DisCo 2013

New technologies and media literacy education

8th conference reader DisCo 2013

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Dear readers!

We are really pleased to introduce you to the proceedings of DisCo 2013 conference, co-organised by the Centre for Higher Education Studies and New Media Studies at the Department of Information Science and Librarianship at Faculty of Arts of Charles University.

We have been very proud to announce that the conference was generously supported by a CEI grant. CEI is an intergovernmental forum promoting political, economic, cultural and scientific cooperation among its member states focusing at Regional Cooperation for European Integration.

The main topic of DisCo 2013 conference was: New Technologies and Media Literacy Education

"Digital media literacy continues its rise in importance as a key skill in every discipline and profession. Despite the widespread agreement on the importance of digital media literacy, training in the supporting skills and techniques is rare in teacher education and non-existent in the preparation of most university faculty".**(**NMC 2012, 6)

In spite of the narrowly defined subject matter, DisCo 2013 conference had not become a monothematic meeting of people working in one field of study. On the contrary, we managed to continue the trend set up in the previous years and this year's conference was attended by people from 24 countries, representing a variety of different fields of study and from number of respectable institutions.

The conference was mainly aimed at the following subtopics:

Information and Media Literacy and Knowledge Management.

Information and Media Literacy and Lifelong learning.

Information and Media Literacy in Different Cultures and Environment.

Information and Media Literacy and Emerging Technologies and Tools (Web 2.0)

Information and Media Literacy in the Future (Web 3.0, Mobile Technologies)

Gamification of Learning and Education

Information and Media Literacy and Legislation, Copyrights

Information and Media Literacy and Libraries

Collaborative Learning Through Technology

Digital Badges in Learning and Education

Blended Learning Trends

Assessment and Evaluation of Learning Process (Learning Analytics)

The conference also offered a series of practical workshops introducing topics of digital badges[1] and using Mahara and Moodle in education.

[1] See more in Jakub Štogr's chapter, pp.108-113.

Finally let us express our utmost gratitude to the conference partners for their support. Also, we would like to say thank you to the members of Organising and Programme Committee for their contribution to the smooth running of the event.

To give you a better experience while reading the conference proceedings we divided it into several parts. Our book starts with key notes paper and it is followed by a section on media literacy, which was the main topic of DisCo 2014. The section is introduced with an essay by Petra Aczél reconceptualizing the concept media literacy itself. Next you can enjoy a paper by Fiachra Long, a philosophical essay about rhizomatic learner, written in the classic "British" academic style. Furthermore, the section includes case studies about media literacy education in different countries.

The third part is focused on new trends in education and as many articles are dedicated to gamification of education, we continue with a called *Gamification and apps*. One of the subtopics of DisCo 2014 was "Information and Media Literacy and Libraries". We had two interesting presentation about the important and hard role of libraries in education in Balcan states.

The next section which is dedicated to language education. Finally we can look at the phenomena connected to the use of technology in education from both students' and teachers' perspectives.

We believe that when you go through the following pages, reading them will bring you inspiration and refreshing ideas and we look forward to seeing you again in 2014.

Jan Beseda a Zbyněk Machát

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Key notes speeches

EDUCATIONAL INNOVATION AND TECHNOLOGY: A NEED FOR INTEGRATION

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Abstract:

This paper aims to discuss why and how teaching practices and technologies need to be integrated, at all levels, to improve learners meaningful learning. A first attempt to define pedagogical innovation is presented, with a reference to Creative Class Room framework (CCR). In the CCR framework, innovation is seen as an intentional activity, occurring in a specific social, economic, technological, organizational and cultural context, designed to address unsolved problems and involving complex interactions between various actors who actively seek to learn from one another. From this point of view, pedagogical innovation, considering technological and digital based learning environment, is a matter of integration among different levels of analysis, from individual to social, and from traditional to most innovative teaching and learning practices. The need for a better understanding of how people learn and how technologies need to be used to enhance this learning is also discussed, with a final part on how creativity and innovation have to face 'mundane' educational settings daily issues.

Keywords:

Educational innovation, technology, learning, teaching, creative classroom.

1. INTRODUCTION

The presence of technology in learning environments (school, university, professional training, refresher courses etc.) does not necessarily entail a direct change in pedagogical vision or teaching practices. The mere placing of computers, video projectors and IWBs in classrooms does not mark the ultimate attainment of a teaching innovation. For this reason, we believe it important to discuss the concept of technology-based pedagogical innovation, connect this concept to a learning theory, clarify the role of technology as far as teachers and learning results are concerned and, thus, reflect on the different levels of analyses in the study of the relationship between technologies and results.

2. PEDAGOGICAL AND TECHNOLOGICAL INNOVATION

With reference to recent research carried out within the scope of the European project Creative Classroom (Bocconi, Kampylis and Punie, 2012), we can define pedagogical innovation as that set of products, processes, strategies and approaches which significantly improve the state of affairs, becoming reference points (Kampylis, Bocconi and Punie, 2012). According to the Centre for Educational Research and Innovation (CERI), promoting innovation in the learning environment is not at all easy.

It is a task which requires great commitment, it usually requires the ability to manage multiple resistances (OECD/CERI, 2009), and it frequently translates into slow rates of change. For example Fullan (2011) argues that, although in some countries laptops and video projectors are replacing blackboards and chalk, the majority of students continue to experience their traditional role as «consumers of information»

rather than problem resolvers, producers of information and innovators.

Innovating learning processes through technology involves a thorough renewal of the way we use and produce information and knowledge (Kampylis, Bocconi and Punie, 2012). This vision is opposed to the use of technologies to replicate traditional teaching practices. It can be extended to formal and informal learning environments, training adults, at school and at university.

The potential for innovation generated by technology does however require organisational, institutional and pedagogical changes. On a strictly pedagogical level we believe that a good starting point is the How People Learn (Donovan, Bransford, 2005) approach, recently referred to in the project Digital Learning Classroom (Lopez, 2010). The approach puts forward five general principles:

- learners learn better when knowledge merges with and/or develops from what they already know;
- learners learn better when they work with others in learning, they ask questions and they reflect on what they have learnt and how it was learnt;
- learners learn better when the information offered and the context are tailored to the cognitive needs of them;
- learners learn better if what they learn is fundamental and in-depth and if the individual competences/abilities are strongly anchored to a principle/general concept, and if what they have studied has multiple applications;
- learners learn better when they are given feedback and/or are given the opportunity to evaluate their own learning.

The five principles offer a framework which is useful in designing learning solutions aimed at integrating technology into teaching (Gentile, 2012).

3. THE IWB EXAMPLE

IWBs can be an important resource for involving pupils during lessons (Armstrong et al., 2005; Gentile, Pisanu, 2012; Greiffenhagen, 2000; Schmid, 2006; Wall, Higgnis and Smith, 2005). However, problems of a varying nature do materialise around them:

- an increase in the centrality of the teacher and a reduction in collaborative interaction amongst students can be observed (Latane, 2002; Jones, Tanner, 2002; Maor, 2003);
- accelerated paces in lessons can be observed (Glover, Miller 2001), to the detriment of the quality of cognitive interaction between teachers and pupils (Smith, Hardman and Higgins, 2006).

If used as static technology, the IWB does not produce any appreciable changes in

teaching practices (Beauchamp, 2004; Glover, Miller, 2009). In other words, the technology alone does not encourage tout court more effective ways of teaching.

4. TECHNOLOGIES, COMPUTERS AND LEARNING

Technologies can increase probabilities of learning. However, we cannot definitively state that there is a direct relationship between technologies and learning results. Evidence, in this regard, is contrasting.

Hattie (2009), when revising the meta-analyses regarding different types of technologies found effects which varied from 0.09 of standard deviation2 for distance learning up to a maximum of 0.52 of standard deviation associated with learning methods based on interactive videos. In more specific terms the meta-analyses show that computers are used effectively:

- when teachers use them as part of a variety of teaching strategies;
- when there is preliminary training on how to use a computer as a teaching and learning tool;
- when there are multiple learning opportunities;
- when the student, not the teacher, controls learning in terms of timing, pace, material, choice of task, etc.;
- when teachers are attentive to conditions for peer-learning;
- when teachers are attentive to feedback.

How the topic of the relationship between technologies, teaching and learning is dealt with in this paper.

Notwithstanding some conditions of use, technologies can influence the teaching/learning process, above all when they are centred on the students. Unfortunately it is just as clear that the impacts of technologies on learning outcomes have provided contrasting results. One of the main reasons for such an outcome may be related to the methodological issues. A large part of research, for example, does not differentiate the main effect of technologies from other possible effects associated with context and individual variables (CERI, 2010; Cox, Marshall, 2007).

In our opinion the levels to consider should include the following:

- school level: organization of learning environments, presence and leadership on the part of the head teacher, peer-support etc.;
- technological level: dev ices (computers, I W Bs, tablets, video-projectors, software, etc.) and types of technology (see note 1);
- teacher level: competence in using technology, training background in using technology, methods of teaching and class management, aims in using technology, etc.;
- student level: competence and frequency in using technology, gender, social-economic status or family background, psycho-social constructs like

motivation or self-efficacy, etc.

Limiting our conclusions to the contents of this paper, the overview given above tells us that research follows a single-level logic and that the student level is still difficult for researchers to access, above all in Italy. Student data appear to be relevant and necessary in order to validate technological innovation through the measuring of learning results and educational outcomes. Our hope is that in the future attempts to consider more levels of analysis are made more frequently, above all in order to guide schools and teachers in technological integration in teaching.

5. A POSSIBLE WAY OF INTEGRATION: THE CREATIVE CLASS ROOM FRAMEWORK

This paper looks also at 'Creative Classrooms', focusing on their pedagogical, technological and organizational dimensions for innovation. Insights are from a European research project, carried out by EC JRC-IPTS from December 2011 to June 2013, on "Up-scaling Creative Classrooms in Europe" (SCALE CCR). Aim of the study is to provide a better understanding of ICT-enabled innovation for learning and to identify policy recommendations for the further mainstreaming of ICT in Education and Training (E&T) in Europe. In addition to desk research, a number of existing cases have been analyzed (eTwinning, Hellerup Skole, and Notschool.net) which provide insights on major enablers and barriers of CCR implementation in real contexts.

The main project results highlight the multi-dimensional and holistic nature of the Creative Classrooms as innovative learning environments that fully embed the potentials of ICT for learning. The model consists of eight encompassing and interconnected dimensions that capture the essential nature of these learning ecosystems: Content and Curricula, Assessment, Learning Practices, Teaching Practices, Organization, Leadership and Values, Connectedness, and Infrastructure. A set of reference parameters have been developed, for policymakers and practitioners, which depict the systemic approach that is needed for the sustainable implementation and progressive scaling-up of Creative Classrooms across Europe.

6. CONCLUSIONS

In the history of technology there is a reoccurring tendency to focus one's attention on the technical innovations of the new tools, to the detriment of pedagogical reflection and evaluation of sustainability. It is the concept of innovation which is ambiguous. We are conditioned by an inheritance of enlightenment according to which innovation = progress = improvement. If we bring technologies into schools, or in other different social environments, we are no doubt changing something, thus we can say that we are innovating. The problem is establishing whether this innovation brings about significant pedagogical 'improvement' or not (Calvani, 2012). In a recent work in the Italian context, Gentile and colleagues (2013) proposed a so called Learning Solution Approach (LSA). The LSA implies the design of learning activity intentionally focused on cognitive goals aligned to the national curriculum. In a LSA activity (LSAA), students recall knowledge, interact with software, carry out paper and pencil tasks (writing, reading, calculate), collaborate with classmates, reflect on how and what they learn. In this context, technology is one of the tools of learning

mediation, not the only one. A LSAA has five components: contents, technology, cooperative tasks, formative assessment, feedback, in terms of peer-assessment and teachers' feedback.

In this paper, I have presented technologies as tools to support learning (Wall et. al. 2005). For this reason, I think it is difficult to offer teachers guidance on how to use them without a clear understanding of how pupils learn (Howland et. al., 2012). The LSA approach could be an attempt to support a integrated pedagogical ICT-based innovation starting from and incremental, rather than radical point of view (Cooper, 1998).

I believe that innovative project based on LSA might get the level of educational innovation, both at local and national level if it will help to develop a key focus on the following points. First, design and implement classroom-based solutions, which help teachers to integrate technology in subject-matter teaching and learning. Second, encourage an open use of hardware and software devices; provide pupils with lots of opportunities for learning. Last but not the least, ensure a consistent support to teachers during the instructional work.

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DIGITAL LITERACY EDUCATION ON PAR WITH CONTEMPORARY DIGITAL CULTURE

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Abstract:

Big data and privacy being a burning topic in the world today, there is a need for action in the context of digital literacy education and safe internet usage. The online game “Data Dealer” is an innovative approach in dealing with the issues of personal data security, safer internet usage and data economy in the digital age. This is a plea for didactical approaches which refrain from simply preaching on what to be careful about, and communicate on par with contemporary digital (popular) culture.

Keywords:

Digital literacy, Privacy, Media Education, Serious Games, Digital Communication Technologies

1. RATIONALE AND BACKGROUND: PERSONAL DATA IN THE DIGITAL AGE

In the digital age virtually everything we do is recorded, monitored or tracked in some way. Nearly every device we use today is connected to the Internet. Due to the rapid evolution of ICT the collecting, processing and exploitation of personal data has become part of all areas of life. Emerging businesses in the fields of social media, mobile applications and online marketing are specialized in making commercial use of personal data. According to former European Consumer Commissioner Meglena Kuneva “personal data is the new oil of the Internet and the new currency of the digital world.”

2. INTERNET USAGE BY YOUNGSTERS AND DIGITAL LITERACY EDUCATION (IN EUROPE)

Internet and digital communication technologies play a major role in everyday life – even for younger kids. Kids increasingly possess their own devices. According to the German KIM-survey about Kids and Digital Media, 85% of 6-13 year-olds use the internet at least once per week and half of the kids own their own mobile phone (Medienpädagogischer Forschungsverbund Südwest, 2012). A swiss study – the Switch Junior Web Barometer (2012) even claims that over 60% of all kids aged between 6 and 12 had their own smartphone or tablet in 2012. About half of them can use the internet freely, unrestrictedly and without control of their parents. 65% use online games, 36% are members of Youtube or Google, 24% of Facebook. Nearly 50% declare that they “figured out themselves how the internet works”, followed by siblings as informants; while parents and teachers range far behind.

Concerning teenagers, the majority has their own device and the internet is used highly autonomously. (Switch, 2012)

Figure 1: New communication technologies: Chances (Data Dealer)

Among young people in particular, the understanding of the personal data ecosystem shows deficits. There is a lack of ability in estimating the possible long-term consequences of giving personal information away - also due to the increasing complexity of today's technological capabilities of searching and collating massive amounts of data. As reports show, the majority of youngsters know very little about their rights in terms of data protection on the one hand and data misuse by third parties on the other hand (Lusoli, W. and Miltge, C., 2009). Likewise observation and surveillance are problems only older and better educated youngsters acknowledge in their full consequences on individuals and society (Wagner, U., Brüggen, N. and Gebel, C., 2010).

Figure 2: New communication technologies: Dangers (Data Dealer)

When it comes to transmitting digital competence, there is some evidence that many teachers neither have enough knowledge nor the right educational tools. Young people often perceive teachers as biased and incompetent when it comes to Social Networks etc. (Wagner, U., Brüggen, N. and Gebel, C., 2010) Today´s children grow up in a highly mediatized and digital world, their thoughts and language influenced by TV and computer games. They are used to a certain preparation of the content. As the EU Kids Online Report recommends: “Much more great (diverse, stimulating, high quality) online content of all kinds is needed” (O’Neill, B., Livingstone, S. and McLaughlin, S., 2011). Moreover there are massive barriers to learning in the field of safe and self-determined usage of contemporary digital technologies. Internet and mobile applications are highly attractive, but especially young people are stuck between uncritical usage and undifferentiated fears. At the same time they are bored of traditional educational approaches.

Several initiatives in Europe operate in the field of teaching digital competences and more specifically in the area of privacy and safe internet usage – for example the EU Safer Internet Programme (http://www.saferinternet.eu). Many of them employ rather conventional didactical methods like brochures, flyers or low-interactive websites.

3. THE „DATA DEALER“ PROJECT – AN INNOVATIVE APPROACH IN TEACHING DIGITAL LITERACY

In 2011 we started with an idea – to make a small game dealing with the economy of personal data in the digital age and to try not to bore - especially young people - to death while explaining a few things that are highly relevant to know nowadays. We are a small team of people coming neither from educational or pedagogic fields, nor from a strict gaming development background, but rather from web activism, open source technologies, music, design, and mathematics.

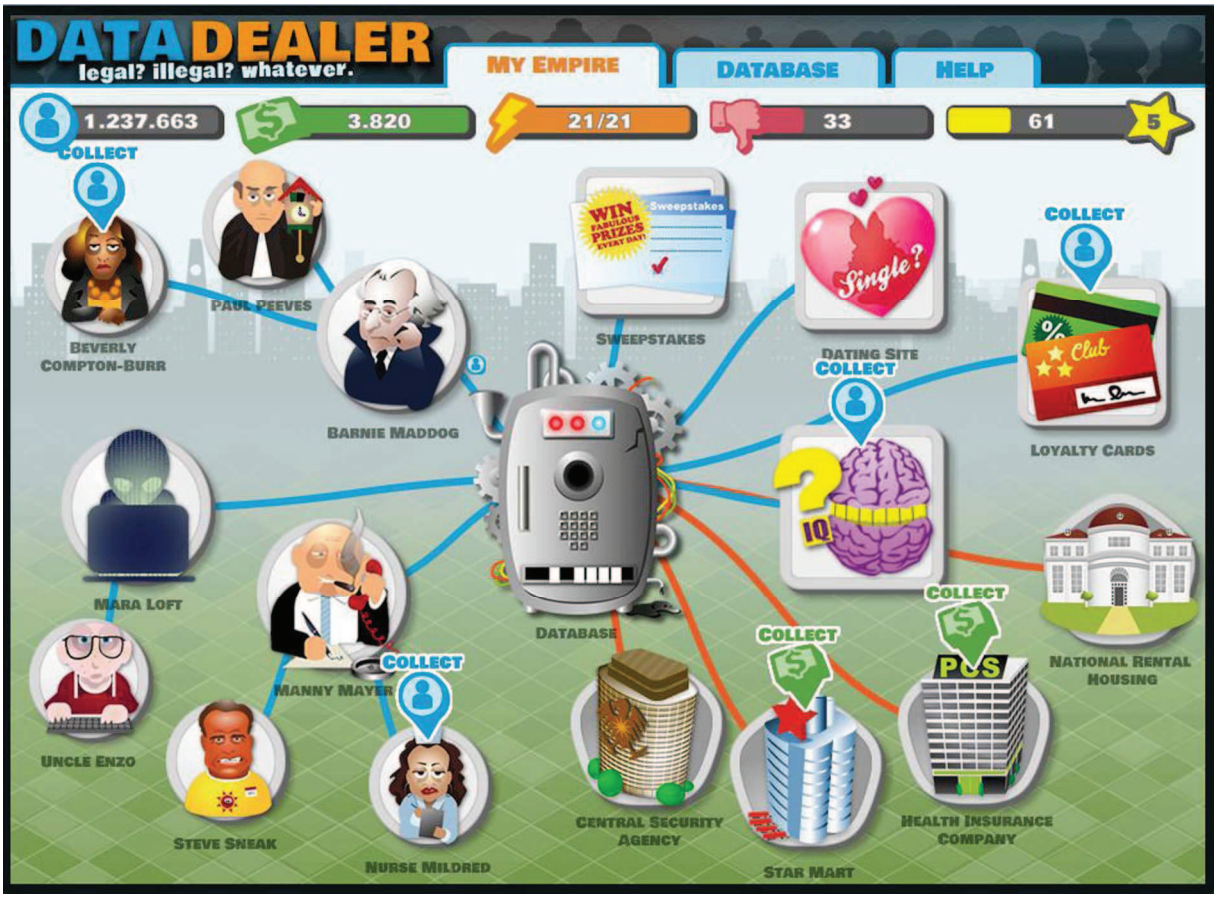

Figure 3: The empire of the Data Dealer

For the game Data Dealer, we decided to switch perspectives and let players take on the role of ruthless data dealers, trying to collect as much personal data as possible and to make profit by selling it to companies, health insurances or governmental agencies.

The innovative approach of Data Dealer features a mix of:

- simulation game based learning,

- role playing based learning,

- storytelling based learning.

According to a study on the Role of Simulation in Web-Based Learning (Breuer, K., Molkenthin, R. and Tennyson, R.D., 2004), simulations and role playing have three outstanding advantages. They:

- can “give access to problem-solving processes from different perspectives”,

- have strong motivational effects on students,

- allow for the development of a “mental model” of the simulated problem “which allows perceiving the variables involved, their interrelations, and the corresponding dynamics”.

In taking on the role of someone interested in collecting their personal data, players can realize the value of their data and learn how to protect it. Furthermore they can run their own online companies, search engines, social networks and mobile apps and thereby understand better how they work.

With this approach, we want to provide an entertaining and amusing game, using a lot of irony and allusions to real life persons and events, while at the same time having serious aims and objectives, mainly:

- to raise awareness and critical thinking regarding the provision of one´s own personal data which are produced by using all kind of devices which are connected to the internet,

- to raise awareness on how to protect oneself from being misused by others now or in the future,

- to strengthen digital competence in the field of personal data to ensure individuals can make self-determined use of ICT in a future society.

Figure 4: Website of Data Dealer

4. CONCLUSION

When we released the first German version in 2012, our approach showed great success. In addition to outstanding media coverage, we got a lot of valuable feedback from young people, teachers, media educators and the internet community in general. In some schools Data Dealer already became part of the curriculum. Moreover we got a lot of response of young gamers, demonstrating that they feel understood and addressed by our game. This feedback proved that the game is

suitable for adults and pedagogical institutions as well as for young people through the double coding of the story (à la Simpsons or Southpark).

As we already mentioned, we don't have a background in pedagogy or education, but we were previously/frequently engaged in different projects dealing with issues of digital competence and low-threshold transmission of digital knowledge. Although we are in contact with media educators and pedagogues, we could use additional didactical evaluation. Together with an international network of research departments as well as educational organizations we are developing a game version for schools and learning institutions. This project, called DATAEDU, aims to create a multilingual educational toolkit, consisting of an adapted, pedagogically sound version of the game, enhanced by teaching materials - accessible via an online platform. The DATAEDU toolkit aims to develop key digital competences concerning data protection and related ethical issues.

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Media literacy

RECONCEPTUALIZING (NEW) MEDIA LITERACY

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Abstract:

Digital generation is what our students of 7-29 are called in a rather overgeneralizing way. However, we undoubtedly all inhabit – either as natives or as 'immigrants' - a cyberist culture that is inextricably bound up with technology, an age of communicational change, an era of converging media. This paper aims to introduce a theoretical-critical approach which shall revisit elements and cast light upon subsets of (new) media literacy. It endeavours to draw community, spatial, procedural and aural literacy (auralacy) into consideration, relating them to the complex of media literacy, striving to provide invigorating insights into its conceptual foundations and integrated perspectives for its pedagogy.

Keywords:

Multiple intelligences, competencies, skills, literacies

"We live at a time when the types of problems confronting a technologically complex and culturally diverse society seem to outstrip the average citizen's capacity to comprehend them, much less to arrive at an informed opinion on their resolution." (Hauser ,1999: 279)

1. INTRODUCTION

We find ourselves in the epoch of breaking of paradigms. The proliferation of media texts, platforms, activities and theories, the proliferation of media literacy call for continuous reconstruction of core ideas and of the policies and educational programmes built upon them. We are in the era of transformations and change. It is not only media products that are variable and fluid (Manovich, 2001), but processes and procedures of media and media literacy are also in the course of constant theoretical reconfiguring. There have been shifts in the interpretation of media based economy, culture and literacy marking the phases of discovery (and rediscovery) of dynamics of society and media. With the advent of the cyberist era the West has moved from the economy of consumption to the economy of participation. (Frau-Meigs, 2012). Media made societies realize the importance of informational activities and information industries and thus led to the recognition of information economy (Castells, 2000). Nevertheless research also reflected upon human attention as a scarce commodity, and urged economists to regard human attention as the new currency of business and thus to forge the attention economy paradigm (Davenport-Beck, 2001). Theorists of new media, however, now argue for the inadequacy of both the information and the attention economy (Crogan-Kinsley, 2012) and they sketch the frame for the location economy, driven by the location, the place where people are to be supplied with information. It is the economy of the supplement of the here and now. "We are in the epoch of simultaneity: we are in the epoch of juxtaposition, the epoch of the near and far, of the side-by-side, of the dispersed. We are at a moment." – as Foucault said in 1967. This simultaneity has led us to participatory

(media) culture that is – as Jenkins (2008) reckons – in contrast with passive media spectatorship. It is an emergent culture of media where formerly separated media producers and consumers as participants interact with each other ”according to a new set of rules that none of us fully understands” (Jenkins 2008: 3). New literacies are called for and identified. ”I want to learn how to write and think electronically” – says Gregory Ulmer (2004: 10) announcing his academic program for electracy and mediacy. As Kathleen Welch instists (1999: 104) this electric discourse, this new rhetoric is “an emergent consciousness or mentalité within discourse communities, is the new merger of the written and the oral, both now newly empowered and reconstructed by electricity and both dependent on print literacy. Electronic technologies have led to electronic consciousness, an awareness or mentalité that now changes literacy but in no way diminishes it.”

Technology operates to serve a location economy while people engage in a convergence culture with a new mentalité and strive to accommodate themselves to their media with a inevitably changed literacy. This is the era where media literacy serves as a socializing and pedagogical programme, as an attitude of the individual and a set of skills of participants.

