore for managing large volumes of both structured and unstructured data. That could include Moodle system platform and Web server log files, Web site click-stream data, social media

content and social network activity reports, text from educators and students emails and survey responses and so on.

Big Data can be analysed with using *HPC* and various open-source software tools commonly used as part of advanced analytics disciplines such as data mining, predictive analytics, text analytics and statistical analysis.

Future work of our project will focus on three areas: a) Moodle system integration with advanced *HPC* technologies, b) Hadoop ecosystem using in E-Learning c) intelligent agents development to provide effective behavioural analytics.

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