2. THE IDEAL OF MEDIA LITERACY

Media literacy should not be too general and it should not be to specific either. It cannot function as a defence to „harmful” media and it shall not enable anyone to be harmful through media production or usage. As a common sense of media ideologies and practices media literacy it may function as the educator of the ‘knowing and dialogic subject’, the individual conceived of as sovereign, rational consciousness, an author of meaning. The ideal of the literate and the media literate is the authentic thinker, the careful, elaborate and reflective analyst, the advocate of free speech, the independent community member: a true democratic citizen, a real participant. She/he is the person who knows that there is distance between the subject and the object, who is open-minded and still selective, who avoids stereotypes and goes for deeper knowledge, who acts in a dialectic and dialogic manner. The media literate is the one who has the competence and bravery to get into contact (with media texts, objects and mediated partners), to cooperate (and collaborate) and to constitute (texts, objects and forms of relations). The theory and practice of media literacy thus calls for the individual who is conscious, responsible and active, a cultural ideal of democratic societies. As author James Baldwin put it, “The purpose of education, finally, is to create in a person the ability to look at the world for himself, to make his own decisions …” (1998: 678, see Scheibe-Rogow, 2012: 292). When discussing media literacy and its components one is faced with the multifarious competencies and skills that describe the ethic and active media literate who would ideally inhabit the constantly changing culture of the present and the future. With its multidisciplinary nature media literacy research “is increasingly expected to integrate highly diverse competencies and skills.” (Livingstone et al, 2012: 3). Research has so far provided theoreticians and practitioners (educators) of media literacy with a multitude of new elements (competencies and skills) that build up media literacy as either an analytical or a productive knowledge (Banerjee–Kubey, 2012).

In this paper I endeavour to draw little mentioned competencies and literacies as subsets of media literacy into consideration. The theoretical-critical approach presented thus aims at further elaborating on what constitutes media literacy –

especially in the age of new media – and how the elements of it shall be organized into a structured model.

3. MEDIA LITERACY: INTELLIGENCES, COMPETENCIES AND SKILLS

Media literacy is a compound of multiple intelligences, competencies and skills. According to Gardner (Intelligence shall be defined here as a computational capacity to process a certain kind of information. Humans have different kinds of intelligences which all entail the ability to solve problems and thus allow one to approach a situation in which a goal is to be obtained and a route to that goal is to be located. These different kinds of intelligences, these faculties (or gifts) of recognition and relation of the social world all facilitate meaning-making and knowledge building. Howard Gardner in his theory of multiple intelligences identifies seven types of intelligence: the musical, the bodily-kinesthetic, the logical-mathematical, the linguistic, the spatial, the interpersonal and the intrapersonal. Testified by brain research these seven types of intelligence all may be related to media as they manifest core capacities to notice, navigate, recognize, access, control and express. Intelligences as faculties provide the principle basis for media literacy. While intelligence is the capacity of the individual, competency shall mean the ability of the person. A competency involves personality traits, knowledge, commitments and skills that enable a person to adapt her/himself to a particular context and to draw conclusions from the experience gained. A competent individual is a knowing and experienced one who can meet complex demands and answer new challenges. Finally, skills may be regarded as the dexterity to adaptively carry out complex activities. Skills are acquired through training and they are integrated into competencies. As a compound of personal intelligences, cultural competencies and social skills literacy in general is a consciousness and an attitude carrying out an informed usage of “language” and a control of that use. Literacy does not simply demand the knowledge and ability to encode and decode messages but also demands applying this knowledge to social situations. As Scheibe and Rogow reckon (2012: 268) “we think of literacy as the broad set of skills and habits that enable one to engage thoughtfully with the community and the world”. This broad set of skills (set of intelligences, competencies and skills) requires eager accessing, critical thinking, problem solving and decision making. Media literacy is the literacy customized to the multimedia age, to its agencies, modalities, codes and spaces. Most commonly defined as the skills of accessing, analysing, evaluating, and communicating messages in a number of forms media literacy involves critical analysis of media messages, evaluation of sources of information for bias and credibility, increased awareness about how media messages influence people’s beliefs, attitudes, and behaviours, and production of messages using different forms of media (Banerjee-Kubey, 2012: 2). Media literacy, though conceptualized in several ways by scholars and practitioners, is drawn upon agreed key concepts which are the following: (1) all media messages are social constructions, (2) people who make media messages use creative languages that have rules, (3) different people experience the same media messages differently; (4) producers of media messages have their own values and points of view; and (5) media messages are constructed to achieve a purpose, usually for profit and/or power. (Center for Media Literacy, 2007, see Banerjee – Kubey, 2012: 2). These key concepts seem to suggest that media literacy entails the recognition and acceptance of difference, the challenge for production and creativity and the consciousness of power. These key concepts base the core principles of

media literacy education (set up by the National Association for Media Literacy Education of The United States, 2007 see Scheibe-Rogow, 2012) which assume that media literacy education requires active inquiry and critical thinking about the received messages, it develops informed, reflective, and engaged participants essential for a democratic society, it recognizes that media are a part of culture and function as agents of socialization and affirms that people use their individual skills, beliefs, and experiences to construct their own meanings from media messages. Media literacy involves personal capacities, abilities, attitudes and it requires active communicative social behaviour: critical thinking and analytical skills, creative-innovative thinking and productive skills, connectivist thinking and communal skills. It is an *architectonic complex of intelligences, competencies and skills* that relates and adapts the individual to technologies, mediated messages and social situations. In response to the emergent social and technological environments – with the advent of new media - new dimensions of media literacy have been identified and described such as digital literacy and information literacy, transliteracy and multiliteracies. Digital media called for further expansion of literacies and the evolution of media literacy 2.0 that is a compound of the seven C's (Hoechsmann–Poyntz, 2012: 151-190): consciousness, communication, consuming, convergence, creativity, copying and community. Even though these principles and elements are fairly agreeable one may miss a systemic approach or a stratified model of (new) media literacy. That is what Selber (2004) offers in his 'Multiliteracies for a digital age' (a treatise addressed to teachers of writing and rhetoric). He provides a three layered model of computer literacy consisting of functional literacy (computers as tools, students as effective users of technology), critical literacy (computers as cultural artifacts, students as informed questioners of technology) and rhetorical literacy (computers as hypertextual media, students as reflective producers of technology). The technological, the critical and the rhetorical layers seem to reflect – semiotically speaking – the syntactics, the semantics and the pragmatics of codes and messages and can also be related to intelligences as capacities, competencies as abilities and skills as activities of the individual. However, if we accept that media literacy is not only a bunch of skills (a policy), but constitute a form of behaviour (ethics) then we may add a fourth level of literacy, that of the community. Community literacy means computers as intercultural media and students as transformative agents of publics and counterpublics. As Linda Flower (2008) stresses this community literacy stands for, one the one hand, "a willingness to engage with rival interpretations, attempting to understand a problem rather than advocate an interested position". On the other hand it is "going public, choosing to stay in dialogue with alternative realities, and working to articulate their own even as they seek a new negotiated understanding" (2008: 103–104). Media literacy then has a technological, a functional a rhetorical and an ethical level providing the individual the route to become competent, conscious, constitutive and communicative within, with and for the media.

4. SUBSETS OF (NEW) MEDIA LITERACY

New media shall be considered the complex of new textual experiences, new ways of representing, new impressions and experiences of embodiment, new relations between user and technology, new ways of expression (verbal, visual, multimedial), new patterns of organizations, production and control and new realizations of identity and social relations (Lister, 2003, Fuery, 2009, Miller, 2011). 'New media' is a convergent concept of convergent and digital media technologies made up of the

computer, the internet, the mobile phone, social media, digital television, and so on. Most frequently used characteristics of new media in media-lingo are digital, interactive, hypertextual, multimedial and virtual. Representations of new media answer the ocularcentrist expectations and are getting more and more visual, media objects are networked and thus organized and discovered in space, new media mechanisms offer procedures to come through and multimodal experiences call for an awareness of the aural. Although spatial, procedural and aural literacies contribute relevant competencies to new media literacies, they are rarely brought into discussion (Aczél, 2012). In the following short sections these three subsets of media literacy will be briefly dwelt upon.

4.1 Spatial literacy

In the shadow land of the visual or iconic turn a spatial turn has also occurred. Nevertheless, space still emerges in discussions as a partly enigmatic, often vague notion with malleable definitions. As spatiality can be either seen as concrete locations and forms to be mapped and interpreted, or representations of experiences of place, space in terms of rhetoric should be clarified.

Spatial intelligence, one of Howard Gardner's multiple intelligences (1983, 1993) concerns the ability of thinking in three dimensions, having mental imagery, graphic skills, the capacity to reason spatially and imagine actively. From this it is obvious that spatial intelligence is closely related to visual intelligence. However, the intelligence for space includes abilities for less concrete impressions as well, among them skills for the abstract, for the schematic, for the mapped. Though visuality governs spatial practices, space has its specific requirements to be understood and answered. Conceiving and analysing a chain of links, and a network of knowledge is less a visual but a spatial competence. 'Traditional' power point presentations, for example represent a sequential, linear way of meaning making, structuring and concluding. The usage of prezi-s (www.prezi.com), however, demands an awareness of space when collecting and relating one idea to another, when choosing the path to present text and images and zooming to lay emphasis. Prezi-s are buildings rather than texts and require the map of related ideas and the competence to symbolically and meaningfully represent this map. Spatial faculties and abilities of the individual add dimensions to the visual and develop stucturing, hierarching, reasoning and reflective skills. Spatial literacy shall be considered a subset of the critical and the rhetorical level of media literacy

4.2 Procedural literacy

Procedural literacy (procedural rhetoric, see Bogost 2010) is a critical method which facilitates and improves new media literacy: the ability to access, understand and create communications in a variety of contexts. Access refers to the opportunity and skills to manipulate technology, to the functional literacy users enact. Understanding is the result of critical 'reading' (literacy) of media production, selection, representation and audience. Creation is the competence of active literacy that enables media consumers and users to produce mediatized messages. Procedural literacy can be relevant in all three types of literacies as it investigates and advises the processes in which operational or symbolic arguments are worked out. Procedural literacy therefore provides an additional facet to educating complex media literacy, raising the following questions (Bogost 2010: 258):

- What are the rules of the system?
- Who has the authorship of these rules?
- What is the significance of these rules (over other rules)?
- How do these rules manifest themselves (visually, multi-medially)?
- What claims about the world do these rules make?
- What practical and symbolic consequences do these claims may have for me and others?
- How do I respond to those claims and consequences?

As a subdomain, procedural rhetoric can function as the literacy of system-operations and argumentations that expands visual literacy. More of a rediscovery than an innovation, it identifies predominant characteristics of media technologies and thus is to be taken into consideration in understanding, interpreting and producing media messages. Procedural literacy enriches the competencies and skills identified at the functional and at the critical level of media literacy.

4.3 Aural literacy

Discussions of the aural are almost omitted from contemporary communication and media theory; the aural dimension of new media seems to be shadowed.

Aural literacy is not identical with the literacy of music as the latter provides means of describing artistic musical compositions while the former refers to the recognition of the importance of sound in multimedia composition. Still, aural literacy is a less discussed aspect of understanding, interpreting and producing media-representation. Scott Halbritter (2004: 225) assumes that it has been overlooked by media theorists for the following reasons: “1. our visually oriented terminology has screened out terminology for realizing the aural, 2. the information aural tools support appears, when successfully composed, to be subordinate to the visual information with which it is contextualized. 3. we have not traditionally established nor recognized legitimate aurally rhetorical ends for the conventional forms of academic compositions.”

Neglected as it is, aural literacy does not cease to offer an enriched view of media argumentation and persuasion. Audio branding (sonic branding, acoustic branding) has gained considerable significance in the field of marketing communication, recognizing and revealing the role of sound, melody, noise in making the message persuasive and memorable, the need for aural literacy, ‘auralacy’ is just awakening. When consuming media (traditional and new) we are moving in discursive spaces in the context of soundscapes but lack awareness in decoding sound elements and processes. It is aural literacy that could provide consumers with competence to understand, interpret and represent meaningful sound-constructs. Aural literacy hence may be regarded either as a critical competence to interpret how the aural is related to the visual and verbal, or as a productive skill to strategically form sounding structures (aural genres) in the multi-media message. Aural literacy is the capacity of media literacy that ‘vocalizes’ procedural media spaces in which sounds contextualize images and images imbricate aural experience.

5. EPILOGUE IN LIEU OF CONCLUSIONS

Both the improved, four-layered stratification model and the subliteracies of media literacy provide new horizons to discuss, relist and categorize related intelligences, competencies and skills and base integrated media literacy educational programmes. The aim of the paper was to highlight ideals, concepts and characteristics of media literacy in order to enrich the notion of media literacy as a faculty and as an attitude. Doubtlessly, in accordance with inevitable changes of our age several aspects of media literacy, its theory and practice are forced to be reconceptualised. The paper's intellectual venture was one of the attempts to describe media literacy in a more systematic and integrated way.

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Digital Literacy and the Rhizomatic Learner

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Abstract:

The learning operations of a rhizomatic learner derive largely from new technologies that have now become commonplace to the 'digital native'. A rhizome can be contrasted with a tree or shrub, which has a linear root system. Normal areas of study are thought to be tree-like when, after an initial point of focus, they develop a single body of content, which branches out as it extends upwards out of the soil. A rhizome, by contrast, begins anywhere and usually at any level and exits anywhere and usually at any level. It is virtually immortal. The focus of this paper is to ask about the literacy implications of rhizomatic learning. It notes three particularly relevant headings, namely, changes to the nature of knowledge with their implications for the challenge of learning, changes in psycho-social responses affecting the seriousness of the learning project, and changes in the character of being as a being-in-touch that affects the identity of young learners.

Keywords:

Digital literacy, rhizomatic, learning, social media

1. INTRODUCTION

Studies concerning the use of computers in schools or at home confirm the trend towards ever increasing use by children of digital media. Drawing on Lankshear et al. (Lankshear et al. 2000), Somekh et al. found in their 2002 study that 10–12-year-olds spent 3 times as much time on their computers as they did in school while by age 16, this proportion had risen to 4 times (Somekh and Mavers 2003: 413). Further studies tell the same story. Belgian figures note that 91.2% of primary school children surf the internet at home while there has been an increase in internet use of 342.2% from 2000 to 2011 (Valcke et al. 2011). A study of Korean schoolchildren from 2007 also indicates internet use by school-goers at 92.8% (Sook-Yung and Young-Gil 2007). Remarkably comparable statistics are emerging from Australia (Zevenbergen and Logan, 2008) and Ireland (*Ipsos Mori* Report, 2008). More controversially, the eminent neuroscientist Baronness Greenfield in a BBC 4 radio programme of 2008 explained her worries about the implications of lengthy computer use on young children, complaining that a threefold increase of the drug Ritalin used for treating ADHD could be linked to a general learning context where there has been intensive internet use.

This view was thought to be overstated in some quarters. Without entering into this debate, it is clear that computers have become part of a new literacy affecting children as young as 5 or 6 but how does this affect their learning patterns? In Ireland, according to a recent Eircom survey, out of a total population of around 4m, 1.2 m have daily access to a tablet of some kind in 2013, 1.6m have smartphones, while in the 16-25 year-old bracket, 55% say that they could not live without their smartphone, 63% say that the last thing they do at night is check their contacts on *Facebook*, while 70% say that they prefer texting to talking. And yet despite all this penetration of digital technologies into the social lives of the young,

28% say that they are getting tired of it. But is there any alternative?

2. THREE FACTORS

Access to computers has almost made children now almost public before they are private beings. Their access to digital technology at younger and younger ages is exacerbating this loss of privacy. In this section I wish to consider the implications of this loss for what they understand as knowledge with consequent impact in educational systems. The question is perhaps acute and it is important to find some direction here because Le Grange has queried the '(in)capacity of disciplinary knowledge and traditional scholarship to respond to the complex and pressing problems of contemporary society' (Le Grange 2011: 742). The distinction between two forms of knowledge seems critical to this inquiry, namely the arborescent and the rhizomatic.

2.1. Changes in Knowledge

Arborescent or tree-like knowledge is well known to most of us since we have grown up with the idea that knowledge has a beginning, develops through early stages before taking root, establishing itself as a solid structure, extending further into branches. This model of knowledge allows such metaphors as core/periphery, basic/ advanced or early/ intermediate/ advanced stages. The conception is linear. Stemming from a root, there is a full flowering in expert knowledge later on, once the basics are known. This translation into the language of stages points to the dominance of the linear metaphor and a number of features follow from this.

In a rhizomatic system, knowledge loses its tree-like quality or its linearity and it becomes circular. It becomes the information that circulates without discrimination, with no beginning or ending. Access to this information is not tree-like either. There are no privileged access points, no pre-determined line of discovery, no expert signposts, no privilege attached to higher order senses such as hearing for spoken word or writing as for written word. Instead it is the sense of touch that is important. Digits are fingers or finger tips. Fingers point, depress keys, swipe across screens and touch pads. They grasp a mouse or digital pens or pointers. There is a general sensory touch that has many functions, generating its own syntax of tap, tap harder, touch and hold, swipe, circle, tap with two fingers, swipe with three or four. The syntax of these functions must be learned while the track they leave is more safely recorded by electronic software than by memory. Why does surfing the internet display such a peculiar syntax? It may be creative but its randomness is stark and its entertainment value more captivating. How different is this from the random sequence generated by the machine itself or by the logic of the hypertext designed to link pages by means of key words and triggers. More random perhaps than Proust's madeleine, but nevertheless obeying some programmed rules.

It is clear that rhizomatic knowledge begins anywhere and has no beginning. It is made up not of fields or discipline areas but rather of bite sized elements that are incremental and yet somewhat arbitrary. The syntax is one of jumps and finger slides and it is time-critical, for the sites are operative at some times not others. We encounter here a type of 'bricolage' first identified by Hatton (1988) in relation to professional identity but now applied in this context to one's expertise as an accumulator of information. The nature of knowledge has changed and the 'fun' element is essential. Knowledge becomes infotainment. While surfing on the screen,

there are pop ups and advertisements designed to distract and to draw the searcher away from the topic either radically (prompt to go on holiday and enjoy a break, for example) or moderately (prompt to search on something slightly related to the topic but accidental to it rather than essential to it). Surf-Knowledge is distractive by its very nature and the search for it, as David Buckingham suggests has become 'increasingly distinguished by a kind of pleasurable anarchy and sensuality' (2007: 81).

2.2 Changes in Psycho-Social Responses

Orthodox centres of learning like schools and universities seem backward and unattractive as venues of learning when considered alongside web-based resources, while the traditional disciplinary structure surrounding the presentation of knowledge is easily abandoned as out of date or *passé.*

Surfing involves hopping and switching, swiping, clicking (mouse), clunking (keyboard), mixing personal, interpersonal with technical and cognitive. The emotional life is implicated. Information is presented as a layered phenomenon, each valid on its own level but there is an infinity of levels. The information is thus validated by the operator in a time-sensitive manner and by means of a 'click' which organizes itself according to a syntax of tactile behaviors. The final picture is quite arbitrary as many surfers are unable to remember further than five steps back from their immediate window. Just as individual searches can become dispensable, so learners themselves can become dispensable. Wilson used this feature of knowledge – the fact that his pupils could become dispensable - in his art class by asking his students to contribute to a world wide manga story. This story required good quality art immediately put up on the web as part of a storyline, soon to disappear when either the art or the narrative ideas ran out. The learning style invoked saw these learners work more assiduously at home than in school where they came to talk about their work, not to produce it. (Wilson 2003)

Another important feature of this learning style comes from the way online research can imitate or even use the technology of games. Rhizomatic knowledge can mimic game objectives, either by using drill and skill activities (Somekh and Mavers 2003) or using vivid exploration through *GoogleEarth,* GPS software which brings physical geography to life or else links Robinson Crusoe-type building projects such as *Minecraft* as rewards for other set tasks. The learning styles in each case, while apparently social, are in fact quite individualistic and some effort has to be made to introduce the need for a collective learning community in order to develop the social aspect of learning.

In sum, there is a problem in assuming that rhizomatic knowledge might have a unifying effect on the psyche. Where traditional knowledge sought to develop the learner in certain ways – the study of engineering would produce engineers or the study of history historians, there is no strong tendency to link web surfing to professional attitudes or dispositions. This problem has surfaced at third level now where the call for more online or blended learning programmes promise to replace traditional formats. In rhizomatic contexts, the call for a multiplicity of selves or *avatars* or part-selves tends to drown out calls for a unified psyche with an obvious impact on professional attitudes and values.

2.3 Being-in-touch as the new form of human being

In some cases anecdotally reported in newspapers and talk-shows, parents notice that when internet access is turned off, they have to deal with rebellion as if children's lives depended on being always-on, always in-touch, always connected, even when they are doing other things. To which model of contact does this type of relation apply? For it is apparent that being-in-touch is a type of a potential ready-state that defines a form of being that is uneasy about gaps in contact. All spaces must be filled in, all time occupied in the economy of *iContact*. There is less appetite for holistic dialogue between person A and person B. The important thing is to be in the stream, in the flow, in the always-ready status whether there is any actual active contact or not. So the contact does not promote action but rather a passive residual attitude where options to be this or that person are always held out only as possibilities.

For this reason, a return to the grand monism of Spinoza has become symptomatic of our times. While humans have only survived in the past because they have valued reason and planning, despite the setbacks of life, we are entering a phase where multiple variety and randomness hold sway. In this context machines have the upper hand because they are the kings of random links. If society prefers to organize itself around randomized contacts, then machines will inevitably govern human lives. A logic of happenstance will ultimately determine who survives. Not even Darwin's law could have enabled humans to evolve in such a totally randomized environment.

For the present we need to consider three possible ways of being-in-touch into which our culture of *iContact* could lead. First there is a manner of being-in-touch without anything other than an initial stimulus switch. The example of this is the lowly tick which zoologists have found respond instinctively to mammalian life at 37°C. This reaction is so instinctive that ticks fail to distinguish between living mammals and artificially contrived artifacts that emit the characteristics of a mammal at 37°C. Nor does it matter if the tick itself has no stomach. Von Uexküll whose experiments influenced Heidegger and more lately Agamben noted one particular example of a tick which had hibernated for 17yrs in a laboratory until a suitable victim was found.

Second there is the case of being-in-touch accidentally without relation such as the case of the spider and the fly. Apparently the fly has tremendous eyesight but its webbed surface of the sclera of the fly's eye prevents it from seeing the spider's web. Third the being-in-touch of more advanced animals involves negotiating the mediating spaces between individuals within a social context. Almost without thinking, humans presume that they too participate in this kind of mediated relation as their preferred way of being-in-touch but there are signs from those who participate in social media sites that mediation is not its central or core meaning. It is for reasons such as these that a social network guru like Lanier has decided to abandon the web for more satisfying human contact outlets like a fishing club or community activity.

One step in the direction of greater mediated contact is not indicative of a trend, however. The trend is towards every increasing use of social networking sites with over 1 billion Facebook users worldwide in Spring 2013. The trend is ever more toward the bionic enhancement of the human body, the systematic design of machines to perform human work tasks, often at the expense of human jobs, the desire to build human enhancements for improved health and pleasure. This is the culture of the cyborg which at this time in history is blending with a form of

knowledge that not only precedes human experience but may not be capable of being humanized.

3. CONCLUSION

In this article, I have looked at some of the key factors in digital literacy which might need to be explored in a fuller philosophical conversation. I spoke about rhizomatics as the contemporary form of knowledge making entirely different demands on learners. New questions about the nature and function of knowledge are now arising as the impact of knowledge as data is proving disappointing to educators. The conclusion must be to reiterate Jean Baudrillard's comment that 'we are closer in effect to the tactile than we are to the visual universe' (Baudrillard 1993: 65). By implication we are now closer to randomized knowledge than ever, as we swap representative signs for symbols of no fixed denotation. We need a new information literacy to handle a situation that has left aside the task of deciphering representational assumptions in favour of losing oneself in fascination at the brilliant churns of foam that once promised to keep the most careless surfer afloat.

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SELECTED ASPECTS OF MEDIA LITERACY AND NEW TECHNOLOGIES IN EDUCATION AS A CHALLENGE OF POLISH REALITY

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Abstract:

Media education is a response to the challenges of reality permeated by the media. Proper functioning in such world will be possible not only when an individual acquires knowledge on how to properly use the new technology, but mainly when he or she develops a conscious, responsible and critical attitude towards media messages.

In the first part the presentation describes the situation related to the formation of media literacy in Polish schools. The conducted analyses identify a problem with implementing the postulate of media education.

In the second part the author focuses on the presence of new media and technology in education. The phenomenon of supporting education with innovative technologies and tools is a trend which seems to be intensifying in the reality of development of new media and technologies. The author describes the example of the innovative ICT tool and its functionality, as well as the possibility of using it to support traditional teaching in higher education. Such a combination constituted the implementation of the idea of complementary education – the so-called blended learning – where the designed traditional educational process is supplemented by using the ICT technology.

Keywords:

media education, media literacy, ICT tool, Polish school, communication technology

1. INTRODUCTION

Developing of digital literacy, media education and media literacy education are the obvious and current challenges of the 21st century (Frania, 2012: 302-304). The media have become a natural part of the environment for human development (Nowicka, 2012: 157-158). The task of deepening the competences in the field of "media literacy" should not be limited exclusively to the skilful use of the new technologies, but it has to be based on critical, active and creative attitude and evaluation, which builds on the motivation to seek the advantages and opportunities as well as avoid media related risks (See:Łęcicki, 2010: 74-76). The barrier to the gender, age and place of residence should be in this case completely abolished. Media education is a lifelong challenge (anywhere and everywhere, 24/7), taking the form of activity more or less formalized, individual efforts or institutional projects (Aqili, Nasiri, 2010: 452).

The media literacy in the Polish school has a long and sometimes complicated – for social and political reasons – history. However, the last dozen or so years will be the most crucial for the considerations in this article. These time frames are a period of rapid development of new technologies and tools, which are present in many social spheres of human activity and are also used in education. Teachers and students now have access to vast collections of educational aids that promote: remembering

new information, creating messages, development creativity; they serve the development of knowledge, skills and competences. In further deliberation, some examples of tools that can be used in education in a broad sense are presented.

2. CONDITION OF SCHOOL MEDIA EDUCATION

Media education is a multi-dimensional process, and its most important pillars should be family education, school education, as well as operation of non-governmental organizations and institutions, including the media themselves. An important moment for the Polish school was the school year 1999/2000, when the core curriculum integrated an intersubject path: "Reading and media education." It functioned more or less successfully until 2009.

Currently in the legislation on the general educational basis there is a lack of media literacy as a separate subject or educational path (MEN 2008). The legislator notes the importance of the issue recommending the teachers of all subjects to make all endeavours to develop the media competences among students. The content related to the media, communication and new technologies has been scattered and partially integrated in curricula of other subjects (Huk, 2011: 43). The general and specific learning objectives and expected results in terms of knowledge, skills and competences within various subjects relate to the issues of media literacy. Such a solution involves to some extent the freedom of the teachers and the possibility of innovative activities. However, the lack of coherent and consistent programme can also lead to negligence of the problem, which is disadvantageous in terms of the needs of today's students, but also tendencies and recommendations of international bodies (Nitka, 2012: 416).

3. NGO'S ACTIVITY IN TERMS OF MEDIA LITRACY - EXAMPLES

Non-governmental organizations (NGOs) play an increasingly important role (Drzewiecki, 2010: 48) in the formation of "media literacy" in Poland. In such a case, education that deepens the media competences is considered to be a little wider and is addressed not only to children and young people, but also – to a lesser extent – to adults and the elderly people. Foundations, associations, societies and cultural institutions co-create the projects for schools and individuals. Such initiatives include:

- campaign of the Nobody's Children Foundation: "Child in the Web" operating since 2003 and covering the diagnosis, analysis and prevention of potential risks connected with the cyberspace in the context of the youngest children; the project, among others, aims to draw social attention to the problem, create an e-learning platform with on-line courses targeted at children and young people as well as their parents and teachers (fdn.pl/kursy), prepare professional materials for use during work with children (e.g.: sieciaki.pl) and handouts for everybody (e.g.: Helpline.org.pl);
- initiative of creating a knowledge base for teachers, in which the interested persons may find lesson plans with aids and source materials, the example of which may be the website of the Modern Poland Foundation – edukacjamedialna.edu.pl
- cooperation offer for schools, workshops conducted by experts, knowledge and skills contests, and one of the examples is the activity of the New Media Foundation under the "Youth Multimedia Campaign" (mam.media.pl), in which

school children may create their own newspapers “Qmam” on shared software, take part in media contests, and their teachers can take part in training programmes.

There is also a number of pilot activities conducted by the government bodies related to the ”Digital School”, which does not focus solely on media literacy – considered as the media education – but rather on the use of modern technology in education based on three ideas: e-book, e-school and e-teacher (cyfrowaszkola.men.gov.pl).

4. NEW TECHNOLOGIES SUPPORTING EDUCATION

New technologies are present in a lot of spheres of human life, and they should be also present in education. The author is currently conducting a study scheduled for years 2012-2014, the aim of which is to verify the efficiency of selected tools, media elements, applications in pedagogic teaching at the university level. For a period of one semester in three groups the traditional teaching process will be strongly supported by the use of the new Internet-based technologies such as: QMINDShare™, ClickWebinar and TED&TED-Ed.

- QMINDShare™ is an American tool, an innovative application used in studies as a platform for active revision of the material that was learnt during the course. The students install software on their computers or other mobile devices and twice a week they receive a package of two tasks to perform. Questions may be either single or multiple choice, gap filling, matching or ranking an answer. Feedback is an important element, which is sent to an individual user after providing an answer, which contains a short text or educational video material. If the answer is incorrect, after a certain time the system will send the task again within the so called ”attempt of a second chance.” The platform is based on the "spaced-learning" idea. The teacher can track the progress of individual students and the entire group on an ongoing basis. During the test, the application supported learning in the course: ICT in 2012/2013.
- ClickWebinar – the Polish platform that allows us to create and participate in video conferences and webinars. By using webcast technology the transfer based on the image, sound and text can be designed. Students may work together in the real time, they may share opinions, discuss using home computers or mobile devices outside the classroom. The use of this element is scheduled for educational meetings in the school year 2013/2014.
- TED including in particular TED-Ed is a constantly developing non-profit website, which initially gathered users in three areas: Technology, Entertainment and Design. With time the idea of the platform – which is a collection of free, accessible and translated into many languages short videos of speeches on various topics – has become a source from which not only enthusiasts may gain, but also educators. The use of broadcast materials as a mandatory part of the student's own work during the learning process is part of the research planned for the school year 2013/2014.

The purpose of the planned action is an overview or a diagnosis of students’ attitudes towards elements of new technologies that support traditional learning, analysis of the participants’ views and measurement of efficiency of the above mentioned tools in the acquisition of knowledge.

5. CONCLUSION

New technologies can support learning serving as a kind of teaching aids. By combining the capabilities of the new media and the advantages of the traditional educational process, educational activities will fit the intensively developing trend of b-learning (Llorente Cejudo, Cabero Almenara, 2013: 29). It is based on the idea of designing an educational situation, in which part of the learning process takes place in the traditional form, such as in a classroom or in a form of a lecture involving the teacher, and the addition to this is distance learning using the possibilities offered within e-learning and new mobile technologies.

It should be noted that for the successful use of the new technologies and media as educational tools the development of an appropriate and responsible attitude and an extensive media competence of the users are necessary. The media and technologies are not only instruments, but also the communication – message. Deepening of "media literacy" (ML) or even more broadly understood "media and information literacy" (MIL) should serve this purpose. Action should be taken on two levels.

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NEW TECHNOLOGIES AND MEDIA LITERACY EDUCATION FOR ETHNIC MINORITIES IN SERBIA

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Abstract:

The paper focuses on the needs and possibilities of organizing media literacy (ML) courses in the format of distance learning (DL) for ethnic minorities in multilingual and multicultural communities, such as Vojvodina (Serbia).

The aim is to present the legal framework of ML, DL and education in minority languages, and then to map previous experiences in media literacy in Vojvodina (Serbia). The aim is also to offer a model for teaching ML by DL.

Methods: A descriptive analysis and modeling.

Preliminary results: media literacy as an independent school subject is not in the curriculum of primary and secondary schools in Serbia, but a possibility for its inclusion is considered. DL is not a model provided for teaching in primary and secondary schools. Members of ethnic and linguistic minorities are legally entitled to an education in their native language, but it is only partially implemented, mostly in primary schools. DL is an opportunity to provide teaching in the mother tongue.

In its final chapters, the paper proposes a model of DL ML for students belonging to national minorities to have the opportunity to be educated in their native languages. This model can be applied to all multi-ethnic and multilingual environments.

Keywords:

media literacy, distance learning, minorities.

1. INTRODUCTION

1.1 Media Literacy (ML)

"Media literacy is a set of views that we actively apply when we consume media in order to interpret the meaning of the messages that we receive," (Potter 2011: 47). Being media literate, we can more clearly see the boundaries between media constructions of the world that surrounds us and reality. The abundance of media messages to which the modern human (especially children and youngsters) is exposed primarily on the Internet, can cause serious damage if the recipients are not able to critically deconstruct media contents.

The media industry that treats the message as any goods that is expected to generate profit, is shaping contents based on this principle, and in this way, it is polluting the environment and culture. A media illiterate audience can hardly tell the good media products from the ones contaminated by ideology, prejudice, stereotypes and sediments of mix-media-spread culture of bad taste.

The goal of ML is not to make the audience "cynical and distrustful of all mass media" (Turow 2011: 22), but provide participants with the tool to understand media contents.

ML, according to Joseph Turow (2011:24), is "the ability to apply critical thinking skills to the mass media, thereby becoming a more aware and responsible citizen-parent, voter, worker and our media - driven society."

ML is a skill, “the ability to effectively and efficiently comprehend and use any form of mediated communication” (Baran 2012:18).

Media literacy also implies training of young people to express themselves creatively and use the potential of the media for learning. “The combinations of media forms enabled the young people to creatively build media materials on a range of personal and social topics” (Asthana, S. 2010:24).

1.2 Distance Learning

DL is a form of "education which offered to students who are distant in space or time from the venue of the education, using the Internet as a medium of data transfer" (...) e-learning is the use of telecommunications technology so that the information (educational content) could be transmitted in the classroom.” (Ivanovic, Capo 2011: 186 , 188).

It is a suitable model for groups with specific needs, such as education in a minority language.

1.3 Education in Minority Languages

Serbia is a multiethnic community. According to the 2002 census, there are 1,135,393 persons belonging to national minorities living in Serbia. The largest number of ethnic minorities is living in the Autonomous Province of Vojvodina. The Constitution of the Republic of Serbia (2006) guarantees individual and collective minority rights in a special section, "The rights of persons belonging to national minorities".

Important implications in the field of minority rights, including the right to education and information in their native languages, is a number of special laws.

On the basis of these laws, Vojvodina has about 140 media in 10 languages of the biggest minorities. In Vojvodina, education in the mother tongue is also available only to members of the biggest minorities. In Hungarian, more than 77 percent of students at the primary and over 65 percent at the secondary level of education are covered. The least covered by minority education are people of Croatian origin (200 pupils), only at the level of the first four grades of elementary school.[1]

[1] Available at http://www.vreme.com/cms/view.php?id=883026

According to the census, 28 ethnic minorities are living in Serbia. 16 of them have councils whose authority is, among other things, to care about the preservation of culture and identity through education and the media in their own language. One of the possible ways for primary and secondary school to continue their education in the mother tongue is DL, especially in the field of ML, so they could to be able to critically monitor media both in their mother tongue as well as those in the majority language.

2. THE AIM

The aim is to present the legal framework of ML in Serbia and to map previous experiences in ML in Vojvodina (Serbia). The aim is, also, to offer a model for teaching ML by DL.

3. METHODS

Method of a descriptive analysis will be used to present recent experiences and the need to introduce the ML as a school subject. The method of modeling will be offered as one possible form of ML in a DL form.

4. DESCRIPTIVE ANALYSIS AND MODELING

4.1. Previous experiences

Armed conflicts in the Western Balkans in the nineties showed how devastating the media influence was, since it contributed to the dissemination of hatred and preparing the public for military action, and its justification (Valic Nedeljkovic 1997). Media illiteracy contributed to audience of all ages accepting all media writings as they are, and on the basis of the war reports it developed a strong hatred towards all nations living outside the territory of Serbia in the torn Yugoslavia. This intolerance mediated by the media is still present today. Despite all this, ML as a school subject has still not been introduced in schools in any form. Topics related to ML are processed in the mother tongue lectures or in the optional subject "Civic Education", performed by untrained teachers. It has been shown that the effect of this kind of teaching is very modest. Until now, only non-governmental organizations have dealt with ML contents systematically. The Novi Sad School of Journalism (NSSJ) reached the highest and best results through projects that educate both teachers and students.

The first document that states the importance of ML is the Strategy for Development of Public Information in the Republic of Serbia until 2016. The Action Plan of the Strategy envisages firstly the review of possibility of introducing of ML as a school subject until the end of 2012. To date nothing has been done. NSSJ received a state license for its training of teachers course and is one of the few initiators of the introduction of this important school subject, especially in a Serbia that is loaded with biased and prejudiced media coverage on national and other minorities of the Western Balkans.

4.2. Modeling

The aim of ML in the form of DL is to promote the rights of national minorities in multi-ethnic and multilingual society and to encourage multiculturalism through the creation of media messages in a modern format and content created by young people for their peer group.

The model predicts that the NSSJ will develop a joint program for the ML in the form of DL with relevant multilingual schools in Vojvodina and selected training centers and NGOs from the home countries of minorities.
The model considers a combination of direct and indirect education.

The direct one is related to training in the field of ML (theory and practice) for teachers of minority languages and it will be organized in NSSJ. The aim is for trained teachers to continue working with students and be their language tutors in the production of media content. The next step is the formation of small groups of students belonging to minorities tha would participate in ML workshops in the form of non-formal education (discussion about contents of theoretical lectures and practical work in the production of media content for peer groups). This would make it possible to avoid what is usually considered aggravating for the DL, the lack of face-to-face interaction during the teaching process, the dialogue models that are extensively discussed in scholarly articles (Head, J. T., at all 2002) and models to achieve interactivity that are looked for. "Media and pedagogy that support interaction with instructor and other students are more important than media and pedagogy that are used to establish individual student interactions with content only" (Lou, Bernard Abram 2006: 141).

The second level refers to indirect education. NSSJ would, in cooperation with relevant schools in home countries of minorities (e. g. Hungary, Slovakia, Czech Republic, Ukraine, Romania), where there is already experience in ML, prepare a joint program of DL. Between workshops, in indirect DL, teachers and students would follow the program in their native language. In this way, they would improve their mother tongue using ML. At the same time, they could network with their peers in their native countries and they might be better prepared for studying outside of Serbia in their native language.

Program of ML: basic concepts of intercultural communication and new media, social networks would be adopted. Performance of all types of media would be monitored. Participants would analyze media contents and deconstruct the meaning of media messages, and compare the same events reported in the media in minority languages and in the majority language. These examples would show the strategy of (in-) tolerant and (non-) discriminatory reporting, and participants could deconstruct stereotypes and prejudices, which is of paramount importance for the promotion of intercultural dialogue and understanding in multicultural environments. An attitude toward social responsibility of the media and public interest in the content that is mediated would develop through ML. Special issue would be security in virtual communication.

The tendency is that during the implementation of the ML program in the form of DL to overcome "the seven skills of media literacy" (Potter 2011:41): an *analysis* of

media messages in whole or in its parts; *evaluation* of the message and its comparison with models of good practice; *grouping* of elements of media messages based on similarities or differences; *induction* - spotting patterns in individual posts and spreading it to others; *deduction* - using the general principles for the analysis of a message; *synthesis* - connecting the analyzed material in one whole; *abstraction* - "giving a precise description that expresses the essence of the message in fewer words than the message itself" (Potter 2011 : 41). The ultimate goal is to master the skills of deconstruction of media discourse and the editorial policies that construct them.

Evaluation:

1) application of knowledge in practice, that is preparing of journalistic content for publishing on the multilingual, multimedia primary and secondary schools portal, the evaluation will be done by lecturers, tutors and editorial staff.

2) Evaluation of the program itself.

Implementation of DL will be evaluated by participants individually on the basis of a strictly structured questionnaire and in a focus group (planned are depth group interview).

5. CONCLUSIONS

The advantage of this model is its feasibility. It does not require the "import" of teaching staff from home countries of minorities or new jobs, an additional budget for institutional education. It is immediately applicable, a long procedure to legally introduce a new subject of ML into the school program does not have to be waited for. It is implemented in the form of DL which is close to future generations. It is not implemented in the school area, so it will not be met with resistance. It is flexible to changes imposed by everyday practice in education and the media, it also includes the civil society as a partner whose educational methods are less formal than traditional schools, these methods contain a dynamic type of workshops and include the training method learning by doing.

The end result: setting up an open multilingual, multimedia portal, created by the project participants from different countries, different ethnic and linguistic background and different ages. Common denominator of this network would be a wish for a different approach to matters of public interest for young people, which would nurture tolerance, criticality, knowledge, dialogue and good taste.

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MEDIA LITERACY IN DIGITAL AGE. THE CASE OF CHILDHOOD IN LUGO

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Abstract:

The current media ecosystem reveals the presence of multiple technologies. The media consumption requires, in a general way that criticism and rationality raise as basic and essential pillars which support the present communicational state. The ability for criticism and reflection is required not only in the case of minors but also in all the citizenship in general. It is necessary to develop the media competence in childhood. At the same time it also highlights the importance and urgency of the literacy of the receivers. There are different groups that have joined efforts to reflect and define the situation.

Keywords:

media literacy, media competence, digital media

1. COMMUNICATION AND EDUCATION IN THE 21ST CENTURY

The current media ecosystem reveals the presence of multiple technologies and confirms the use of different interactive media which emerge in a constant and continuous way.

As the latest surveys show, such increasing has resulted in the great number of hours that children spend in front of TV. The most recent data point out that the average is around 218 minutes, although the source consulted differs.

The appearance of new displays, such as recent videogames, cutting-edge telephones, ipads, iphones and tablets are some of the most outstanding examples nowadays. Its presence implies the consideration and analysis of the situation, especially in the case of childhood.

The situation acquires importance due to the fact that, on the one hand, the minor is a vulnerable individual in the face of the complexity of the media product, and on the other hand we must take into account the legislative matter and the protection of their rights.

The media consumption requires, in a general way, that criticism and rationality raise as basic and essential pilars which support the present communicational state.

Training is understood as the basic tool to alleviate the legislative shortages and the ethical negligence which can result from the different audiovisual broadcast.

Both the European Commission and the Parliament passed in 2009 a series of recommendations in favour of the literacy and the development of the media skill in citizenship.

In the case we are dealing with, children under certain age, the task becomes more complex, especially when we understand the media literacy as the development of the critical attitude and the set of skills which allow the individual to receive and produce messages. In the case of children under six years or even in those of higher

ages it is complex to delimit their level of media competence, as the self-governing development of their personality is still very dependent , and due to the fact they are not able to build messages where they can develop their ability for criticism and reflection .

2. CITIZENSHIP LITERACY IN SPAIN: THE CASE OF CHILDHOOD

The ability for criticism and reflection is required not only in the case of minors but also in all the citizenship in general.

This concept is understood the same as Kymlica, as the group of individuals who live together in a similar space and who own a series of equal rights and freedoms. In the case of Spain we refer to people whose rights and responsibilities are safeguarded by the Spanish Constitution (1978).

All citizens must achieve the ability that Ferrés (2006) defines as audiovisual competency, and that consists of a series of dimensions and indicators which define it. Among them we can find: language, reception and interaction, production and broadcasting, ideology and values and aesthetics. Each of them form the previously mentioned skill, linked to Communicative competence and which shape media literacy.

This is a recent issue, less studied in our country , since the analyses and the reflection about the last one dates back to the last years of the 20th century and the first decade of the present century, when the ITCs increased substantially becoming a part in the subject´s life.

According to the age of the individual, the use of the media may be longer or shorter, for instance and as Prensky (2001) pointed out, there is a clear difference between digital natives and immigrants. This is, between those who were born when technology was a part of society, and those who have had to fit it in their daily lives, as a new way of communication.

In spite of the difference, the relationship between the use of technology and the ability to use it in a critical way is in inverse proportion as a higher use of these means of communication does not imply their comprehension or the development of the ability for criticism linked to the fifth dimension mentioned by Ferrés (2006), the axiological.

On the contrary it makes it difficult the fact that the information and its transmission may be attached to speed and conditioned mainly by economical factors.

Such circumstances influence and condition the individual who receives the audiovisual content in a biased and imperfect way. The ideological matter, in the same way as the axiological form two of the examples to take into account when analyzing the irregular impact of the media on the audience.

At the same time it also highlights the importance and urgency of the literacy of the receivers, who as Dezuani &Monroy (2012) points out, may become prosumers.

In legislative terms, there are a number of laws in the communicative area as well as in the educative, that guide and determine the rules. On the other hand, we also have a host of codes of conduct in communication that set the way to follow.

In addition to this, there are also codes of self- and co-regulation which every communication professional should adopt and follow accurately. Due to the failure to

comply part of these articles and content, both legislative and moral, and on account of the low or no development of the moral personality of the citizenship in general and in particular children, it is necessary to develop the media competence in childhood.

3. MEDIA COMPETENCE IN CHILDREN FROM LUGO

The acquisition and development of the media skills, understood as the ability which allows the individual for the analysis and development of the media contents, is a worrying matter in Spain. In a special way, there are different groups that have joined efforts to reflect and define the situation. Groups that covered by the previously mentioned legislation and deontological codes , are working with the aim of scoping studies , most of them analytical, from different perspectives which intend to raise awareness of the surrounding reality.

Among them, it is particulary relevant the «Observatorio de los Medios de Comunicación» (ITE) or «grupo Comunicar» which is carrying out its work beyond our borders and having expanded to South America. Apart from them, there are important publications and a great deal of articles which form the bulk of the bibliography which supports and confirms the impact and importance of competent individuals in the media.

People with a high level in understanding messages and whose ability for analysis must be at a high level too.

In the case of children under certain age, it is difficult to achieve the previous conditions. This refers to the need that using the right to participate and give an opinion, they develop the ability to communicate. It is also to be seen the capacity to make and produce their own response. The media competence becomes at this point of the utmost importance, since apart from the previously mentioned it is seen as the base of the participation.

Children communicate by using a poorly developed language but comprehensible for them, reason why the audiovisual issues are needed in the classroom, apart from the written texts. This aim must be extended throughout the individual´s life, and the analysis and reflection of the audiovisual issues should occur in the family and the own society.

In this case, the programs developed by the administration of the local government as well as the autonomous Community and the State, are of special importance.

It is also relevant the work of institutions, some of them non-profit organizations, which provide citizens with material and plans to support media literacy in different people.

In the case of childhood, especially in Lugo, where they represent about a 20% of the current whole population, it is necessary to determine their knowledge level in order to identify gaps and develop a package of measures to solve them.

The population in Lugo between 0-6 years old is estimated around 6,000 boys and girls located in rural and urban environment. They are subjects who develop their daily lives in contact with screens, from the time they get up with the sound of an alarm clock, until they go to bed with their favourite videogame .The most relevant peculiarity is that they can deal with more than a screen at the same time without

losing the control and however, they are unable to make operations without using their fingers to count.

Due to this, the repercussion and influence of the digital media proves to be undeniable and urgent.

Because of this incontestable evidence we have raised the need to analyse and corroborate the extent of media development in the citizenship in general, and, in particular, in small children. For this we carried out some questionnaires adapted according to their age, seeking to analyse the six dimensions which make up the media skills.

In the case of children from Infant Education we have conducted a questionnaire which consisted of 18 items where we evaluated the degree of knowledge of the latest devices and their cognizance and use of them.

They were tasked, at a technological level and with the help of images, for instance, the use of buttons such as pause, fast forward and rewind or stop. We also wanted to know their ability to recognize the meaning of certain emoticons.

By means of the image of certain toys, we intended to know which one they thought was for males or females or if it was for both .They were asked, among the 18 questions, about the television programming, what they liked, what they watched with their parent´s permission.

Despite the need to analyse and contrast the results both at provincial or interprovincial level, since the research EDU2010-21395-C03-03 has a national nature, from the results of the experience we may deduce a high technological knowledge by the child audience about technologies and media and a marked lack of autonomous judgments, both reflexive and critical.

4. STRATEGIES FOR THE DEVELOPMENT OF MEDIA LITERACY

The influence of ICTs in childhood and its impact in their life requires the presence of codes and appropriate works to contribute to the development of activities that must be made from different points. The task pursues the achievement of girls and boys with a good level of media literacy.

Among Castillo's latest works (2009) stands out the one which reflects the media influence on education. Furthermore, Federación de Asociaciones contra el Maltrato infantil (2010) has published “20 propuestas para la mejora de la atención a la Infancia y la Adolescencia” which also deal with educative and communicative issues.

It has also been submitted a plan in Lugo , where the study has benn carried out, “Plan integral de Infancia y Adolescencia” (2011) where some programs are presented between different councils in order to look for the autonomous development of child and adolescent groups.

In addition to these, there are others that are starting, between these highlights one proposal by the Catalonian group “CONinCOM” (2013) about digital diet.

Its aims include the need to regulate in a rational way, the time that people spend using screens, for reasons of study or pleasure.

From the family it is needed a joint scheduling, between parents and children. This task is opposite to censorship and to the contents that can be seen and not.

It promotes the contact interaction and it encourages the development of personal relationships and the understanding of the media product. This requires a higher level of competence in the adults and the ability of transmitting their experiences and findings to the children.

As it was pointed out, the task is continuous and it should be followed in the classroom where they have introduced new forms and media that makes easier the work of teachers who cease to be instructors to become leading guides towards the critical development of the students´ opinion

5. CONCLUSIONS

The project that we have been describing and which starts with infants must be extended to all citizens and people and professionals must devote more hours; Not only those in the academic field but also people who , without being a teacher , with their behavior influence upon others or those who are related to a training function.

The relevance of this theme causes it to start shuffling the development of tips that contribute to the promotion and acquisition of media literacy as an engine guide for critical autonomy

The presence and increase of ICTs and the different forms of communication justify the need for literacy to be conceived as a task in continuous changing.

It also requires the update both on the legislative field as on the codes of conduct, as well as the self-regulation of education and communicative issues.

Communication and education are seen as basic tools for the development of responsible and participatory individuals with the output of the media.

The experience developed with childhood justifies the need to implement activities according to people needs, with their age and with the characteristics of people and their surroundings.

The experience developed in Lugo is seen as a milestone which marks a turning point in the development of media communicative strategies and which also contributes to the extent of competent children in the media

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INFORMATION AND MEDIA LITERACY IN THE CONTEXT OF LIFELONG LEARNING IN THE SLOVAK REPUBLIC

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Abstract:

Nowadays, the existence of information society is not possible without media education. This term is the most discussed one not only among students but it also covers the concept of lifelong learning. In the paper we are dealing with the support of the development of media literacy in the Slovak Republic, that is, as the member state of the European Union, strongly concerned not only on improving of media literacy of the society. The main aim is to point out the increasing level of media literacy as well as the support of responsible use of media, new communication technologies and also the development of critical thinking in the relation to media contents through activities of formal and informal education.

Keywords: media education, media literacy, the Slovak Republic, support, development.

1. INTRODUCTION

Media education (Tornero, 2008) as systematic, lifelong and goal-directed process of gaining media competences causes the increasing of the level of media literacy, the main aim of which is to support responsible use of media and to develop the critical thinking in the relation to media contents putting the emphasise on moral principles and humanism as a whole. As multidiscipline category, it incorporates the knowledge of broader spectre of social sciences. Media education (Tornero, 2008) is in the centre of interest of psychology, journalism, sociology, didactics, linguistics, educational science. More or less attention is also focused on its subject by government and non-governmental organizations.

The meaning and essentiality of media education in the society is increasing along with the continual development of communication technologies, with their possibilities of usage and accessibility but also through their diversity and the number of offered media contents. Thus media literacy (Potter, 2011) is considered to be the tool of gaining abilities and skills in order to have a sense of direction in the media world. Media education is aimed at obtaining of skills, qualifications, critical approach, and the ability to analyze, assess and create. It is not only the process of acquiring but also of never lasting increasing of level of media literacy in the relation to the development of media and communication technologies.

In our opinion, within the life periods and through integration of individual into society, media education could be seen as the important part of a process of primary as well as secondary socialization. In this way it becomes the constituent not only of general but also of lifelong education. When talking about media education, we are dealing with new approach to education that touches both users of media and media itself.

The target group of media education in the process of lifelong learning covers all age groups of population. Under the influence of extreme development of communication technologies is in the contrast to traditional approach, included in those groups also the adult population. Thus media education is becoming also one of the means of the elimination of generational differences and social exclusion, by which it ensures the preconditions for the access to the media and new communication technologies for every individual.

The elements that media literacy consists of are possible to divide in two main categories, one of which is connected with critical thinking and the personal autonomy and another one with the creative and productive abilities. The fundament and precondition of personal equipment is literacy of writing and reading, in the relation to media we are talking about audiovisual and digital literacy.

2. LIFELONG LEARNING IN THE CONTEXT OF THE SLOVAK REPUBLIC

Recently, lifelong learning (Longworth and Davies) is becoming more and more important in the strategies of development of individual states and society. Its successful development increases the competitiveness of states in European and also global area. It also ensures the higher measure of employability of citizens, their flexibility and personal development. If society is based on knowledge and new information, learning and preparation during the whole life is for every man the best way how to face the new challenges and technological changes [1].

Lifelong learning could be divided into three basic categories on the basis of the form of learning activities[2]:

• formal learning related to institutions dedicated to learning and professional training, that is finished with obtaining of officially accepted certificates and obtaining of qualification;

• informal education, that is conducted by the formal one or after it and usually it is not completed with obtaining of official certificate, which is in the contrary to formal one realized on the basis of optionality and participation;

• non-institutional learning or so called informal learning, which is natural part of everyday life and unlike the formal and non-formal learning it need not to be intentional and those who are learnt do not need to realize, how it develop and complement their knowledge and skills.

The inclusion of media education in the system of lifelong learning implies creating of conditions for education system itself. The concept of lifelong learning[3] in the Slovak Republic was approved by the resolution of Government of the Slovak Republic in February 2004. It defines priorities and objectives for lifelong learning, direction and management of the processes in specific areas.

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[1] Source: Koncepcia mediálnej výchovy v Slovenskej republike v kontexte celoživotného vzdelávania. p.28.
[2] Ibid. p. 29.
[3] The Ministry of Culture of the Slovak Republic. Koncepcia mediálnej výchovy v SR v kontexte celoživotného vzdelávania.

In April 2007, the Government Resolution No. 382/2007 approved the Strategy for Lifelong learning and lifelong guidance[4], the main objective of which is to complete the lifelong learning and lifelong guidance system in order to facilitate the citizens access to repeated and flexible gaining of qualification and skills.

The National Council of the Slovak Republic approved the law on lifelong learning[5] and on amendments to certain laws on the 1st of December 2009. This act rules lifelong learning in which additional education follows the level of education completed in the school education, accreditation of further education programs, rules and procedures for verification and recognition of further education results, aimed at acquiring of partial qualification and completed qualification, national system of qualification, information system of further education, system of monitoring and predicting of educational needs of further education and the control of compliance with conditions of accreditation and the conditions for granting an authorization to carry out an examination to verify the professional knowledge. Through creating the conditions for lifelong learning there will be possible to ensure the access to media education for the broad of classes of citizens.

3. THE BEGINNINGS OF THE UNIVERSITIES OF THE THIRD AGE IN THE SLOVAK REPUBLIC

The idea of learning of seniors is known in Europe for almost 40 years. The first university of the third age in the world was opened in 1973 in Toulouse, France. Learning courses for seniors are offered not only by the universities of the third age (in Slovakia, the Czech Republic, Poland, France, Belgium), but also by the senior academies at universities (Germany, Netherlands), or by universities of leisure time and universities of all ages (France). In many senior study programs within Europe also the cities or somewhere cultural institutions, such as museums and cultural centres participate along with universities themselves.

The University of the Third Age (U3A) is of 23-years old tradition in Slovakia. It was founded as an institution (Čornaričová):

• to ensure older people the right to education;
• that as an institution of higher education has to provide not only education, but also to do the research and to cooperate with other institutions in older people's favour;
• to meet the learning needs and to provide study content of subjects based on the latest scientific knowledge;
• to create conditions for the active life orientation and space for intellectual and social proving of competence and affiliation of the elderly;
• that has to increase the interest of society and science in problems of the third age;
• to increase the interest of society and science in issues of the third age and participate on a deeper cognition in this age group of population.

The first U3A was established and inaugurated on the 15th of October 1990 at the Comenius University in Bratislava. The basis for this work has been knowledge of

[4] National Lifelong Learning Institute (NLLI), former Academia Istropolitana. Stratégia celoživotného vzdelávania 2011.
[5] Euraxess, Researches in Motion. Zákon o celoživotnom vzdelávaní.

foreign U3As (in Poland, France) as well as the first experiences of the Third Age Academy in Olomouc. Consequently, this initiative was also joined by other universities and were opened other U3As in Martin, Nitra and Banská Bystrica.

Currently, the education of seniors is realized in the Slovak Republic by universities or institutes. For more specific information see *Table 1 The foundation of the universities of the third age in Slovakia*.

According to the Association of Universities of the Third Age[6] we have from total of 920,000 pensioners in Slovakia involved in further education at U3As 7 200 students, out of them 6 186 women, that represents 85.8% nowadays.

U3A	**The year of its foundation**
Comenius University in Bratislava	1990
Jessenius Faculty of medicine of CU in Martin	1991
Slovak University of Agriculture in Nitra	1991Seniors club 1993 SUA 1996 SPU
University of Constantine the Philosopher in Nitra	1991 Seniors club 1993 SUA 1996 UCP
Technical University of Košice	1992
Matej Bel University in Banská Bystrica	1992
Technical University in Zvolen	1993 at MBU 1996
University of Žilina in Žilina	1995
Slovak University of Technology in Bratislava	1998
University of Trnava in Trnave	1999
Alexander Dubček University of Trenčín in Trenčín	2002
General Milan Rastislav Štefánik Armed Forces Academy in Liptovský Mikuláš	2005
Catholic University in Ružomberok	2006
University of Prešov in Prešov	2006

Table 1: The foundation of the universities of the third age in Slovakia (Hrapková)

Initially it was a two-year study at theU3A, but the downside was the lack of such gained knowledge because of time shortage. Nowadays, the study at U3A lasts three years with a comprehensive offer of study courses offered by individual universities, which are responsible for the content of education itself.

Until these days, seniors are, within the U3As, involved in several projects, for example the Comenius University in Bratislava seniors were solving the tasks of

[6] Available on: http://www.uniba.sk/asociaciautv/

project EuCoNet, EFOSEC, ELiLL, Danube Networkers and VECU, seniors from STU in Bratislava project Seniors online, Sen Net and Neighbours, in Žilina project T.A.P.E. (Trans-generational Arts/cultural Platform in Education).

Also the U3A at MBU in Banská Bystrica is a partner in the project Grundtvig called TANDEMS - GO, which is focused on communication between generations through ICT. EU projects allow seniors to gain experience through mobility in organizations, new information and also contribute to the development of language skills in meetings with foreign partners (Hrapková).

The Slovak U3As are united in the Association of U3A in Slovakia, which was founded on the 1st of December 1994 as an association of legal persons established at the CU in Bratislava. It performs not only information and associative function, but also provides advice and mutual cooperation. At international level, the U3As of Slovakia are involved (through the membership of the association since 2000) in the affairs of the world association U3A - AIUTA.

We also have a link to the European Federation of Older Students - EFOS, where we still have membership in the committee since 1994 and since 2003 also the presidency of EFOS. The central, main objective of EFOS that is based on the rights of older people to access to university education is the protection of the interests of older students at universities in Europe.

4. UNIVERSITY OF THE THIRD AGE AT UNIVERSITY OF ŽILINA IN ŽILINA

Since the establishment of the U3A at University of Žilina (1995), the study programs have changed and adapted to the needs of seniors. One of the programs involved in the development of media literacy was a three-year program called *Man and Media* that was created in cooperation with the Department of Mediamatics and Cultural Heritage of University of Žilina in Žilina on Pitoňáková own initiative.

The idea to start such program aimed at media goes back to the year 2009 and later on it was developed within the summer school of seniors in the summer 2010 when small group of active seniors met in the course, the main idea of which was let media connect us. The magazine for seniors called *Schody* started to be published at that time. The course was the starting point for the creation of a new study program Man and Media that was mentioned above. In the conditions of the Slovak Republic and also in Europe is this program the unique one. The content of this program is reflected in the name of it itself, it deals with the interaction of a man and media in the broadest sense of the word. The typical of study is the fact, that it is divided into three years during which students go through three basic fields of study: mass communication, visual communication and marketing communication. The subjects are devoted to such topics that reflect actual trends of those fields with the focus on analysis of products (critical hermeneutical approach) and creative part of study (text, advertisement, communication, photo, collage…).

The diversity of subjects has to lead a student - a senior to gain media and marketing literacy. He should be able to use critical thinking as well as to handle his creativity in dealing with media and marketing production.

In the connection with the learning of seniors the most frequently asked question is about the way they can use their knowledge and skills gained through such study programs. Pitoňáková (2011) says that it is possible to be used by them in volunteering and further engainging in such activities they went through their period of study, for instance they can participate in publishing of mentioned magazine in printed and electronic form.

5. CONCLUSION

Nowadays, in our opinion, the media education in society is mainly discussed in the connection with pupils of primary and students of secondary schools. For these age groups there could be said, that there are no such problems with study materials or methodologies in comparison with the programs offering learning of seniors and on the other hand of children of preschool age. Then, if we expect critical thinking concerning media of a contemporary man as well as some level of his media literacy, he has to have at least some general knowledge of the problems of media (as well as marketing) communication.

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CHANGES IN INFORMATION LITERACY IN THE CONTEXT OF NEW TECHNOLOGIES

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Abstract:

Information literacy is not unchanging givens, but extremely dynamic. Any specific set of competencies that define it, is quickly becoming obsolete and inadequate. It is a phenomenon that integrally related to the information society. According to Moore's Law occur every eighteen months to double performance computing resources for constant price. This is then quite naturally reflected the social, cultural and economic changes.

Information literacy is functional abilities, which must respond to these changes adequately reflect. The progressive evolution does not mean a simple increase in the volume and structure of data and information but also a fundamental change in the possibilities of obtaining, processing, analysis, and other publishing and communications.

It should be noted that new technological trends such as big data, internet of things, augmented reality, sensor networks, computer processing of emotions, natural language, semantic web and desktop or artificial intelligence transforming and reshaping the information environment more than we could in the history of mankind observe. We are facing one of the biggest changes, comparable only with the emergence of the font, the industrial revolution and the emergence of the Internet. In hyperbole we can talk about "time data."

Paper gives the context of these new technologies and watching how their arrival changes the information environment and the behavior of its users. Space while you get a question not only the technical and technological, but also ethical and legislative framework that will undoubtedly help to create information literacy.

I will also try to identify some major general trends such as greater mathematization information literacy emphasis on the development of ICT skills and their relationship to media literacy, particularly with regard to the development of democracy and civil society in the context of currently taking place changes.

Keywords:

Information literacy, ICT, new technologies, information sociality

1. INTRODUCTION

According to Moore's Law occur every eighteen months to double the performance of the chip at a constant price, or even a reduction in chip prices a constant output in half. Thus defined, the law still applies relatively very decently and in other areas for the development of ICT technologies crucial - whether it's memory or on other important parameters (Brock and Moore, 2006: 87). These changes also bring economic and social changes. If the Industrial Revolution was characterized by the fact that there was a massive increase in GDP and migration of people to the cities, and the information revolution, which started gradually since the seventies has even greater impact on people's lives. (Wilson (III.), 2004: 300)

In economics it is possible to talk about decreasing time (or even overlapping) cycles, creating new niches or entirely new profession of information analysts. These are people that generate GDP and the progress of science, technology and culture and who do nothing less than to work with the appropriate information. Whether the acquisition, creation or analysis and interpretation. These changes also cause major changes in management and organization of companies and pathways. Massive

online courses, webinars, data-driven education or online environment for remote collaboration fundamentally changing the way education is both formal as well as life. (Bron and Schemmann, 2003: 80)

Changes in the information revolution but affect a much wider area of human activity - it changes the way people communicate, there arise new forms and channels of distribution Arts and finally there is a renaissance of civil society and creates space for new ways of exerting political and other interests .

2. NEW TECHNOLOGY

New technological trends such as big data, internet of things, augmented reality, sensor networks, computer processing of emotions, natural language, semantic web and desktop or artificial intelligence transforming and reshaping the information environment more than we could observe in the history of mankind. These changes can be understood while in several different planes. First, the technology itself is changing the way we approach the creation and consumption of information.

While until recently you needed a book or at least a computer wizard, which would address sought before the monument which is actually located, now nothing of the sort needed. We suffice with mobile phone and Google Goggles.(Google, 2013) Such options entirely new way define information behavior. If in the past been a center of learning and a primary source of information library, today the focus shifts increasingly to the use of the Internet and its services.

Out of information behavior changes we would like to draw your attention to two important changes. The first relates to the volume of data. New technologies make it possible to work with data in huge volumes that were previously not available, nor workable. It should generally not matter whether it is that of CERN, space shows or open data from police stations. Today, it is a normal part of the information ecosystem, which needs to be some appropriate way to cope.

The second change is the speed of a barrier-free publishing. While previously been publishing some great information necessary resources and expertise and there was a strong selection of those articles, images or videos will be published or not - whether in newspapers, television or radio, the internet has revolutionized the field of two kinds.

First of all, anyone can publish anything in principle. To censor is very problematic and costs are zero. Another important aspect is the speed. The authors do not have weeks to complete to create a coherent message, but are forced to publish information as soon as possible. So prevalent trend (up to conservatively tuned magazines such as the Czech Republic or Respect Reflex) rather quickly publish information without context and the possibility to verify and analyze sources. Example of the last days of the event for the Boston Marathon which drew more social with instant Twitter or Reddit. (Schroeder, 2013)

Also, these changes must be seen as part of the information environment changes. These technological changes have a major impact on the development of a variety of democratizing and civic initiatives. For example, you can remember the Arab Spring. Also undemocratic states are trying to interfere activists on the Internet. An example might be a Malaysian blogger who was jailed for two years for criticizing the government, Iranian critic Ali Khamenei died in prison and Egyptian critic (there are already ratios may be slowly improving) the government received a four-year

sentence. Serious situation is also in the China. (Černá and Černý, 2011)

Information literacy is today and not only focus on simple information work for academic or economic purposes, but should also emphasize the intersections with the potential development of democracy and civil society. Allow you to accentuate what Vaclav Havel called the power of the powerless. (Havel, 1990: § 11)

3. CHANGES IN INFORMATION LITERACY

Outlined above fragments of technological and economic changes shed a whole new light on what the concept of information literacy and critical thinking. While at the time of socialism was more about finding a job in the library, so that one could complete a formal education, eventually went on the application of various diplomatic channels to gain contemporary literature for the studied science field, today the situation is strongly changed.

Emphasis is placed both on the autonomy of the individual in the entire educational process, as well as the development of certain other key competencies that are related to the so-called soft skills. The ability of cooperation, problem solving, critical thinking and effective reading become quite indispensable elements in information literacy. (Carbonara, 2005: 182)

We can find that wrong no distinction between information and computer literacy, but at the same time we have to say that the computer literacy fundamentally determines the information literacy. This process is particularly strong today and should be in information education appropriately emphasize.

Information education, which was previously very heavily focused on traditional search or library services cease to be relevant as new technologies fundamentally changing how information behavior itself, as well as the needs or opportunities publications created documents. In the middle of informational education should thus be primarily analytical thinking and everything connected with it. Only then can the activity play an important role in the system of formal education in the information society. (Černý. 2011)

4. CONCLUSION

From the above it is clear which direction the information literacy in the context of the information society gradually shifts. It is necessary to emphasize the topics that will be on the one hand respect above all dimensions of technological and information-ecological, but also can't forget the development of soft skills and ethics, which are now an integral part of it. Accent is also necessary relationship of media and information literacy, which seems natural in civic and community initiatives. (UNESCO, 2011: 11)

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New trends

HEADS IN THE CLOUD: PROS AND CONS OF ONLINE LEARNING

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Abstract:

The present paper deals with possible positive and negative experiences of using online technologies in teaching and learning. Here, the word possible is central as completely generally applicable issues may hardly be traced. The aim of the paper is to highlight such advantages and disadvantages of online learning that tend to recur rather frequently in a number of pedagogical situations and contexts.

Keywords:

E-learning, online technologies, advantages, disadvantages, education research

1. INTRODUCTION

E-learning practices, similarly to other educational activities, require complex evaluation before they can be implemented in the process of teaching and learning. An integral part of such evaluation is the consideration of specific gains and losses of using particular education technologies, methodologies, etc. This consideration is rather crucial: it usually serves as the basis for various decisions whether concrete tools and methodologies could and should be applied in a specific pedagogical situation.[1]

At the beginning, we would like to stress one important premise upon which we build the following discussion. It is the assumption that there are no e-learning advantages or disadvantages which we could hold as absolutely universal. Moreover, it could be quite inadvisable to mechanically adopt patterns and frameworks which were devised and tested in a different (cultural) context. We subscribe to the idea that decisions about educational technologies should always be made with increased awareness for the full range of conditions of each learning situation in question. Any list of generally applicable advantages and disadvantages of e-learning implementation can thus serve more as a source of inspiration framing the actual decision-making processes, rather than a set of hard and fast rules.

2. INVESTIGATING THE LEARNER'S POINT OF VIEW

2.1. Advantages

Given the recent boom in the development of Internet and mobile technologies, one of the major advantages for present-day learners is the almost unrestricted access to information, knowledge and learning. If allowed by concrete copyright regulations, various study materials in electronic form can be saved to personal computers and mobile devices, so that they are readily available for quick searching and information retrieval. Similarly, such digital materials can be stored and shared among a learning

[1] This paper is based on the recent publication *E-learning: Learning with online technologies* (2012) by J. Zounek a P. Sudický (in Czech). The original text has been shortened and edited to suit this volume.

community, either through direct upload to a ready-made cloud storage, or distributed via a social network of any kind (both formal and informal), enhancing thus student collaboration, especially in group or project-based learning settings. Digital study materials do not take up almost any space when compared to traditional paper-based materials. Also, they can be organized into personal collections and archives as well as edited (content and form) to suit the learning needs of each particular student.

Learning enhanced by online technologies follows the principle of "anywhere" and "anytime". Personalization and flexibility are the leading keywords when we think about online-based learning. Students can choose when to attend to a particular study unit, and can usually personalize their learning schedule to a large extent (making allowances for unrelated work and family issues, etc.). Teachers can set up general guidelines and deadlines to be followed, the rest of course time management, however, remains the responsibility of students themselves. Furthermore, students can self-regulate the pace of their learning and progress according to their skills and abilities. If available, students can choose such types of study materials that match their learning styles (e.g. text, audio, and video-based materials), competency levels and personal interests. Yet another concept of student-centred active learning may be the possibility to participate on the process of content creation and course building, if adopted by the teacher.

Using online technologies, students as well as teachers can exploit the opportunity to easily share information and collaborate on a range of topics and projects. Applying quite simple tools, students can engage in peer-based evaluation and can receive direct feedback to their opinions and solutions. A certain degree of anonymity and individuality, which is always present in a virtual learning environment, can actually suit a number students better than the traditional face-to-face educational setup, and can thus boost their performance and promote improved results. Text-based online communication (chats, forums, etc.) may help overcome shyness and initial awkwardness of the exchange. Furthermore, students tend to better respond to situations in which they have more time to think about and perhaps also post-edit the individual questions, comments, and other contributions. In this way, implementing online technologies may result in increased student self-confidence, especially when application of e-learning tools closely correlates with student success in a particular course. In addition, the use of e-tools largely contributes (directly and indirectly) to enhancing student digital intelligence and IT competencies in general.

Last, but not least, reductions in a variety of expenses (travel, printing, buying books, etc.) should also be taken into account when considering the overall implications of installing selected e-learning solutions.

2.2. Disadvantages

Despite the dynamic development of ICTs and decreasing prices of personal computers, laptops, smartphones, tablets and other devices, there is still quite a considerable imbalance among students as far as material equipment and Internet connectivity is concerned. Also, even when appropriate technologies are present and available, students may lack sufficient knowledge and skills to use these technologies efficiently in order to enhance their study experiences. In particular, students often struggle to utilize various time-management, presentation, word-processing, collaboration, and other kinds of tools for personal learning purposes; a situation which many times leads to replicating old, ineffective ways of ICT implementation and

sometimes even to a complete refusal of any e-solutions whatsoever. In addition, a priori negative attitudes towards information technologies in general may present a significant block for some people, whatever the original reasons. Obviously, it would be quite a simplistic view to presume that all young people nowadays have sufficient basic knowledge of online technologies, so that their implementation would not raise any issues regarding accessibility, efficiency and overall educational purpose of these tools.

Technology-enhanced learning may also cause negative resentments with students who lack sufficient motivation and the ability to organize workload and learn independently. Some students may require strict and detailed management from their teachers; however, when implementing e-learning solutions, teachers usually expect a higher degree of activity, self-organization and independence on the part of learners. For unmotivated students with poor learning habits, therefore, technologies may become the reason for decreased productivity and worse study results. Furthermore, students may sometimes feel isolated and abandoned in the virtual environment (i.e. "lost in cyberspace"), especially in cases where there is a prolonged period of no face-to-face instruction, nor any other forms of offline interaction (e.g. in distance education programs).

Another important consideration of online learning is the issue of communication and information overload. Too many contacts and continuous communication via a variety of channels and services may cause considerable distraction preventing students from focused, concentrated learning and task solving. Inappropriately structured and delivered instruction may further lead to information and study overload (e.g. in blended e-learning courses). It could be assumed that the overwhelming increase of workload is one of the factors that spark plagiarism and electronic forms of cheating. Obviously, such practices have been present in education systems for a long time; modern technologies, however, may have unwillingly triggered a wider spread of these practices, given the range of straightforward opportunities at hand, such as camera functions of smart phones, mobile Internet connectivity, Bluetooth audio/video delivery, etc.

Finally, ICT-based education also raises some health-related issues connected predominantly to spending long periods of time working with computers. Problems such as eye-strain, back pain, lack of movement, and even mental disorders may be listed among the major considerations.

3. INVESTIGATING THE TEACHER'S POINT OF VIEW

3.1. Advantages

Online technologies provide great help for teachers in the process of setting up their instruction modules. A wide variety of freely-available, sophisticated online tools can now be used by teachers to create study materials of different modalities and purposes, ranging from standard text-based documents (containing hypertext where needed) to various image files, interactive models, and multimedia presentations. In addition, many ready-made materials and study modules can be found in a number of online databases specifically established to help teachers prepare for various teaching topics. Such materials can usually be used with minor or no adjustments (depending on particular copyright statements) and thus present great time savers. Study materials can be easily distributed to students by a number of channels: by e-

mail, on web publishing sites, in LMS, via video-conferencing services, over social networks etc. Preparation and distribution of study materials is closely connected to the possibility of post-editing and upgrading already published documents. Often, there is no need to create and upload new versions as many of the online services mentioned offer direct web-based editing, so students have always access to up-to-date materials. Typically, using online technologies also facilitates advanced archiving of study materials, syllabi, and attendance and grading statistics. Moreover, teachers may quickly set up cloud-based databases of resources, which can be tagged, linked to other materials, and supplemented by additional information, such as reflective notes.

The crucial activity of teachers, management of learning and teaching as such, may similarly be supported by a variety of online tools. One of the great advantages of using education technologies in general is the possibility to show examples and document processes which students could not normally observe in real-life settings. This may include quite a wide range of options from e.g. environmental modeling, to chemical experiments, to linguistic investigation, and encompass all kinds of educational fields. Technologies may also facilitate testing and assessment of student skills and competencies.

Recently, teachers have started to benefit from various forms of learning analytics and student monitoring (esp. when using an LMS). They may observe student activity in various study modules, display access-success correlations, and are typically offered advanced grading statistics and measurements. Such data can, among other things, serve as a basis for further course or material development, in which learning analytics guide concrete editing processes.

Online technologies foster communication among all course participants, both teachers and students. Various modalities are at hand here: text, image, and video-based communication as well as a blend of virtual and face-to-face interactions. Instant feedback among the whole group may provide a great advantage; similarly, the possibility to return to the discussion at a later stage, review contributions of others, and follow individual argumentation strategies may further support understanding and retention of a particular subject matter.

In addition, communication tools allow for outside participants to join the education process at a specifically allotted time. In this way, students are be provided with the chance to interact with field experts, teachers from other institutions, successful practitioners and others. Such activities may become a useful part of both face-to-face and virtual lesson types. In a similar manner, conferences, consultations, and meetings can be conducted exclusively online, using a variety of online technologies (internet telephony, webinar tools, screen sharing, etc.).

Apart from promoting efficient teaching practices, online facilities may be used by teachers for their own professional growth and development. Nowadays, a number of open online courses are available on the Internet, in which teachers can actively participate, deepening thus their content knowledge and pedagogic skills. Instant consultations and discussion with colleagues from different schools and other institutions may similarly be conducted in a virtual environment. Teachers may also profit from joining various online expert communities, following experts on social networks, and establishing purpose-driven groups which may combine face-to-face meetings and online resource and experience sharing.

3.2. Disadvantages

Although widely disseminated in recent years, online technologies cannot be applied to every single learning situation in a similar manner. In some cases, using online tools may even hinder learning as such. These are the cases where face-to-face instruction is essential or where learning is invariably interconnected with a workplace environment. If practical skills form the focus of instruction (working with specialized tools, various industrial processes, etc.), e-learning tools may only be of a limited use (e.g. models and simulations). Fields in which the implementation of online learning technologies might be quite challenging further include various types of practical laboratory and medical training as well as learning to play a musical instrument.

Various forms of e-learning disadvantages may become aggravated if a particular course is attended by a huge number of students with an inadequate number of teachers. In such cases, it may be virtually impossible to provide individual support and tutoring to every single student. Also, communication within such a learning group becomes quite problematic and feedback activities are usually left out of the instruction to a considerably high degree.

Insufficient teacher knowledge and skills to use education technologies present another major obstacle for successful e-learning implementation. ICT capabilities of teachers are, however, a major component directing effective and well-founded use of online tools in any learning situation. Every too often, unfortunately, teachers struggle with basic technical issues rather exploit the particular technology to the best possible advantage of their learners. In such cases, teacher motivation to implement e-learning solutions drops considerably and may lead to a complete refusal of any technology endeavours. Also, teachers often lack appropriate guidance and training, on strictly technical as well as methodological issues, i.e. on how to use a particular tools and what benefits they will bring to the classroom. Adding to that, many teachers hold strong a priori negative attitudes towards ICTs in general, and show no interest in any possible applications whatsoever; even in cases, where the use of online tools would greatly enhance the teaching as well as learning experiences.

Another contributing factor can be seen in the rather difficult and time-consuming process of preparing a quality (multimodal) study module, which would not only include texts and other materials, but would also allow for practice and real-life application opportunities. Here, technical and methodological support seems essential; otherwise, the quality of learning may decrease substantially posing questions of actual benefits of a concrete technology implementation.

Perhaps the most widely perceived disadvantage of e-learning solutions is the unavoidable reliance on technology infrastructure, foregrounding the episodes of technical breakdowns and similar occurrences. We place this argument, however, at the very end of the list, believing that most of such problems can be dealt with, in contrast to the other above-mentioned issues, in a rather straightforward fashion.

4. CONCLUSIONS

As outlined in this paper, the issue of pros and cons of online technologies in education is quite complex and not in any way black and white. Generally speaking, it is always advisable to consider the main purpose of implementing any technological solutions and the enhancements it should mean for the learning situation. In addition, there is a number of other factors to be assessed, such as the type of course, subject

matter of instruction, technical infrastructure, and technological and methodological support, to name the major ones. Sometimes, it might be prudent to retain a cautious attitude towards various new, emerging solutions and allow enough time to evaluate their possible costs and benefits. In certain cases, furthermore, the most efficient line of action might be to exclude any e-learning application whatsoever. To sum up, it would seem best to adopt a broad, open-minded view of education technology implementation observing the overall social practices of using online tools in real-life situations and reflecting the best practices in the learning environment.

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BIOGRAPHY

Jiří Zounek (*1973) is an Associate Professor in the field of Education at the Dep. of Educational Sc., Faculty of Arts, Masaryk University. His main research interests include various aspects of using ICTs in educational practices, and in the training of prospective teachers.

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ASSESSMENT OF ONLINE TEACHING AND LEARNING

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Abstract:

Higher educational institutions are determining new ways of using information technology to improve teaching and learning as well as to expand admission for new populations of students. In this direction, online learning is one of the latest trends in higher education process. The success of this mode of learning is mainly determined by the quality of the instructional design and by the educational and technical support provided to students and professors. The development of measures, guiding principles or quality model is essential in order to measure and evaluate the quality of an online course. In general, different quality frameworks that reflect on diverse backgrounds and purposes are being used. The focal point of some is learning, for others is pedagogy, while others reflect on the designs of their particular online course.

This study describes the experience gained from the assessment of the online courses' quality at South East European University. The study presents the assessment from two perspectives: teaching/ course delivery assessment and learning assessment. While the first part of this paper is more focused on the model for online course assessment, the second part of the paper includes components and techniques for learning assessment.

Keywords:

Online teaching, online course assessment, online course quality standards, assessment

1. ONLINE QUALITY MODEL

The general problem with online courses is the quality of instruction. In the run to offer online courses, some higher education institutions have created standardized measures for course development while other institutions have just pressured departments to turn their on-site courses into online courses. Even when training is provided, in many examples the focus is on the technology for delivery of the courses rather than on instruction and assessment strategies. In other cases, the courses are just a collection of materials including lecture notes and power point presentations with little teacher-student or student-student interaction and low intellectual motivation.

Below is presented a model of the key quality components of an online course. Based on many research articles in this area, an attempt has been made to achieve a model of wide-ranging coverage of the quality of an online course. At the same it presents the SEEU's model for addressing the week points and the trends in the online course delivery. The model is consisted of four independent but interrelated components (Fig. 1): Online Course Syllabus, Instruction/LMS Course Design, Online Teaching Content Presentation and Evaluation of Student Learning. If any of these components (parts) is not present in the model, it indicates that the quality of that course is below the initially set target. At the same time it is not possible to measure, represent and compare the quality of the online course with the other courses (Abazi-Bexheti, Apostolova-Trpkovska, & Kadriu, 2012).

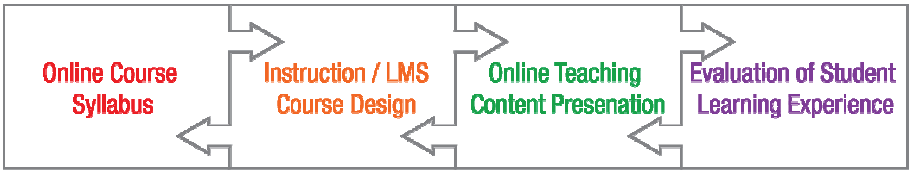

Figure 1: The quality model of an online course

2. QUALITY STANDARDSASSESMENT OF STUDENT LEARNING

A team of experienced professors in the field of online learning was gathered to share experiences in drafting the quality standards, as well as evaluating the online courses. The team approach was essential, not only because each quality component required specific expertise but also because the evaluation process will have implications for large-scale implementation in the university.

The evaluation team created standards that articulate criteria in all four elements of the quality model, named Online Course Evaluation Model (OCEM) (Abazi-Bexheti, Apostolova-Trpkovska, & Kadriu, 2012).

The OCEM and the data gathered from its implementation have shown that the review of the courses is a very fruitful exercise (Abazi-Bexheti, Apostolova-Trpkovska, & Kadriu, 2012). It improves the course quality in many aspects, it motivates the instructors and its implementation generates important reports which contribute a lot in identifying the strengths or weaknesses of an online course.

Besides the improvements gained by the use of OCEM, some limitations have been noticed. The main limitations are considered the following two issues:

- the evaluation focused on four main categories, might not cover all the possible aspects of an online course.
- the evaluation method presented can only verify if a component is present or not, without entering on the deeper analyze of that component.

3. ASSESMENT OF STUDENT LEARNING

Students in online courses are in particular need of a clear organizational structure. Each student is experiencing the course on his or her own – without the opportunity to turn immediately to a neighbor if confused or unclear about something in the course. In addition, students in online courses do not have the imposed structure of attending class at a consistent time and place each week they do not have the traditional “markers” of handing in papers in class or coming to the classroom to take a test. For all these reasons, it’s important to think carefully about how to appropriately organize online course to encourage student participation and facilitate student learning (Pennsylvania State University IDE Report, 1998).

Whilst in the initial stage of online studies the focus was on establishing online studies and evaluation of the course delivery, a very important issue that was raised through the process of delivering online courses was the assessment of student learning (Abazi-Bexheti, Kadriu, & Apostolova-Trpkovska, 2011). In an online environment students are in different locations with different pace and ways of learning, so their assessment becomes a challenge. The literature in this field shows that the best way to achieve a quality assessment in online mode is to include

different ways and practices of assessment methods (Massy, 2002).

The “assessment” as a word has a mixture of meanings within higher education. The word can refer to: standardized measures imposed on institutions, the process of professor usage to grade students’ course assignments and activities designed to collect information on the student success of a course.

The suggestions in this part focus on two elements of assessment (Ragan, 1998):

1. Testing/evaluating student performance and providing feedback to students for grading purposes.

2. Assessing whether the online course itself is successful: what is going well, what isn’t, and how do you know?

This second definition of assessment – determining what’s “working” in the classroom is particularly important in the early stages of innovative online course design since the assessment makes it possible to make informed improvements to current practices and document success to share with the online course instructors.

At its best, assessment should be valuable to the teaching/learning process and not another add-on or “make work” of little use to instructors. In fact, assessment activities can be helpful in promoting all of the principles of good institutional practice (Bates & Poole, 2003).

3.1. Evaluating Student Performance for Grading Purposes

In assessing online learning, it is important to create a “mixture” of assignments that cover the multiple dimensions of learning that online courses can employ (Clark, & Mayer, 2008). Traditional tests become a smaller part of the grade as you move towards encouraging student interaction on group projects and other activities.

Different forms of assessment include:

- End of semester paper
- Weekly quizzes/tests
- Group projects
- Case study analysis
- Reading responses
- Discussion forum responses/participation

3.1.1. Communicate expectations and document the student performance

It is obvious that students in online courses are in particular need of clear information about course requirements and instructor expectations. Therefore, we have developed specific grading guidelines for course assignments and activities ahead of time so students know in advance what is expected of them. The experience we have had has also shown that providing students with specific examples of the kinds of work you are looking for is also helpful. The documentation of student performance

is carried out through the grade book on the LMS. This tool makes it possible to keep track of the student performance in one place. It also makes possible for students to look up their own progress on assignments.

3.1.2. Feedback

Giving a prompt feedback to students is crucial in any mode of studies especially in online studies. At the start of the semester we clarify the type of feedback we will be giving (regarding discussion participation, writing assignments, group work, etc.) so that students have a clearer sense of what to expect. In this context the Libri LMS features have a comment section where the instructor can give specific feedback to a student on an assignment that can only be seen by the instructor and that student.

3.1.3. Preparing valuable tests

The experience that we had with the online test has shown that if you live any uncertainty in the testing process, you will end up with a lot of questions, remarks and additional explanations of the 'rules'. Hence, the online instructors are urged to be clear from the start about what is and what is not allowed when students take a test online.

As in an online examination it is difficult to ensure that students taking are not using their books, some instructors encourage open book exams but place a time limit on how long students have to complete the test. If a student knows where to go in the text book to get the information they need in a timely fashion then that student has clearly done the reading, and the issue of memorizing the information is less important. The Libri LMS allows us to limit the time that students may view test questions and post test answers. At the same time the plagiarism and cheating are avoided through real-time audio and video conferencing data and application sharing.

4. ASSESSING ONLINE COURSE'S SUCCESS

In this part are presented some measures that have been shown as very supportive in our efforts to assess the online learning. In other words we are simply assessing whether the course is functional. These measures provide feedback to understand whether the course is useful to students. At the same time they present a helpful model for thinking about the types of information professor can use to determine their course's success (Bersin, 2002).

Activity	Description
Enrollment	The initial step in an online course is to check are the students enrolling the course. If they are not then they might not have any information about the course or they might know how to enroll in the course. It has also been noticed that if the course is an elective course,

	the course may be not in the study program course offerings or the name of the course is not attractive.
Progress Check	If the content is appropriate for the students, they will progress at a reasonable rate. You may find that students move fast and then stop at some point. This information is important in assessing the usability, relevance and performance of the course content.
Completing/Finishing the course	Students who correctly complete the course can provide valuable feedback. The instructor should accurately track which students have completed all the course work.
Scores	In online teaching and learning, it's difficult for the instructor to measure why a student has scored highly on a quiz, assignment or discussion forum. Have they studied and learned the material or copy from somewhere? Multiple assessments are very helpful in measuring incremental progress towards the final learning goal, so the instructor can determine what exactly a student scored well on and where the instructors should enhance the content.
Surveys	Surveys are the key element for getting the feedback if the students liked the course. Especially in an online environment, feedback is a vital part of online learning. Regular feedback provides important details about the course content, assessments, and technology. It is also important to survey students at the end of semester about their progress. What worked in the course and what didn't?

Table 1: Assesment of Online Course Effectiveness

5. CONCLUSIONS

The great interest for original pedagogical-educational practices is a reaction to the community needs for educational change. Such needs come out from the huge request and admission to higher education, the need to raise competitiveness mainly through the raise of the human potential and the necessity to take into account new approaches to learning. Our experience helped us to develop a deeper understanding on the issues and opportunities in an online environment, create new teaching and learning approaches, and empower instructors to become more effective in delivering online courses. The paper reflects the experience we had in the assessment of online studies. It provides the focal points of an online course and also includes a selection of the key online assessment steps that where shown as very supportive.

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MOOC'S AS A TOOL FOR NEW MEDIA EDUCATION?

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Abstract

This paper aims to examine a contemporary learning practice - the so called massive open online courses (MOOCs). The paper looks at the development of massive open online courses over the years.. Thus, changes in e-learning architecture are consequently observed; the need for multi-device learning solutions is noted, as is the need to implement multimedia formats into virtual learning solutions. At the same time, focusing on educators, there has been a change in learning solutions' design based on the emergence of a new type of self-determined and autonomous learner, as described by the newly formulated concept of heutagogy. Customized e-learning courses tend to involve the use of multimedia - both for corporate clients and tertiary sector students. The complexities of creating an appropriate blend along with the most effective learning solutions for each learner - including the use of mobile platforms and social learning - have never been more challenging.

Keywords

MOOC, digital content, multi-device learning solution, student-centered learning, heutagogy.

1. INTRODUCTION: SEARCHING FOR THE DEFINITION OF MOOC'S

Providing an exact definition of a term of is never as easy as it seems to be. The subject of MOOCs is not an exception. Therefor wee find it necessary to introduce explanations from different authors and sources that provide an opportunity for a comparison in the key aspects.

In a well known source we can find the information, that "a massive open online courseis an online course aiming at large-scale interactive participation and open access via the web".[1] The opinion of Phill Hill from e-Literate goes in in stating that "in a MOOC, the course itself is scaled to enable an essentially unlimited number of students to take the course from the faculty members, who both design and lead the course" (Hill 2012).

It is quite common, that we can also find a number of quotes, that express and support definitions similar to those mentioned so far.

1.1. Brief history of the term

The term Massive Open Online Courses (MOOCs) was introduced for the first time in 2008 by Dave Cormier to describe Siemens and Downes' "Connectivism and Connective Knowledge" course. (Yuan and Powell 2013: 5) This is not only a "fact" that is important for answering the question in Millionaire TV competition in a question set about Higher Education.

Connectivism is a key concept in innovations on the border between education and ICT. It is worth discussing it in more detail. It is the Stanford branch of MOOCs, also known as xMOOCs that has garnered the most press attention. This university extension started with Sebastian Thrun and Peter Norvig's "Introduction to Artificial Intelligence" course in 2011.[2] After the professors offered the course free to anyone in the world, 160,000 people worldwide enrolled.

[1] http://en.wikipedia.org/wiki/Mooc
[2] http://en.wikipedia.org/wiki/Mooc

2. ELEARNING VERSUS MOOC'S

The question, that we would like to find the answer for, is: What is the difference between MOOCs and Elearning? High participation numbers suggest that MOOCs are designed to have a "massive" number of students. In the case of Unlimited Open Access they do not need to register as students and are not required to pay a fee.

It is worthewhile at this point to mention the possibilities of Online Educational Delivery Models by Phil Hill. The question is: What does this emerging landscape of educational delivery models look like?Phil Hill categorized the models not just in terms of modality - ranging from face-to-face to fully online - but also in terms of the method of course design (see Figure 1 in Hill, 2012). These two dimensions allow a richer understanding of the new landscape of educational delivery models.

Within this landscape, the following primary models have emerged: ad hoc online courses and programs, fully online programs, School-as-a-Service, educational partnerships, competency-based education, blended/hybrid courses and the flipped classroom, and MOOCs.

2.1 Why is today's MOOC's boom important?

Obviously, the first thing to do when assessing the MOOC phenomenon is to have a closer look at the current situation in the USA where the higher education system seems to be a laboratory of future trends and where: "almost one-third of the U.S. postsecondary students were taking at least one course online."[3]

Also important to us is the fact, that we can find statements about importance of using ICT in education in almost every strategic document about education around the world. Experts have been discussing all the strategies for so many years and there are almost no tangible results in mainstream education. We have had tools (be it software or hardware) and we have had grand theories (e.g connectivism) for so many years but nobody really tried to apply the suggested principles broadly. Specialized institutions - Open Universities have demonstrated that E-learning is an effective way for adult education, but it has almost no influence to mainstream education institutions.

The current situation looks like we are making another important step now in using ICT in Education. The first step was printing/mass media, the second offline computers, the third internet or the distance education – the post education, TV/radio education, PC in education, eLearning or mLearning. We can make many kinds of chronologies with lines of milestone, but the question is whether we are in the situation when the whole game is profoundly changing.

2.2 Famous US universities like a element of big shift?

The top American university, the MIT, was a pioneer in providing online support of education with online tools. MIT anounced in 2012 their own system MITx and Stanford: The Stanford branch of MOOCs includes a course web home, typically on a homegrown customized learning management system (LMS), hosting course lectures, homework, and assessments. In this type of MOOCs, the educational technology is used to replicate a typical face-to-face classroom experience online, at scale.

After the success of the course in 2011, Sebastian Thrun resigned from Stanford and created Udacity, funded by venture capital. At about the same time, other Stanford

[3] http://en.wikipedia.org/wiki/Mooc

professors involved in the new movement founded Coursera. And in 2012 MIT and Harvard announced their creation of, and $60 million investment in, edX. It was joined by the University of California–Berkeley.

The current generation of courses has proven the feasibility of massive online enrolments, but as Steve Kolowich at Inside Higher Ed wrote (Kolowich 2012), the result is based on a form of adult continuing education. The majority of students in the Udacity and Coursera courses he analyzed were professionals in the software industry - hardly the target audience for those seeking a change in how we educate postsecondary students. The current MOOCs provide a nice proof-of-concept, but they do not solve significant educational problems.

2.3 Media as a player in the MOOC's hype

Media love MOOC – and it truly is an attractive story. A success story with big numbers and of course a lot of money. Judging the circumstances, our next question has to be whether MOOC is a no more than a buzzword or a trend that can bring a significant shift to education in the next few years. Horizonts reports (NMC 2002,13) that MOOCs brings a wave of expectations into the discussions about using ICT in education and it could be a kind of self-fulfilling prophecy. Media create a buzz, buzz attracts potential investors and break resistance of traditional academic stuff with a fear from new technologies and break resistance of students also.

2.4 Educatinal companies as a player in the MOOC's hype

Major actors in the field such as Pearson, Microsoft or Apple struggle for dominance in rich media tools in education. It all started with hardware platforms - which tablet will be used in classrooms and continue with a discussions about types of software formats. Huge discussion was held in the USA last year about Apple's offer of digital textbooks platform for scholars/teachers and schools. It is expectable that a majority of battles over dominance in the educational technology field is yet ahead of us and MOOCs might play a role in ensuring relevant user-base.

2.5 Last but not least – students nad MOOC's

The so called Net Generation (1977-97) grew up in front of computer screens and with playstation remote control in their hands and it is bound with cybernet. Members of Net Generation prize freedom and freedom of choice. They want to customize things, make them their own. They're natural collaborators, who enjoy a conversation, not a lecture. (Tapscott, 2009: 6-7)

The coming Tactile Generation (Beseda and Machát 2012) is even deeper connected with internet gadgets and tools in real life. Members of these generations prefer choosing their learning methods than receiving directed learning ways. For them MOOCs represent a great source, which helps them find their learning trace. MOOC are attractive to motivated students, which is also a reason why big universities massively invest in MOOC.

2.6 MOOC platforms

To give a more complete account of the current situation in the field we would like to briefly introduce the most important MOOC platforms.

UDACITY is for-profit start-up founded by Sebastian Thrun, David Stavens and Mike Sokolsky with $21.1 million investment from venture capitalist firms, including Charles River Ventures and Andreessen Horowitz. Udacity currently offers 18 online courses in computer science, mathematics, general sciences, programming and

entrepreneurship. When students complete a course, they receive a certificate of completion indicating their level of achievement, signed by the instructors, at no cost. Some universities began offering transfer credit for Udacity students who then take the final examination at a Pearson centre.

Coursera is a for-profit company, which started with $22 million total investment from venture capitalists, including New Enterprise Associates and Kleiner, Perkins, Caufield & Byers Education. There are four university partners, namely Stanford University, Princeton University and the Universities of Michigan and Pennsylvania. Coursera currently has 197 courses in 18 subjects, including computer science, mathematics, business, humanities, social science, medicine, engineering and education. Some partner universities offer credit for their Coursera classes to those who want to pay a fee to have some extra assignments and work with an instructor and be assessed.

edX is a non-profit MOOCs platform founded by Massachusetts Institute of Technology and Harvard University with $60 million of resources contributed by the two institutions to support the project. Currently, there is a total of eight courses including chemistry, computer science, electronics and public health, but it is anticipated that there will be between 20 to 30 courses in 2013.

Udemy founded in 2010, with a total $16 million investment from Insight Venture Partners, Lightbank, MHS Capital, 500 start-ups and other investors provides a learning platform, which allows anyone to teach and participate in online video classes. Udemy currently offers over 5,000 courses, 1,500 of which require payment, with the average price for classes falling between $20 and $200.

The list goes on – there is the P2P University (https://p2pu.org/en/) was launched in 2009 with funding from the Hewlett Foundation and the Shuttleworth Foundation. P2PU offers some of the features of MOOCs, but is focused on a community centred approach to provide opportunities for anyone willing to teach and learn online. There are over 50 courses available and the process of improving the quality of the courses relies on community-reviewing, feedback and revision. There are no fees or credits, but P2PU's school of Webcraft adopted a badge reward system to integrate elements of gamification into the learning process.

3. CURRENT SITUATION

Just a year ago, the biggest and easiest argument against the power of online education was the same for so many years: that it would never provide the quality of face-to-face education.

This line of argument, self-reinforced by traditional institutions, kept many academics, collegiate presidents and boards from even considering whether major changes were necessary or feasible in higher education. Yet now that elite US and EU higher education institutions are publicly extolling the value and quality potential of online education, and are willing to invest tens of millions of dollars, this argument has been delegitimized. The easy fallback position is gone, and university stuff is being forced to encourage or lead a much faster pace of change.

For MOOCs to become truly transformative for higher education, the concept must accomplish the following goals:

- to develop revenue models that will make the concept self-sustainable
- to deliver valuable signifiers of completion such as credentials, badges, or acceptance into accredited programs

- to provide an experience and perceived value that enables higher course-completion rates (in most MOOCs today, less than 10 percent of registered students actually complete the course)
- to authenticate students so that accrediting institutions or hiring companies can be sure that students‘ identities are verified

4. IMPACT TO MEDIA LITERACY

Success of platforms providing courses like a Coursera, edX or Udacity blurs the borders. The motivation to have a completed course from MIT, Berkeley or Stanford is actually so strong that hundreds of thousands of students were attracted to start study via online. Not so many succeed but online education is now apparently turning from an ugly Cinderella into a queen at the school ball. Everybody wants to see it and to try it. It is not the same situation like a 6 or 10 years ago. No more dial up connection to the internet. No more strange avatars in virtual worlds. Having 160, 000 people interested in a course is a sign of a notable shift in the history of education.

In 2012 David Willey wrote: “MOOCs can expand access to education, for those who are interested and extend institutions’ reach and reputation internationally. The ‘digital footprint’ of learners using the technology is captured in large data sets that can, potentially, provide useful insights into online teaching and learning with very large numbers of students at low or minimal cost. For example, edX institutions such as MIT and Harvard use MOOCs to understand “how students learn” and “improve innovations in teaching and learning on campus”. (Willey 2012)

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SIX NEW LEARNING ARCHITECTURE TRENDS

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Abstract

This paper aims to examine current blended learning practice – where the concept of blended learning is seen as a synthesis of different approaches to the delivery of learning to create high impact learning. The paper looks at the development of blended learning over the years. New trends driving virtual learning prescribe a portfolio of new tools. Thus, changes in e-learning architecture are observed; the need for multi-device learning solutions is noted, as is the need to implement multimedia formats into virtual learning solutions. At the same time, focusing on educators, there has been a change in learning solutions' design based on the emergence of a new type of self-determined and autonomous learner, as described by the concept of heutagogy. Customized e-learning courses tend to involve the use of multimedia - both for corporate clients and tertiary sector students. The complexities of creating an appropriate blend along with the most effective learning solutions for each learner - including the use of mobile platforms and social learning - have never been more challenging.

Keywords

Blended learning, digital content, multi-device learning solution, student-cantered learning, heutagogy.

1. INTRODUCTION

Every generation has to learn not only the lessons the previous generations had to learn but the volume of their learning is ever extending and ever more complex. Consequently, hand-in-hand with technological and social changes, educators are facing many challenges which all have one common denominator: increased accountability for results emanating from the outcomes of educational processes. Changes are happening in all types of learning models, including face-to-face learning, virtual learning environments (VLEs), distance learning and blended learning. E-learning courses' content and design is changing. Many other shifts are currently being observed, e.g. a shift towards student-centred learning, along with changes in informal learning, experiential learning and social learning. Taking the bull by the horns requires constant monitoring of both the instruction and learning processes followed by smart, pro-active and effective measures taken in content design, collation and duration.

2. SIX NEW LEARNING ARCHITECTURE TRENDS

The authors of this paper intend to highlight the following trends:

Nowadays, successfully designed learning architecture of any blended learning course is of tremendous benefit to learners in achieving their goals.

2.1 Blending Learning Architecture

Over the last 20 years or so, the nature of learning has changed. Learning can now be described as a 360° process. It is no longer linear – in the sense of a teacher or instructor merely giving students the benefit of her/his knowledge and skills. Today, the learner occupies the centre ground, surrounded by a circle of facilitators - both human and technological - helping the learner to discover her/his most effective way to master the wealth of information, facts and data available.

Nowadays, adult students appear to want a wide portfolio of blended learning study programmes. Universities, along with private and public sector organizations need to offer such programmes to satisfy this demand. At the same time, many of the existing programmes need to be modified in view of the latest research findings and observations on learners' typical behaviour.

The classroom learning experience is complemented not only by high-quality e-learning materials but also by numerous online activities (chat, web conferences, social learning elements, online interaction with a tutor, etc.). E-learning courses, as a part of the blend, need to undergo some re-design in order to take account of new requirements.

2.2 Heutagogy for self-determined and autonomous learners

For self-determined and autonomous learners, *heutagogy* brings an opportunity for improvement based on students' needs and pace. The learning theory in question, in comparison with andragogy, is described by its inventors Hase and Kanyon [Pandora Australia's Web Archive.com, 2001] as follows: *'While andragogy [..] provided many useful approaches for improving educational methodology, and indeed has been accepted almost universally, it still has connotations of a teacher-learner relationship [..] Heutagogy, the study of self-determined learning, may be viewed as a natural progression from earlier educational methodologies - in particular from capability development - and may well provide the optimal approach to learning in the twenty-first century.'* The above described trend needs to be taken into account while preparing effective blended learning courses.

2.3 The growing importance of informal learning growing

In view of the challenges of the continuing stiff competition among companies and individuals alike while struggling for their place under the sun, it is crucial that individuals and employees increase their knowledge and skills on their own in order to become and stay competitive. Corporate learning strategies are here to support the process. Once the non-formal or informal learning environments are inspirational, innovative and interesting, they help to motivate learners immensely. Multi-channel [LearningLight.com, 2012] and multiplatform learning is to be considered with the objective of maximizing their synergy effect. Simultaneously, implementation of multimedia and/or augmented reality tools into the learning architecture design is highly recommended as they significantly help to retain knowledge and skills.

2.4 Modifications in e-learning courses' architecture

Traditionally, e-learning courses have complemented the composition of blended learning study programmes. However, their current architecture is changing dramatically. Having been known as a learning genre for at least 25 years, e-learning courses are now supposed to be *better structured* than ever before; *much shorter* than they used to be, and, in addition to containing high levels of *engagement* and *interactivity*, they are also expected to contain elements of *surprise and humour*. There is a demand for shorter e-learning units that are *more subject matter focused* and containing many *hyperlinked* additional materials - to give the learners the option to take control over the depth and, indeed, breadth of their learning. Brevity is the soul of wit - where the word 'wit' is to be understood in its Renaissance meaning as '*wisdom'* or '*intelligence'*. Many of today's learners come from the 'TED generation' and they want their fifteen minutes of learning content delivered by the best subject matter experts in the world.

Last but not least, they expect their learning content to be waiting for them in an easily accessible cloud. Thankfully, the Cloud enables the smooth integration of both mobile learning and social learning into the learning process. LMSs are being complemented by learning recorded stores (LRSs). This brings many additional functionalities which can make this an extremely flexible learning platform.

2.5 Multi-device learning solutions and adaptive learning design

As we are increasingly using mobile devices (notebooks, tablets, smart phones, etc.) to consume greater amounts of data, learning content is also expected to be delivered via multiple platforms [Kineo.com, 2013]. This poses a new challenge for learning designers. One solution for learning materials developers is to use HTML5 - a tool which has many new features, tags and semantics. It enables offline web applications and features audio and video support without the use of Flash. No one wants to spend the time, effort and money to develop multiple versions of their learning content. So it's reasonable to assume that this content will be unified under the HTML5 flag. This move is becoming known as *responsive web design* [Brightwave.co.uk, 2012], i.e. one content solution intelligently adapts itself to different screen sizes.

Typically, learners tend to switch from (static) computer to iPod or a Smartphone as their day goes by. An integrated solution seems to be the only way to offer them a consistent yet flexible learning environment.

To summarize, adaptive learning design enables online learning materials developers to allow learners to personalise and contextualise the learning materials during the delivery process. Thus, the resulting learning materials can be exactly the right blend of what the learner wants/needs, as and when it is needed – and, indeed, where it is needed.

2.6 Multimedia formats and their use in learning design

If PC games are so addictive, why is online learning hardly ever seen in the same way? The growing speed of the Internet, the increasing capacity for storing data at minimal costs and the expanding expectations of the YouTube generation call for the use of multimedia - notably audio and especially podcasts, allowing for multitasking, and video - as the most attractive forms of information delivery and data sharing.

Video is realistic. It can be engaging and it can teach skills in a way with which no book, text or teacher could ever adequately compete. The highest quality standard video does not have to be used in these learning materials - although it is fair to say that, nowadays, the learning audience tends to possess sophisticated and high expectations, preferences and demands concerning both graphics and info graphics. Multimedia tools and their use in learning design have been making the process of learning and remembering much more effective. If we want to create learning materials with impact, multimedia formats can't be ignored.

3. CONCLUSIONS

Learning architecture and design ought to be enhanced by thoughtful use of varied new tools, strategies and delivery platforms working in harmony. Only then, the learning process can finally become highly addictive and attractive for new generations of learners.

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SKUTHI: DEVELOPING A TABLET-BASED SURVEY TECHNOLOGY AND ITS APPLICATION IN TEACHING RESEARCH METHODS IN SOCIAL SCIENCES

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Abstract:

Digital tablets and smartphones are increasingly becoming part of the daily life of people and a must in professional developments in so many disciplines. The dependence on internet availability of current tabled-based technologies prevents successful public polling in areas where there is no internet connection. In order to overcome those restrictions we have developed the Skuthi platform for android tablets and smartphones. Skuthi allows the selection of convenient samples on android tablets independent to internet connection. Moreover, Skuthi enables probability samples by polling the public via cellphones by using a random digit dealing (RDD) technique, and also filling the questionnaire on the same smartphone from where the interviewer is calling. The multifunctional potentials of Skuthi offer opportunities for its successful application in both developed and developing countries in a wide variety of survey setting. We are implementing Skuthi as a medium of public polling with students from our Research Methods courses as part of their fieldwork requirement for the course. The ability of today's students to navigate smartphones and digital tablets facilitates such an application and produces enjoyable and productive learning experiences.

Keywords:

tablet, smartphone, public opinion surveys, Skuthi

1. INTRODUCTION

Digital tablets and smartphones are increasingly becoming part of people's daily lives around the world and a must in professional development in many sectors, including research (Mitchell, Rosenstiel, and Christian 2012; Online Publishers Association 2012a,b). Public opinion surveys through internet-connected tablets began to be implemented widely during 2012, yet those techniques continue to be dependent on internet availability (Pew Research Center for the People and the Press 2012) and 3G technology in cases when cellphones are used as a medium of survey. Therefore, such techniques prevent a successful realization of public opinion surveys with tablets in areas where there is no internet connection and smartphones that do not have an internet plan with their service account.

Developing countries experience specific difficulties: First, the lack of widespread internet access narrows the sampling frame to unacceptable levels. Second, in cases when we need to stratify our sample, the lack of unreliable 3G technology makes man-on-the-street and door-to-door surveys impossible, while the paper-and-pencil survey costs much coding time and energy, and the entire coding process remains susceptible to coding errors. Third, some remote areas might lack cellphone

connection while, in other areas, cellphone service is far from being reliable. By and large, while determinant in research success, the internet factor often remains outside of researcher's control. Under such conditions, the quest for independence from uncontrollable factors remains a reasonable aspiration of field researchers.

Beside research, digital tablets can be a powerful tool for students to learn and appropriate survey techniques. We have observed that the very idea of using smartphones to study and participate in research projects have energized our students in the Research Methods in Social Sciences courses. Moreover, the course instructor can now rely more on data collected as part of students' practical work for the course since there is no longer any need for manual coding, indeed one of the most time consuming and erratic processes of the survey data administration.

During the software testing and survey implementation process we were able to notice software's limitations and imperfections. Some of the imperfections reflect the early stage of the software and its need for further updates in order to expand its applicability. However, at the early stage of its implementation, we were able to notice the limitations that specific socio-cultural environments represent to methods widely agreed as appropriate. Thus for instance, initially we thought that the relatively high number of elders and people from rural areas who decline to participate in one of our surveys that collects data on internet penetration in Kosovo might have to do with their difficulty to understand our inform consent message on the phone. While we hoped that man-on-the-street samples could produce better results, we realized that people's refusal to participate had more to do with their ignorance of internet than not understanding the informed consent paragraph.

This paper continues with an assessment of challenges to collect data in the Balkan through polling the public mainly by relying on our long experience in Balkan fieldwork. Then we outline *Skuthi*, a digital platform that we have designed to facilitate our data collection through public opinion surveys so we could overcome problems that have harmed our fieldwork for years. We continue with lessons learned from early implementations of *Skuthi* both in terms of its technological functioning and both its advantages and limitations in field research and teaching research methods. Finally, we draw some conclusions related to the need to further update Skuthi as well as improve its potentials in both data collection and as a teaching/learning technique in Research Methods in Social Sciences.

2. POLLING THE BALKANS: DIFFICULTIES AND OPPORTUNITIES

While the Balkans represent a valuable opportunity for research is so many areas of social behavior, the underdeveloped state of social research in the region makes data gathering harder (Peshkopia, Voss and Bytyqi 2011a,b). Some countries do not have established survey institutes and private polling organizations of the size and variety found in Western Europe and North America; nor do external organizations of that sort regularly employ people with the linguistic and cultural background to operate in many Balkan countries. External organizations such as Gallup do occasionally conduct surveys in the region by subcontracting local groups such as NGOs or policy institutes, but social scientists generally find the associated costs to be prohibitive.

Door-to-door surveys are often inappropriate for many specific research questions. Door-to-door sampling methods are not feasible partly because informal buildings in some countries, notably Albania and Kosovo, have created an urban chaos that

makes random selection of dwellings difficult and time consuming. Moreover, residential patterns are complicated by the close proximity of single-family and multi-family dwellings. A door-to-door method would create strong and systematic biases in the sample by systematically leaving outside either those who have just migrated to the city and reside in makeshift dwellings or newly created families who continue to live within the large house of the clan. Moreover, in some communities either the norms, the family structure, or suspicion of the state rule out approaching people in their homes. The combination of a political tradition of state's omnipresence in the entire life of the country with deep suspicion, and even hostility, against it makes public polling in ethnic minority communities even more difficult.

From the 1980s, telephone surveys began to emerge as a superior sampling technique in the US (Dillman 2002; Tucker and Lepkowski 2008). However, landline telephone access and Internet usage are not systematically—and, until recently, in some countries, in a politically relevant way—distributed across the population, so landline RRD methods are not viable. In some countries, notably Albania, Kosovo and Macedonia, large sections of rural population lack landline telephony (for the effects on sampling of socioeconomic differences between those who do have household phone and those who do not see Trewin and Lee 1988; Thornberry and Massey 1988). Such absence that, indeed, represents the underdeveloped socio-economic conditions and often social status of that population excludes it from any sample, thus undermining chances to establish any probability sample.

However, cellphones are now widely used in the region and, to much of an extent, they compensate for the lack of landline telephony in the countryside, and that represents an opportunity to establish public polling probability samples within sampling frames that infinitely approximate their respective populations. Indeed, recently, the decrease of the household landline telephones in favor of cellphones characterizes many developed societies (Busse and Fuchs 2009; Blyth 2008; Link, Battaglia, Frankel, Osborn and Mokdad 2007; Peytchev, Carley-Baxter and Black 2010; Vicente, Reis and Santos 2009), thus our efforts concern not only developing but also developed societies and our efforts to refine cellphone surveys techniques fit to a larger concern of the discipline. First, we face the insurmountable difficulty of finding subscriber lists; concerned of the privacy of their clients and fearing competition, private cellphone companies are not willing to disclose their currently operating cellphone numbers. Second, cellphone calls in the Balkans are relatively expensive outside the respective network. Third, telephone techniques need accurately trained people and people with the ability to properly communicate via phone. Moreover, telephone/cellphone surveys require relatively expensive calling technologies and the related software.

The Balkans complicated ethnic and social structures add to the existing difficulties. Very often, ethnic minorities live adjacent of their brethren countries across the border in areas that are often covered by cellphone companies of the countries. Either because people from these areas have migrated across the border or because ethnic minorities in the Balkans have strong family and business connections with their brethren across the border, they often subscribe to cellphone companies from their "mother-states"—the state ruled by their ethnic brethren. Therefore, it would be impossible to reach those people by cellphone, thus creating a sample bias, or such efforts would bring into the sample only those who use cellphones of the country where they reside, thus sampling only those people who are more oriented to work with the country of their residence. In fact, minority people,

like everyone in the Balkans, carry more than one cellphone. However, difficulties such as the language of the interviewer might undermine any effort to conduct public opinion surveys related to sensitive political issues, notably interethnic relations and regional foreign policies.

Therefore, we need to refine survey techniques that would help us to overcome these idiosyncratic situations. First, we need to be able to successfully apply cellphone RDD techniques. Second, we need to be able to reach those ethnic and social groups which we cannot reach through cellphone RDD. That would include sampling by combining cell phone RDD, landline telephone RDD and face-to-face interviews in ethnic minority areas. Third, in order to increase efficiency, we should aim at the same survey technology or, at least, a survey technology that responds to most of our needs.

3. SKUTHI: THE PROMISE OF A SURVEY DIGITAL PLATFORM

In order to overcome some of these limitations and take advantage of the opportunities that polling the public via cellphones represents in the Balkans in terms of establishing probability samples we, an international team of social scientists and software programmers, have developed the *Skuthi* platform for android tablets and smartphones. *Skuthi* has been developed using Java programming language, and utilizes the standard android operating system and its software development kit (SDK) and application programming interface (API). Further, this version of *Skuthi*, has been designed to be compatible with older versions of the APIs to support lower-end devices and thus enable usage on a cost effective hardware – surely it is compatible with upward versions of android APIs and SDKs. It has been built to utilize a local relational database, using SQLite, a public domain license type database, for question and response management. In the current version of *Skuthi*, question import, loading questions into the *Skuthi*, and question export, collecting responses from the *Skuthi*, is done through a SQLite management software tool. This requires that the tablet or phone be connected to a personal computer (PC) or a laptop while the export/import is being processed. Alternatively, one can connect phone's or tablet's external memory (i.e., SD Card) to a PC or a laptop.

Skuthi's interface is user friendly and uses a simplistic design. For instance one may navigate through previous questions and make any necessary changes until the survey is complete, at which time no further changes are permitted. The application records date and time for each response, starting from the first question, and saves responses on persistent storage every time the interviewer switches to the next question. This assures that the progress is saved in case of unexpected interruptions. *Skuthi* allows to establish man-on-the-street and door-to-door convenient samples on tablets and smartphones independent from internet connection. A smartphone that has a screen large enough can be used both for cellphone surveys and convenient samples. A trained user can navigate among questions easily, and a good device will help receive the response swiftly and switch to the next question.

Moreover, applied on the right cellphone device, *Skuthi* enables cellphone public opinion surveys on the same smartphone from where the interviewer calls the respondent. In the conditions when the researcher cannot access the list of the assigned telephone/cellphone numbers (Tortora, Groves and Peytcheva, 2008; Mohorko, de Leeuw and Hox 2013) *Skuthi* can implement a RDD sampling among

potential cellphone numbers. Simple actions enable programming of the specific survey and the extract of the data in a MS Excel spreadsheet. We argue that multifunctional potentials of *Skuthi* offer opportunities for its successful application in both developed and developing countries in a wide variety of survey setting.

By switching telephone surveys from landline phones and desktop/laptop survey directed methods to cellphone, *Skuthi* allows an inexpensive transfer of the "survey booth" to practically everywhere. For instance, without even leaving Kosovo, but just approaching its borders, we can survey cellphone holders in Albania, Macedonia, Montenegro and Serbia. By the same token, we can survey cellphone holders in Greece and Italy without even leaving Albania. From this perspective, *Skuthi* will revolutionize our way of conducting research with a much smaller budget and human resources will increase the mobility of research teams and would be able to efficiently establish cross-countries longitudinal data with much smaller costs.

Skuthi carries the following key features:

1. Allows for filling the questionnaire on the same smartphone from where the interviewer calls;
2. Randomly selects a telephone number from a previously entered range of possible numbers;
3. Allows for the implementation of open-ended (textbox) and close-ended (response options) questions;
4. Randomly rotates the response order from one respondent to the other;
5. Allows for the return to the previous answer and correct it;
6. Does not allow to move to the next question unless a response is given to one of the optional answers;
7. Stores data in a SD or mini SD card and the researcher can easily transfer them to a computer.

Let's analyze these features in greater detail. First, *Skuthi* is designed to take advantage of the European cellphone system. Unlike in the US, in many European countries cellphone companies have their own code. Therefore, the pollsters can only put a range of possible numbers and receive a random number which they can call. It might be possible that the number has not been assigned but, after a number of failed attempts, the researchers will probably reach an assigned number. Obviously, this technique suggests calls within a single network, but this would be necessary also for another reason: often, companies offer discount prices or free call time for calls within the network. Thus, the total sample would be created by separately finishing with one network and switching to the SIM card of another network and randomizing numbers within its range.

In order to use the smartphone from where the interviewer calls also as a digital tablet where the interviewer fills the questionnaire, he/she should use headsets that allow hands-free operation. All the current smartphones carry Bluetooth technology, but we are reluctant to recommend Bluetooth headsets since they would represent an additional power-dependent device which could run low on battery right in the midst of a survey interview. Instead, we recommend headsets connected with the smartphone and dependent on its power, while the smartphone itself remains plugged in a power outlet during the entire time of survey interviews.

Upon hitting the *Skuthi* app installed in a cellphone or digital tablet, the user will see two horizontal bars. The upper bar is divided in two boxes (Previous and Next) with only Next operating in the first page. This bar serves only to those who want to use the smartphone as a digital tablet or are using a digital tablet to conduct public polls, and they should ignore the lower bar. The lower bar writes “Display Random Number Generator” and serves only for telephone surveys. Upon hitting the lower bar, it transforms to three bars, the upper one asking “From Number?” the next one asking “To Number?” and the lowest one suggesting “Generate.” The “From Number?” bar serves to enter the minimum number of the number range, and the “To Number?” serves to enter the maximum number of the number range. After entering the minimum number, the keyboard offers the “Next” command on the lower right corner of the screen, which opens the view of the lower bar where the interviewer puts the maximum number and then press the command “Done: on the lower right corner of the screen. Upon hitting the “Generate” command, the program leads to a window with a randomly generated number, the question “Call this number?” and two boxes, “Call” and “Cancel.” The latter sends back to the already entered minimum and maximum numbers, while “Call” sends to the calling functions of the smartphone and the interviewer should hit the call button of the smartphone.

It is likely that, upon performing the call, the interviewer will hear this-number-does-not-exist or this-number-has-no-access-to-the-network messages from the network’s automatic response service. In those cases, the interviewer can use the touchscreen go-back option to go back to the already entered minimum and maximum numbers and hit the “Generate” bar again to randomly extract a new number. The same is the case when the call goes through but no one picks the call. Yet, after each successful call, the interviewer should start the process from the beginning and insert the minimum and maximum numbers all over again. Once a respondent picks the call, the interviewer opens the questionnaire smartphone from the touchscreen go-back option. From this point, the smartphone operates also as a digital tablet and the interviewer can fill the questionnaire on the same smartphone from where he/she is calling.

Skuthi allows the implementation of both open-ended and close-ended questions. An open-ended question is associated with a textbox and hitting it opens a keyboard with both numbers and letters. After filling the response, the interviewer can remove the keyboard by hitting the touchscreen go-back option. Since the program does not allow to switch to the next question unless the interviewer enters a response, in the case of a conditional open-ended question, the interviewer can simply enter a “.” and then click the “Next & Save” button. In the case of a conditional close-ended question, the survey programmer can add the option “Pass” to move to the next question in the case the conditional question does not apply to the current respondent.

In order to avoid moot responses from people with attention disorders who tend to focus on the first or last question, *Skuthi* randomly rotates the ordering of all optional responses from one questionnaire to the other. Moving from one question to the next one happens through the “Next & Save” button, yet that cannot happen unless the interviewer has clicked one of the offered response options. However, the user can free use the “Previous” button to go back to already answered questions and change them. At the end of each questionnaire, the program offers a button that moves the interviewer to the next questionnaire.

4. LEARNING POLLING METHODOLOGY HANDS-ON: THE CLASS AND FIELD EXPERIENCE

Besides its research benefits, *Skuthi* carries immense didactic potentials as it can easily help students to embark on data collection as practical work for their Research Methods in Social Sciences course. Students are active users of smartphones and digital tablets and their training in collecting data through *Skuthi* should be easy. Moreover, we expect that using smartphone and digital tablet technology to conduct public opinion surveys and other data collection activities can be more enjoyable than the cumbersome paper-and-pencil method. Therefore, students will have an opportunity to learn about such a methodological and technological innovation while collecting valuable data for our various ongoing research projects.

We began testing *Skuthi* 1.0 version with a mock survey on internet penetration in Kosovo. We wanted to test several features of the software, but also "test waters" for a real survey on that topic that has been commissioned to the Universum College by *Shoqata për Teknologji të Informacionit dhe Komunikimit të Kosovës* (STIKK) [Kosovo Association of Information and Communication Technology]. We purchased a €3.00 prepaid SIM card from the IPKO company with a total of 1,000 free minutes within the network (200 minutes each month with a €1.00 renovation per each month for a period of five months). We began testing the software in an office setting in the presence of its authors and via cellphone surveys using the RDD technique; then we moved the RDD surveys in the classroom; we continued testing in a fair in Prishtina, Kosovo, while we were presenting the software; and finally we applied some man-on-the-street surveys. The short time that we have to test the program was enough for us to assess its advantages and limitations, and also draw tasks for further improvement with the 2.0 version, which would also be the commercial version, scheduled to be released on September 1, 2013.

Combined in the office setting and classroom, we performed 41 cellphone calls and in 25 cases, the call went through while in the other cases the machine operator responded either "this number does not exist" or "this number has no access to the network." 20 people picked the phone. From those, 8 people agreed to respond to the questionnaire while 12 people declined. However, a trend emerged: students noticed that most of the people who refused to respond were aged males, probably from the rural areas who, as student interviewers witnessed, seemed confused. In another case that we recorded as a responded questionnaire, one apparently older person passed the cellphone to a young lady, apparently his family member. In one case, the instructor of the Research Methods class and co-author in this paper, Ridvan Peshkopia, performed cellphone calls himself, reached a person, apparently an elder lady, who declined to respond. In the end, everyone who we were able to interview was an internet user, something that showed a tendency of our RRD method to produce a biased sample. Thus, while at the 40 per cent, we can claim to have reached a workable response rate, the sample bias emerged as a problem.

Students of the Research Methods in Political Science with the Universum College Kosovo watch over as student Valbona Gashi conducts a Skuthi-led cellphone survey

Students of the Research Methods in Political Science with the Universum College Kosovo watch over as student Mimoza Mena conducts a Skuthi-led cellphone survey

Skuthi was also tested in the field. During a trade fair where Skuthi was showcased, a series of surveys were conducted. Skuthi app was installed on an Acer Iconia A500 tablet running Android version 3.2. The application functioned as expected. The interviewer would read questions to an interviewee and would share the tablet screen at the same time. Because tablets provide the advantage of mobility, interviewees were also able to read the questions, and at times complete the whole survey on their own. In total there were 35 responses, out of which 6 did not want to participate. This survey consisted of 12 questions, with a mixture of open ended questions and a set of preset answers. Response rate was around 83%, and on average it took under 5 minutes to complete the survey. The minimum time to conduct a survey was slightly above 2 minutes and the maximum time was around 11 minutes. We found that the discrepancy was primarily contributed to interviewees' proactive behavior; those who would read questions and answers, in addition to listening it from the interviewer, were answering faster. Further, a noteworthy observation had to do with certain questions and the comfort level for an interviewee to answer them honestly. For instance, a question from this survey asked for interviewee's age group. A considerable number of interviewees preferred to answer the question themselves and click on the next button; they did not want to explicitly make this information available to the interviewer.

In an earlier paragraph, we describer the tendency of our RDD to produce a biased sample that included only internet users. Now the question was: Does RRD have an inclination to produce a biased sample in Kosovo because of some socioeconomic and cultural idiosyncrasies of the country, or that tendency toward the bias has anything to do with that particular survey? In order to response that question with accuracy, we need to apply our RDD method with different surveys and compare response rates. However, with the limited time until the submission of this paper, the only thing we could do was to understand somehow the reasons why no one without internet access or who does not use internet appears in our very small sample. In order to understand better the reasons for elder people's decline to participate in our survey, we decided to conduct some man-on-the-street surveys in the Kosovo capital city, Prishtina. Prishtina is a growing city mainly through waves of migration from the countryside. Moreover, Kosovo is a small country and it takes no more than 90 minutes from its most distant sites to reach Prishtina. For that reason, it is easy to find on the streets of Kosovo many people from all across the country. Our two students went in the field by using as tablets the same smartphones that they previously used to conduct cellphone surveys. Each of the conducted six surveys for less than two hours and, again, all of them were internet users. We realized that the response rate remained the same and so did the demography of the responders. However, this time students were able to confirm that elders, especially those whose dialect told they were from the countryside declined to respond, saying that they knew nothing about internet. Those responses confirmed our previous fears that not the RDD but the survey design might have been the cause of such a bias tendency.

5. CONCLUSIONS

Of course, our very limited sampling activities cannot allow for accurate inferences. However, during our simultaneous efforts to test the *Skuthi* software and train students in data collection through public opinion surveys, we were able to both assess *Skuthi's* advantages and disadvantages, and draw some rough conclusions about the applicability of the survey on internet penetration in Kosovo. Certainly,

those are not separate issues; technology creates opportunities for survey techniques and the latter affect response rates and sample distribution. Therefore, a simultaneous testing of both the software and a new questionnaire on a topic that has been surveyed before would offer opportunities to test the effect of both the software and the survey on each other. We were able to assess the huge advantages of *Skuthi* in performing RDD sampling, but also noticed some limitations that can be easily overcome with some updates and/or with a new version of *Skuthi* that is scheduled to be released on 1 September 2013.

During testing, we noticed the value of testing the software with a new version of a previous questionnaire. First, we realized that the current limitations of *Skuthi* do prevent its wider application more than we had previously thought. However, knowing that, overcoming of such problems does not represent any technical challenge, we are optimistic that we will soon have an updated version of the software. Second, during software testing with a mock questionnaire related to internet penetration in Kosovo, we noticed low response rates of elder people, especially those who seemed to come from rural areas. Therefore, we were not able to dissect how much of the 60 per cent decline rate represent people's non-participation because they know nothing about internet and how much of that response decline represent other reasons for non-participating.

We learned from a consultation with experts from STIKK that last year, implementing a similar questionnaire, they noticed a high decline rate among young people while the elder were more patient to fill the questionnaire. Such conclusions so opposite from ours bring about questions related to the difference between the informed consent paragraph implemented last year and the our mock survey as well as questions about the training of the interviewer last year and this year. However, we were able to learn that RDD cellphone surveys do not bring any significantly different response rate from face-to-face survey, at least not in this case. Whether response rates in cellphone RDD and face-to-face interviews would change for surveys in other topics, this is something that we and our students will learn during the summer.

Finally, we have happily witnessed high energy and enthusiasm of students when practically applying their course-long theoretical knowledge. Having taught this course for many years and in different universities across the Balkans, we realize that the very innovative way of cellphone and digital tablet surveys offered by *Skuthi* created among students an environment of intellectual curiosity and challenge, and a sense that what they were doing was something important not only locally but also internationally. Coupled with the technological innovation offered by *Skuthi*, the very process of data gathering has received now a new meaning among the students. Therefore, we are currently entering what seems to become one of the most productive data gathering seasons of our academic careers, and we hope that soon we will be able to report new findings.

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Gamification and apps

GAMIFICATION AND LEARNERS' ENGAGEMENT IN VIRTUAL LEARNING ENVIRONMENTS (VLES)

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Abstract:

Gamification - the use of ludicrous techniques in non-game contexts - is among the newest emerging educational trends. This paper describes how *gamification* can improve learners' motivation by means of:
Promoting significant and collaborative learning,
Enhancing practical learning ("*Playing is acting*"),
Being fun: "*The funnier, the better*",
Progressive learning: New game levels are reached only when previous levels are controlled. So new learning will be built on prior knowledge (as constructivism proposes),
Involvement and a suitable framework: Games provide a group of rules and their scenes are evolving,
Learning through errors: In a game, players progress through "trial and error". The number of errors reduces while the learner moves forward, until reaching a plateau in his/her learning curve where the apprentice will get the expected productivity improvement.
All these aspects are particularly important in e-Learning since an additional effort is needed to keep students involved in virtual environments and inside the flow channel where their performances are optimal.
There are many motivational factors to keep in mind when conceiving a formative proposal that implies human-computer interaction. Some of them may be enhanced through *gamification* and those are described in this paper, along with their respective *gamified* strategies. This way, retention and active learning will be improved, dropping out rates will decrease, and learners' satisfaction and competency acquisition will get better. Besides, it will help increase e-Learning quality and remark its positive impact.
This research will serve as a starting point to investigate how some of the usual problems identified in e-Learners' engagement could be overcome. Besides, reinforcing motivational factors and increasing accessibility in educational contents portrait an interesting scene to carry out researches on how to involved students suffering from Attention Deficit Hyperactivity Disorder (ADHD). In this case, we will use an empirical quantitative method with two sampling groups (target and control) and interviews before and after the research in both groups. These data will be studied by means of a multivariate analysis of variance (MANOVA) to set the statistical significance of the main differences.

Keywords:

Gamification, learner engagement, learning motivation, constructivism, GBL

1. GAMIFICATION: BASIC NOTIONS

Gamification - the use of ludicrous techniques in non-game contexts (Deterding, 2011a) - is among the newest emerging educational trends, and its expected growth is one of the most favorable in the next ten years.

One of its essential benefits is linked to its ability to influence on how a system motivates its users and modifies their performances (Hamari and Järvinen, 2011).

Its multidisciplinary character is another advantage. That is why *gamification* can be successfully introduced in many different fields where behavioral modeling is required. Some of those areas are: Marketing, Public Health, Leisure, Politics, Banking and Education.

There are three essential interaction levels when thinking over implementing *gamified* strategies (Werbach, 2012):

1. Individual interaction: It promotes self-reflection and helps people get a profound knowledge of them.
2. Community interaction: This level allows participants to build solid links out of their closest environments along with an intense social communication.
3. Institutional interaction: It helps users to identify corporative brands and cultures and make them feel curiosity and sympathy for those companies.

Seven strategies must be kept in mind when attempting to apply *gamified* initiatives to reach concrete objectives inside professional projects:

1. *Flow:* This term could be defined as: “A human state in which a human being is so engaged in an activity that he/she can’t pay attention to nothing else. That experience is as funny and gratifying as to make the participants take part in its defiance just because of the satisfaction; even when such a challenge implies an enormous cost or effort.” (Csikszentmihalyi, 1996).

   This concept is closely related to Fogg behavioral model. According to its principles, as it is showed in *Figure 1* (Fogg, 2003 and 2011; Muntean, 2011; Werbach, 2012):

   Behavior = Motivation x Ability x Trigger

2. *Proactive Feedback:* It sets a relation between actions and results. It is one of the key points when talking of keeping an effective flow channel for a relatively long period.
3. *Simplicity:* Every game simplifies real experiences and allows players to perform activities in an easier way than in real environments (Wu, 2011).
4. *Immersion and involvement:* They both make experiences more intense. The first one may be described as passive while the second is characterized by active participation (Kearsley and Shneiderman, 1998).
5. *Choices and appealing character:* The second aspect directly influences on the player’s engagement level (Benjamin, 2010). Offering a suitable number of meaningful choices reinforces both mastering feelings and power sensation in the players.
6. *Practice:* “Learning by doing” is a key point in technologically assisted learning. The so-called treadmills o grindings are two usual ways to improve competencies by means of cyclical practice of the same group of abilities.
7. *Fun:* When something is fun, it engages far better. And it also origins an enormous amount of positive feelings (self-confidence, epic winning, joy, pleasure, personal control, etc.).

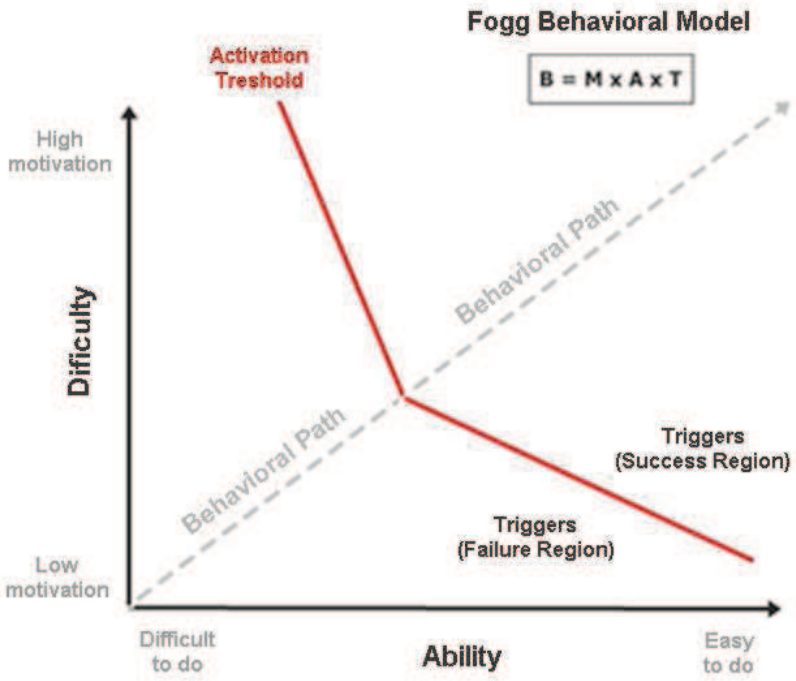

Figure 1 Fogg Behavioral Model, Source: Adapted from (Fogg, 2003 and 2011)

Analyzing the personality of the expected players or participants is an essential previous step in developing a successful *gamified* strategy. According to the type of player, his/her actions will be different and thus, distinct techniques will be required in order to engage him/her.

In 1996, Richard Bartle proposed his taxonomy of four “typical” players (showed in *figure 2*) based on two elements: Acting level and Environment (Bartle, 1996; Dixon, 2011).

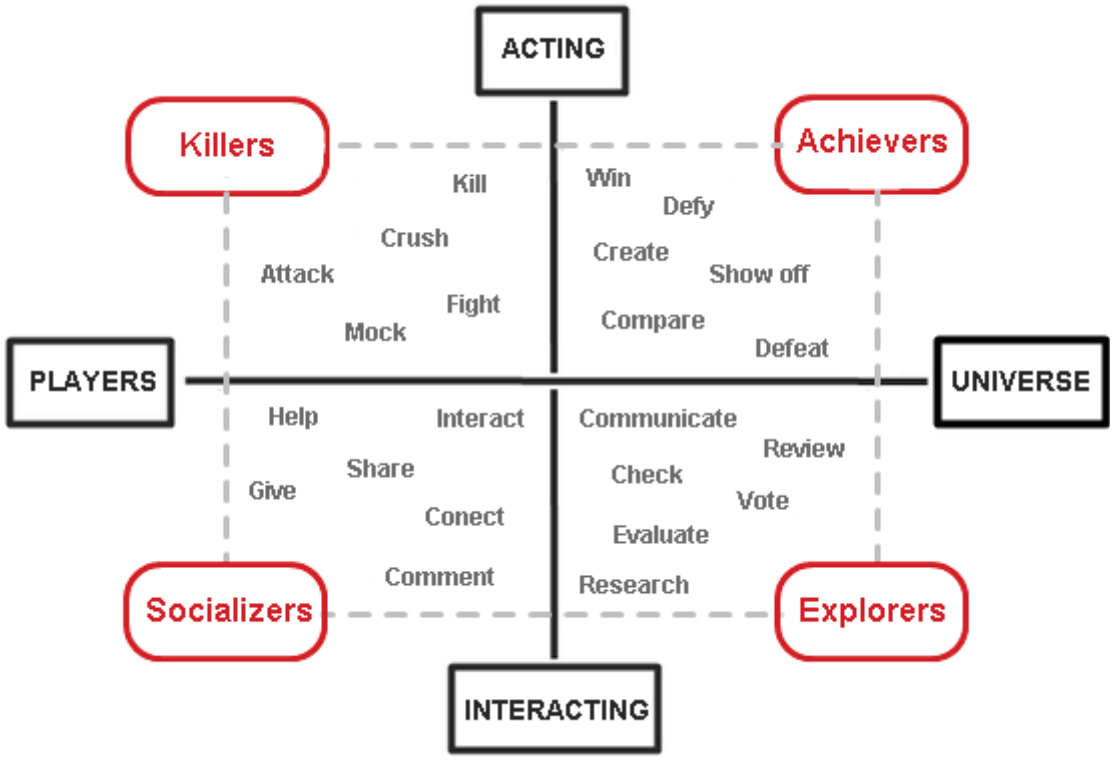

Figure 2: Taxonomy of players and acting strategies, Source: Adapted from (Jo Kim, 2010)

Bartle improved this classification in 2003 by including a new dimension: "Implicit/Explicit" (Bartle, 2003). Thus, the number of archetypes was duplicated and his taxonomy adopted the aspect that could be seen in the tridimensional diagram showed in *figure 3.*

Along with an active and voluntary participation, every game –as a fictitious recreation- requires another condition from its participants: *imagination.* It's indispensable that every single player understands how the game works in order to turn it into a bridge between fantasy and reality (Dignan, 2011).

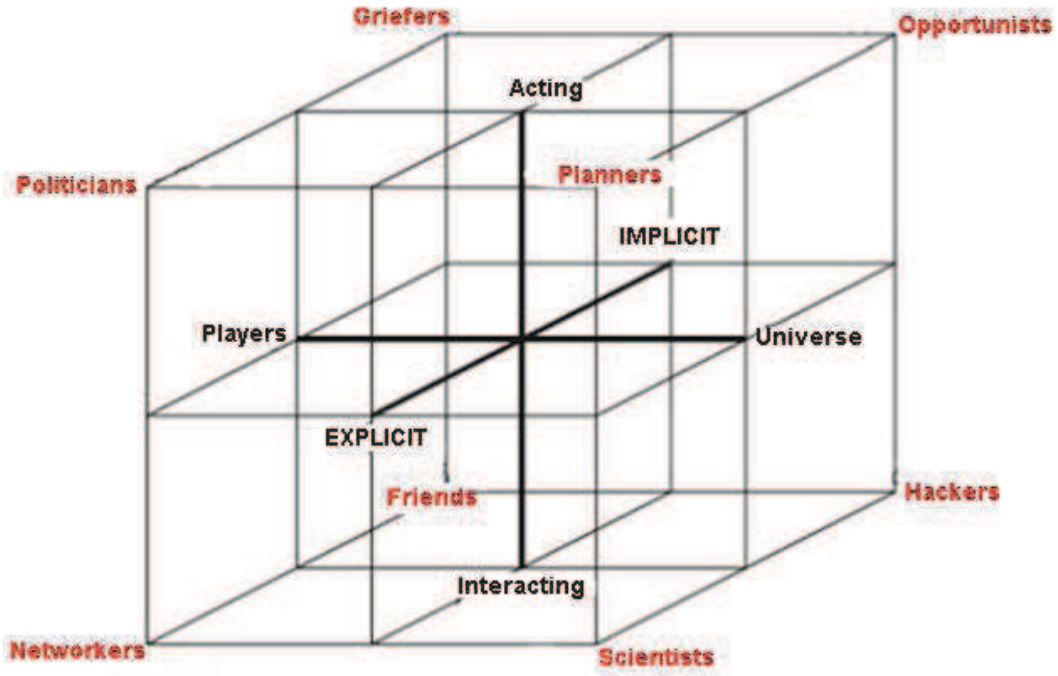

Figure 3: Tridimensional diagram of players' personalities, Source: Adapted from (Bartle, 2003)

2. MOTIVATION, EDUCATIONAL GAMES AND GBL

Motivation is a Latin word ["*Motivus*" (motion) + suffix "-tion" (action and effect)] with many definitions as the one proposed by Dessler (Deci, 1999; Dessler, 1980):

"Motivation reflects an individual desire to fulfill certain needs. As the nature and force of the specific needs is a very particular matter, it is obvious that there is no guide or universal technique to motivate people" (Dessler, 1980)

Therefore, motivation in virtual learning environments will include students' personal aspects and elements from the formative setting. They both will generate a group of different processes and effects whose common core is the fact that any individual selects a concrete behavior or strategy for action just based on the established goals and expected benefits (Deci, 2004; Heckhausen, 1991; Song, 2000; Wlodkowski, 1999).

Many researches identify three groups of motives which can move/impel people to cooperate and, at the same time, satisfy three different kinds of needs as it is showed in *figure 4.*

This motivation –with its triple variant face- is an essential factor in learning since as Wlodkowski states:

"Motivation is not only important because is an unforgettable and necessary casual factor to let learning appear but because - at the same time - is a consequence from such learning" (Wlodkowski, 1985).

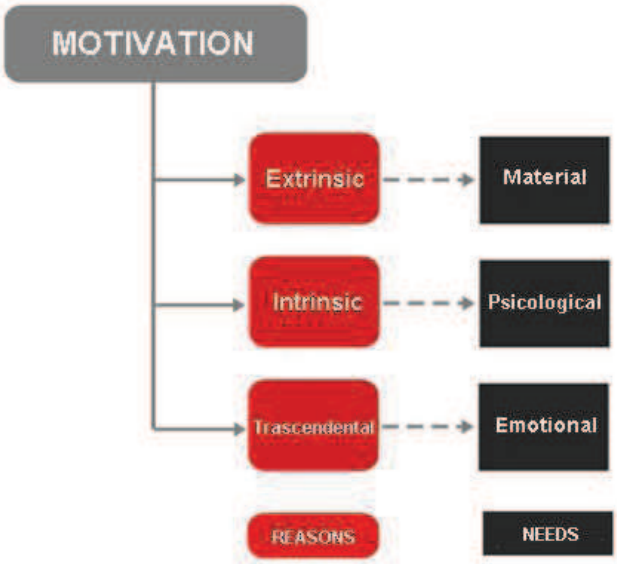

Figure 4: Motivational factors and human needs, Source: Authors' own work based on (Polaino, 2011; Rianudo, 1997; Sandoval, 2006)

When the matter comes to educational games –a member of the family of *Games with a Purpose* (GWAP)-, *Game-Based Learning* (GBL) and *Digital Game-Based Learning* (DGBL) it must be remarked that their sceneries and proposals let teachers make the most of students' intrinsic motivation and are also able to induce positive emotional responses.

These educational games (including simulations and *serious games*[1]) when are well built (Barab et al., 2005; de Freitas, 2006; Gee, 2003; Papastergiou, 2009; Wilson et al., 2007):

- include ludicrous mechanics capable of creating funny and enjoyable experiences which are intrinsically motivating and where the need of public recognition is fully satisfied (Pavlas, 2010; Ryan, 2002 y 2006). Besides, operating autonomy and proactivity will be well promoted too (Deterding, 2011(b); Pavlas, 2010).
- promote an evolving, meaningful, engaging and practical learning ("playing is acting") that helps learners build new knowledge on previous one.
- make much easier develop practical critical thinking, collaborative working and creative problem solving by trial and error. These three aspects are core elements in the so-called "The 21th Century Competencies" (Jenkins et al., 2006; Johnson et al., 2011; Raymer, 2012) and thus essential to VLEs.

3. RESEARCH (i): PLANIFICATION AND CHARACTERISTICS

There were two stages in this research:

1. *Review of scientific literature* in order to:
    a. Identify the most influential motivational factors in learning-teaching processes
    b. Analyze the main models and theories on motivation in learning

[1] Activity from the real world that is modified by means of a ludicrous system based on stimulus and attitudinal responses (Dignan, 2011; Järvinen, 2008; Norman, 2001; Stapleton, 2004; Ulisack and Wright, 2010).

c. Select those methodological recommendations and design strategies whose action on learners' motivation is significant enough.

2. Afterwards, with the intention of contrasting the conclusions from the prior stage, an *empirical research* was developed as to accomplish two objectives:
   a. *Main goal:* Identify those motivational elements –intrinsic and extrinsic factors- which are considered most meaningful in virtual and hybrid learning as well as in technologically assisted on-campus learning, as well as finding those ones perceived as most suitable to be enhanced by *gamified* techniques.
   b. *Secondary goal:* Discover learning experts' opinions and preferences on motivational influence of: tools for creating multimedia learning materials, types of assessments, learning tasks and characteristics of learning contents.

In order to reach those objectives, a specific questionnaire was designed following a logical deductive sequential procedure and applying a thematic aggregation of questions (García, 2003; Hernández et al., 1997; Osorio, 2006; Wright and Rosenbaum, 1979).

Sampling technique:

Snowball sampling technique [Intentional method] (Patton, 1990; Faugier and Sargeand, 1997).

Sampling profiles:

i. Professors and instructional designers with at least 10 own formative proposals (minimum 50 teaching hours each one).

ii. Specialists -with at least 3 years of experience- in developing digital-multimedia learning contents in several scientific and humanistic subjects.

Main characteristics:

Hybrid questionnaire, combining: open, closed and categorized questions.

There are direct and indirect formulations, according to their influence on the survey respondent's perception as to avoid any external conditioning or bias as much as possible.

Structure:

There are five elements in the aforementioned questionnaire (see *table 1*):

0. Heading: Objectives, contextualization, general overview and instructions.
1. First section: Socio-labor profiles.
2. Second section: On-campus teaching and digital learning materials.
3. Third section: e-Learning / blended-Learning, motivation and GBL.
4. Fourth section: Motivational factors in virtual teaching/learning.

Thematic section	Number of questions	Type of questions
Socio-labor profiles	4	- Open, closed and categorized - Direct - Factual and identification questions
On-campus teaching and digital learning materials	7	- Open, closed and categorized - Direct - Factual and opinion questions
e-Learning / blended-Learning, motivation and *GBL*	13	- Open, closed and categorized - Direct and indirect - Factual, opinion and intention questions
Motivational factors in virtual teaching/learning	12	- Open and closed - Direct - Factual and opinion questions

Table 1: General overview of the questionnaire and types of questions, Source: Author's own work

Codification:

i. Closed and categorized questions: Pre-codification by assigning a number to each item in the question (*Descriptive Codes*).

ii. Open questions: An inductive or "*a posteriori*" technique by means of textual analysis of free short answers with KWIC method. This way, the leitmotivs and causal relationships will be identified and it will make possible establish their respective codes (*Inferential Codes*).

Application: Virtual questionnaire with direct answer; by email.

Completion period: From the 18th of November to the 12th of December of 2012.

Number of participants: 65.

4. RESEARCH (ii): RESULTS AND CONCLUSIONS

A. The results from the questionnaire were gathered in thematic sections and analyzed through simple frequency tables and graphical interpretations.

As a result, in relation to demographic and professional hypothesis it could be said that:

i. Most of the e-Learning professionals in this sample enjoy a significant experience in on-campus learning (5 years or more).
ii. There are no differences between male-females or among age intervals when the subject comes to identify relevant motivational factors in learning.
iii. There is no relation between the ages of the survey respondents and their levels of familiarity with the newest tools for designing multimedia didactical materials.

B. Comparing the most relevant intrinsic and extrinsic motivational factors identified in the empirical research (affirmative answer frequency > 95%) and those coming from the bibliographical review it may be concluded that:

The motivational aspects which should be particularly kept in mind when teaching with ludicrous techniques are the ones showed in *figures 5, 6 and 7* [Intrinsic (human and methodological) and extrinsic dimensions respectively].

C. Other interesting conclusions coming from this research are:

a. The survey respondents remark the motivational reinforcement due to interactive presentations and materials developed as combinations of text and video.
b. Simultaneously editing documents (such as Google Drive documents), reusable learning materials (Learning Objects) and interactive presentations are considered very suitable ways to promote significant learning.
c. There is a unanimous agreement on how important establishing a grade of difficulty coherent with the learners' prior level of knowledge is, when the matter comes to turn learning into a remarkable experience. Besides, taking into account the short-term pedagogical objectives and fixing a reasonable number of challenges are two interesting aspects to come up with a successful formative proposal.
d. Offering a suitable diversity in learning materials is an appropriate strategy to personalize the educational process since it lets students opt for the resources that they value as more useful for their learning profiles.
e. The use of ludicrous techniques in teaching-learning activities are confirmed as useful means to promote an effective meaningful learning that is capable of ensuring a suitable competency development.
f. Those educational competencies linked to planning learning strategies ("learn how to learn") as well as socio-communicative skills and abilities related to the use of computers and information management are the three attitudinal groups where GBL principles have been more used so far.
g. On the other hand, the rest of the basic educative competences (linguistic, scientific, artistic and proactive skills) have not already been developed by means of gaming techniques in a generalized way. Only 15% of the survey respondents gave an affirmative answer in this case.
h. Progressive demotivation and decreasing of learners' engagement in the first stages of a formative proposal are two of the main obstacles that must be overcome through an appropriate instructional design reinforced by ludicrous strategies.

i. Personalizing the formative paths is essential to keep the learners engaged in the activity. Therefore, offering meaningful choices in the progression loops may increase learners' motivation.

5. FUTURE PROSPECTIVES AND RESEARCH FIELDS

1. The aforementioned research was useful to determine the main motivational factors in learning as well as the instructional design recommendations which may serve as a first step to build a guide devoted to help educators when *gamifying* traditional formative resources in order to:

- reinforce learners' motivation,
- enhance teaching-learning processes, and
- increase fun and entertainment in learning.

After designing that "*gamification* guide", it will be developed an empirical research process in an integral Educative Research-Action context (McNiif, 2002; Reason and Bradbury, 2008; Restrepo, 2004). This way, it will possible:

i. Check the usability, validity and effectiveness of that proposal.
ii. Identify its weaknesses before the guide is published.
iii. Introduce the changes and corrections required to implement the necessary improvements.

2. This research will serve as a starting point to investigate how it could be overcome some of the usual problems identified in e-Learners' engagement, particularly by means of implementing new procedures in instructional design models. Those procedures will be rooted on ludic principles to let students "enjoy while learning and learn while having fun".

3. These results will also help educators who work with disabled students since *gamified* techniques make easier get and retain attention, and highly contribute to keep those learners focused on their educative activities. Reinforcing motivational factors, improving learners' engagement and increasing accessibility in educational contents portrait an interesting scene where researches on how and why get involved students suffering from Attention Deficit Hyperactivity Disorder (ADHD) could be developed. In this case, it will be developed an empirical quantitative method with two sampling groups (target and control) and interviews before and after the research in both groups. These data will be studied by means of a multivariate analysis of variance (MANOVA) to set the statistical significance of the main differences.

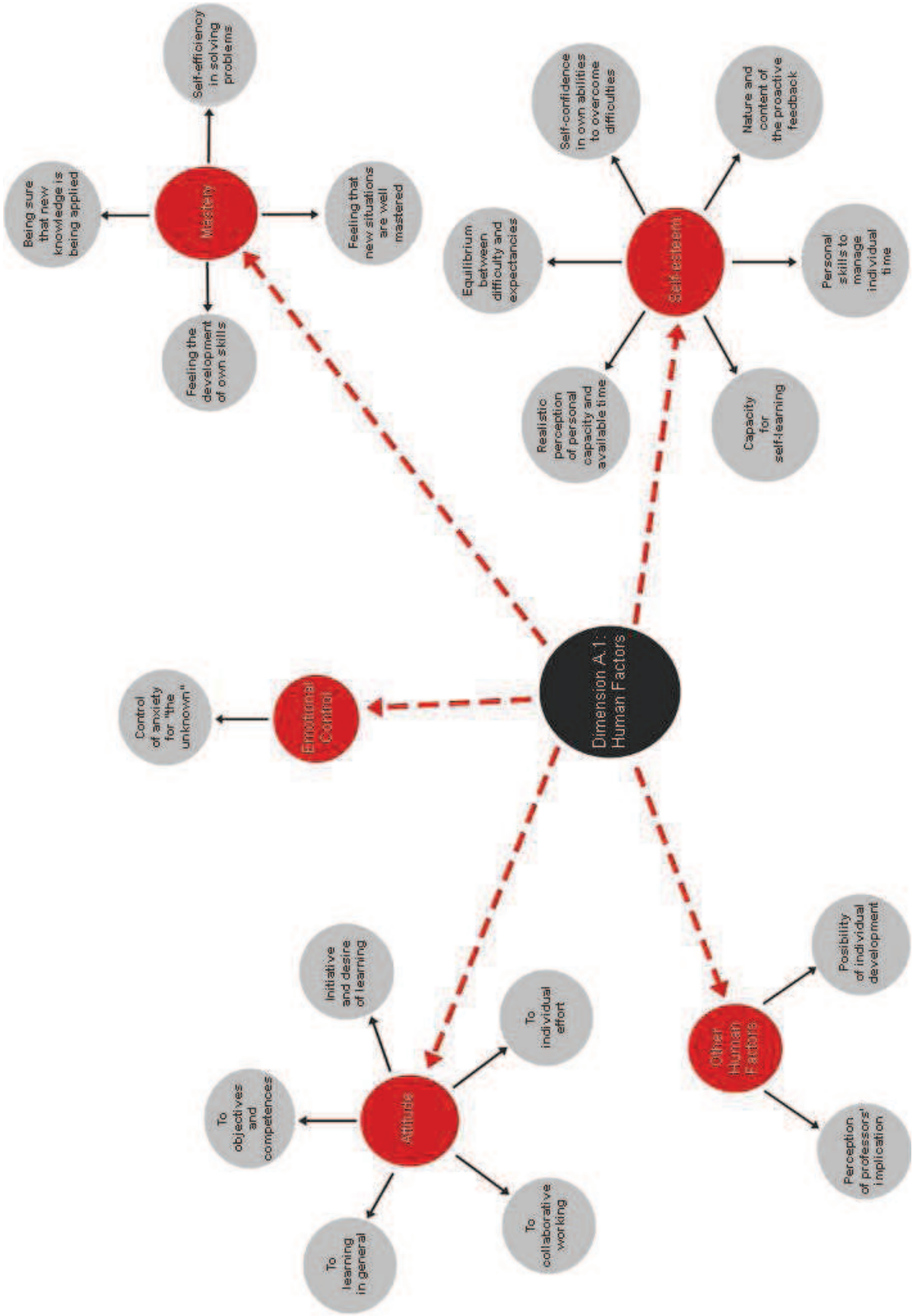

Figure 5: Intrinsic motivational elements: Dimension A.1: Human factors

Source: Compiled by the authors

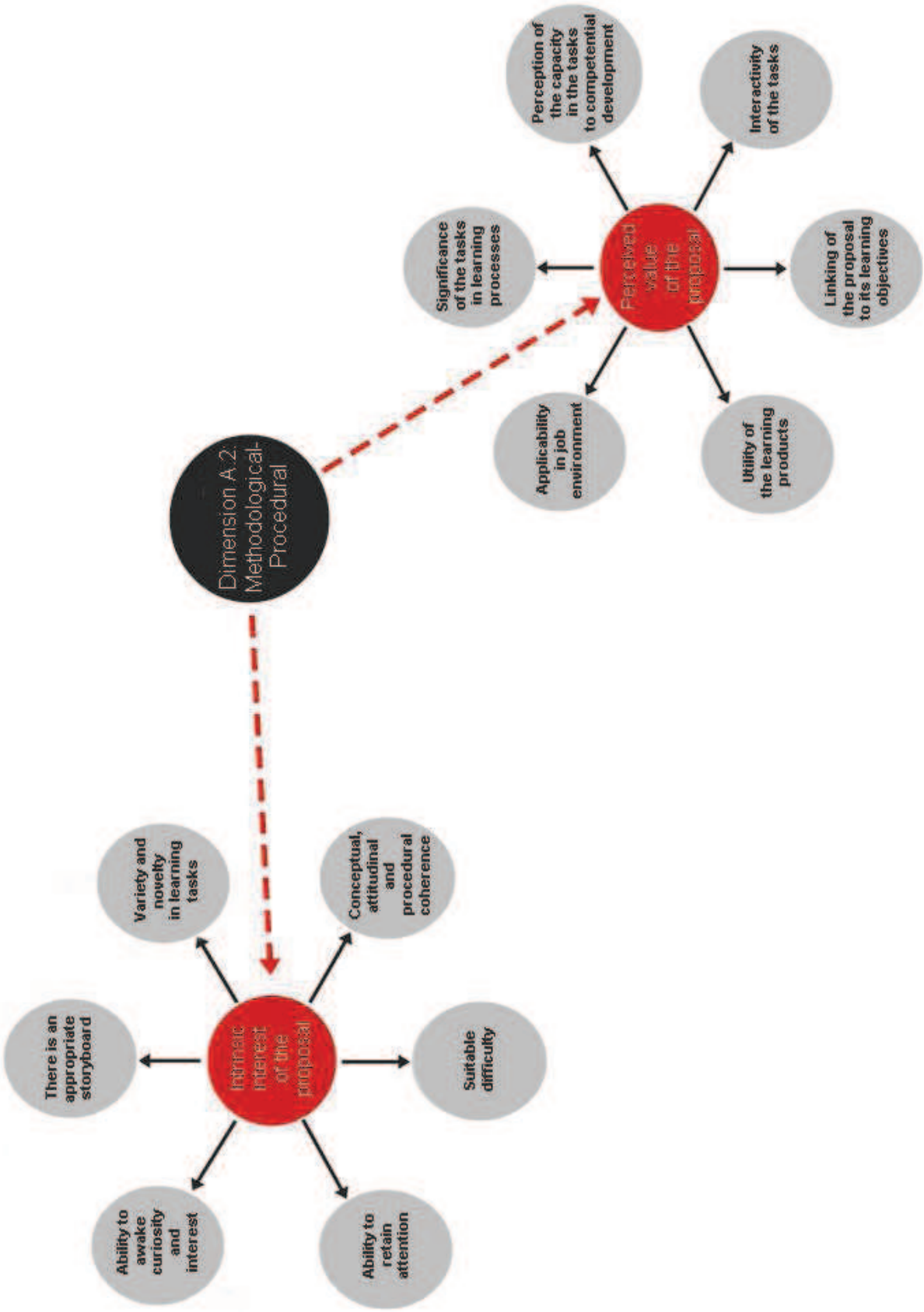

Figure 6: Intrinsic motivational elements: Dimension A.2: Methodological-procedural factors, Source: Compiled by the authors

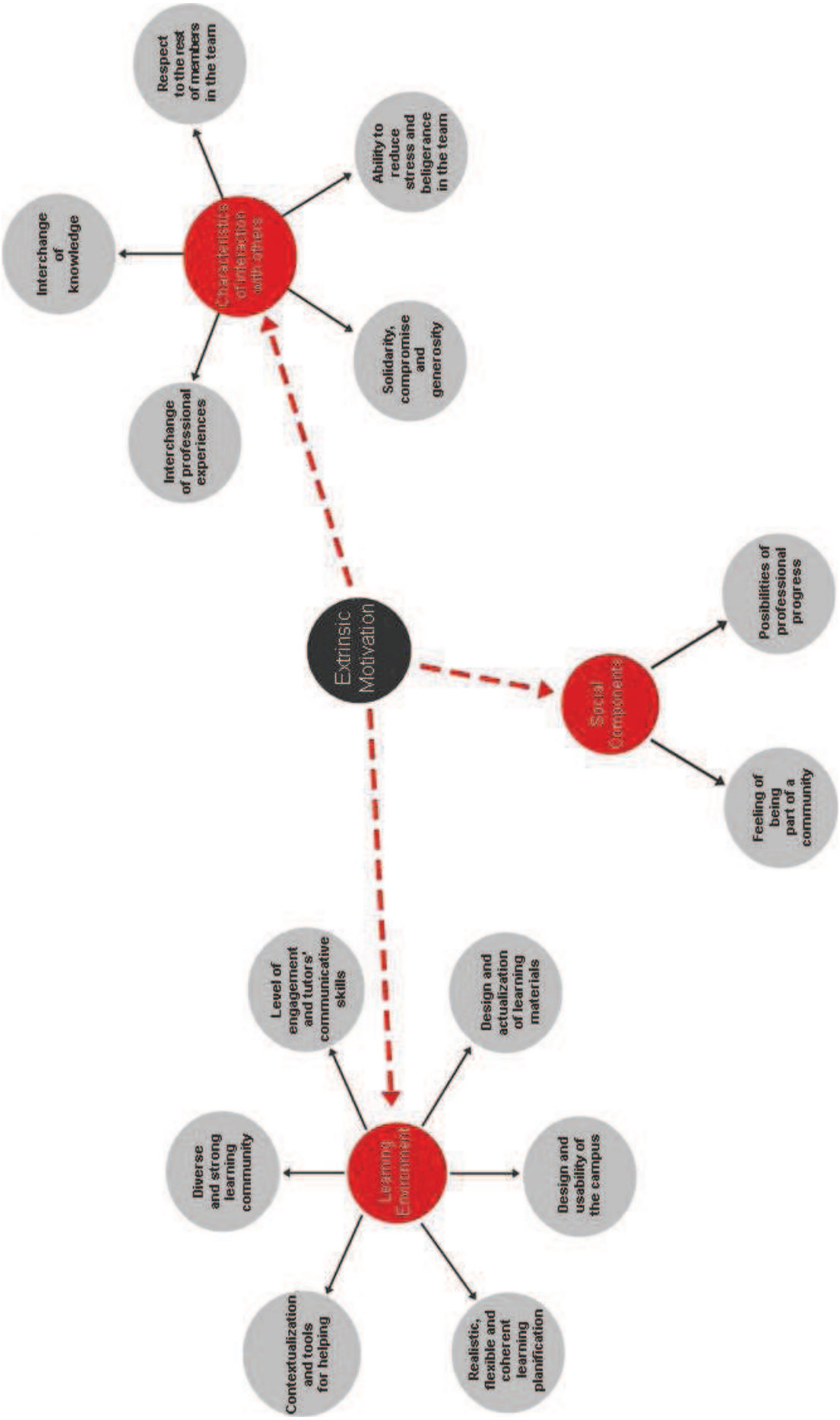

Figure 7: Extrinsic motivational elements, Source: Compiled by the authors

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"IN OUR PLAY WE REVEAL WHAT KIND OF PEOPLE WE ARE" - IDENTITY BUILDING THROUGH GAMIFICATION AND DIGITAL BADGES

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Abstract:

The lifetime of skills and particular knowledge is getting shorter and the new skills for new future positions are being currently obtained as part of lifelong learning process. Even if a part of these processes is actually recognized and fixed in a form of degrees, certificates and references, some of these achievements could become obsolete, some of them not useful in current practice and sometimes even weird. Nevertheless, these (learning) goals were reached; the learning process as such could be a fruitful life-lesson and the key factor for the future success.

The huge potential of Mozilla Open Badge Infrastructure (MOBI) – and in general any system that provides digital badges as a kind of incentive or reward – is therefore in collaborative setting that allows comparison with other "players" and mapping the progress "against the others". Without the possibility of comparison, building of e-portfolio becomes much more about storytelling, creating diary or blog and adding a context to selected achievements. Any knowledge provider issuing badges should therefore be able to provide additional information about the complexity of learning environment (incl. statistics), not only short description of criteria as requested in MOBI. This paper further describes opportunities and possible practical usage of gamification and digital badges for stimulation of (lifelong) learning.

Keywords:

Open badges, digital badges, lifelong learning, gamification, labour market

1. CURRENT TRENDS

The last few decades, we have been facing increased dynamics of knowledge and also the trend of decreasing half-life of knowledge (EC, 2006: 28). One of the most important identified drivers of these changes is technology. For the future, *'technology [still] will be one of the main drivers for changing job structures and requirements, and will thus determine which skills people need to acquire. We can already see that technology changes job requirements and profiles*' (IPTS, 2011,:28). As a consequence, the labour market and education providers changed rapidly, too.

Carnevale (2010: 110) is reporting that *'instead of looking for narrow, industry-specific skills in their new hires, employers instead tend to look for employees with advanced general education and skills. Once employed, then, the new workers receive more specialized on-the-job training*.' Such training has to be seen as a part of the continuous lifelong learning, because dynamic environment will continue to rapidly change as mentioned also in IPTS (2011: 13): *'Due to increased labour market dynamics, people will have to assume responsibility for their qualifications and take initiative in developing their professional careers. However, to improve the match of skill supply and demand and to make training targeted, effective and efficient, industry will also need to get more involved in shaping training and encouraging workers to participate in lifelong learning.*'

These changes lead directly to more personalised approach and learner-centred approach. *'Future of work is about engaging workers more than commanding them. (...) People want to be engaged in work with a purpose, and they want insight into*

how their work is linked to larger organizational and social goals.' (Reeves and Read, 2009, page 6).

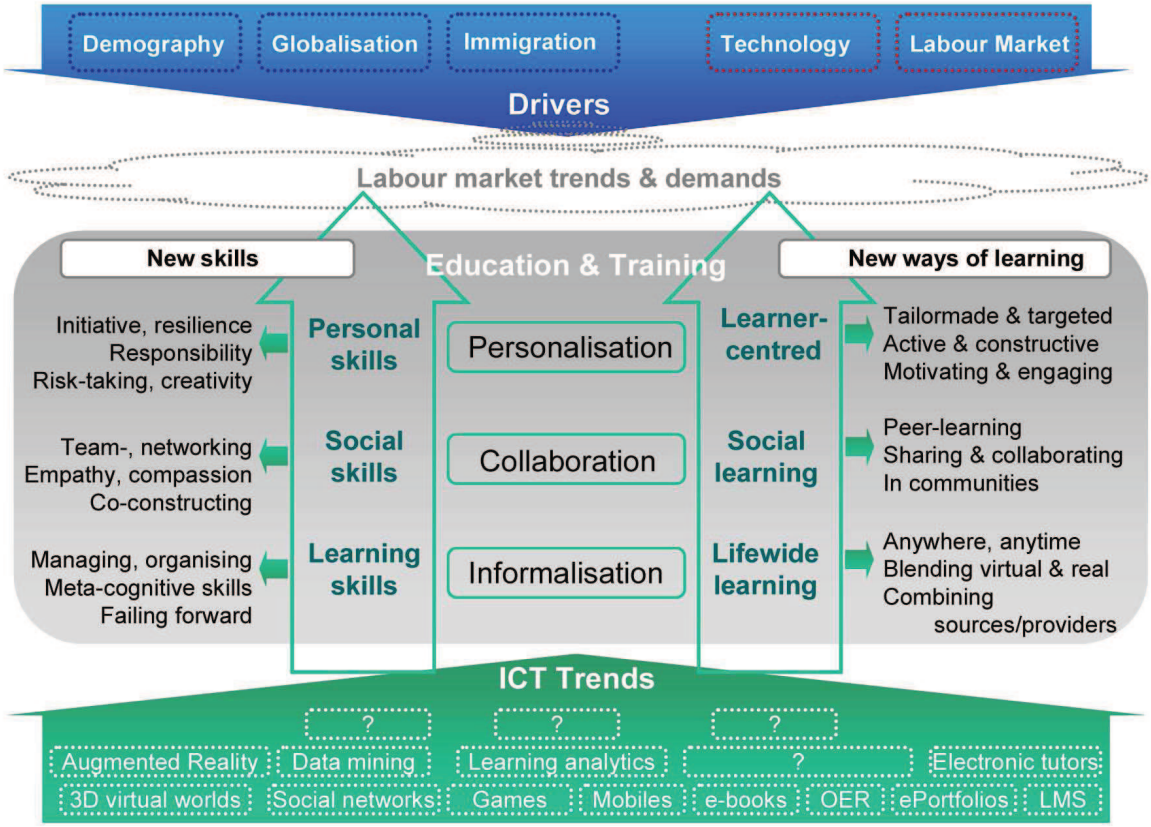

Figure 1: Conceptual map of the future of learning (IPTS, 2011)

As a result, work in the future will demand more adaptable skills and a greater capacity to learn continuously. Due to expected future high levels of innovation, rapid product cycles and firms are expected to put even more emphasis in the future on new, flexible ways of employing knowledge workers.' (EC, 2006: 20). However, for these new occupations and job types, that are going to emerge, there will probably not be enough specifically skilled and experienced people. It is obvious, that – as mentioned e.g. by Crosby (2002: 24) – entry requirements for new occupations and specialties usually would be flexible and most workers in new and emerging occupations would pair basic skills with knowledge or experience in a subject related to the occupation.

However, such a mismatch between supply and demand, between the jobs that will be created over the next decade and the education and training of adult workers (as reported by Carnevale; 2010, page 109) will not necessarily last for a long time. On one hand, the fastest-growing industries — such as computer and data processing services — are able to stimulate education providers to quickly react. And afterwards, over time, established and well-structured occupations as a whole are steadily requiring more education (Carnevale, 2010: 13). The strongest growth will therefore continue to be in high skill areas. However, hybrid skills (technical, business, creative, interpersonal) will also be increasingly important as mentioned in IPTS (2011: 28). The so-called “learning institutions” '*will be characterised by horizontal structures, mobilizing networks and flexible scalability. On the whole, flexibility and diversity will increase*.'

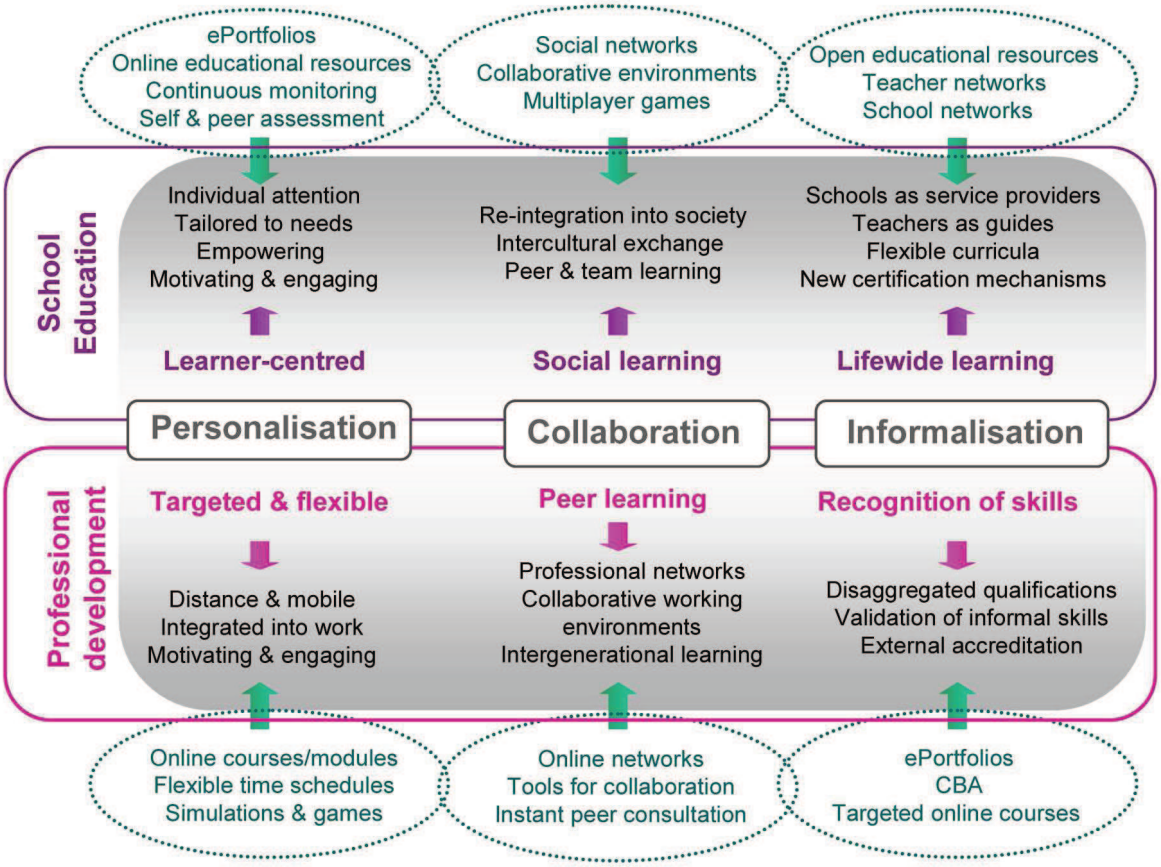

Figure 2: Overview of future Lifelong Learning strategies (IPTS, 2011)

In such a responsive and dynamic learning environment – characterised by networked learners, networked workers, networked Education and Training (E&T) institutions, and information forums promoting public debate – informal learning strategies will become an integral part of learning and will also (need to) be embedded in education and training.' (IPTS, 2011: 29)

2. DIGITAL BADGES

As reported in many sources (e.g. EC, 2006; EC, 2013; Eurydice, 2010 or Carnevale, 2010), equipping people with the right skills for the jobs of tomorrow means also active approach to recognition of informal and non-formal learning (as defined by the CEU, 2012). For applying for the future job could be increasingly important to provide evidence of any kind to prove the experience. As reported for example by OBSERVAL net (2013) or Eurydice (2010: 33-34) *'several countries have implemented educational frameworks which allow a more flexible and transparent transition between the different levels and sectors of education, and especially between vocational and non-vocational paths. Secondly, there has been a general move towards skills- and competence-based frameworks in education and training provision at all levels. Thirdly, several countries have been strengthening and extending apprenticeship schemes to provide more practical and employment-related training for students in vocational and higher education*.'

However, these initiatives and projects are mostly governed by top-down approach. Bottom-up approach should also be taken into consideration. As an example of such an initiative, Mozilla Open Badge Infrastructure (MOBI) was introduced and currently

(June 2013) further promoted by the Clinton Global Initiative via so called “Commitment to Action” with the goal to massively expand access to a new method of academic and technical skills assessment and to improve the futures of two million students and U.S. workers (DMLC, 2013).

MOBI is based on open metadata structure incorporated into the form of digital badge (picture). Such a file is therefore the independent digital object with encoded information about parameters of reached achievement (title, description, criteria, timestamp, issuer, earner etc.) and it is possible to validate its content. These digital badges could be awarded by any issuer to any receiver (represented by the e-mail).

Digital badges are not a new concept, most of the online communication platforms like discussion forums and definitely video games work with them somehow (e.g. in a form of icons marking “ranks” or “levels”). However, such pictures are not independent, can’t be transferred into any other platform without losing context, like MOBI-compliant badges can. MOBI principles could be therefore summarized as a community-driven, credible, distributed, open, interoperable, flexible and innovative solution how to empower the learner (Knight, 2013). In praxis, MOBI digital badges can be easily awarded e.g. in learning management systems, intranet or any online-platform and tend to be used as a gamification component.

Deterding (2011: 6) explains another aspect of their use: *'one of the big promises of today’s commercial deployments of “gamified” systems is easy access to more ecologically valid user data on the different kinds of experiences and natural categories that arise from interaction with these systems*', which is fully in line with the overall goal of digital badges to fix the informal and non-formal (learning) outcomes. There is also very close connection with so called “activity data” which is a broad term used to describe the record of any user action (online or in the physical world) that can be logged on a computer; and activity streams as a list of recent activities performed by an individual as we know it e.g. from online social networks (Campbell and Barker, 2013).

However, one of the issues we should be aware of, are criteria for badge awarding. There are no predefined rules or methods how to properly set criteria; it is up to any badge issuer. From a one point of view, this approach enables maximum flexibility. From another point of view, criteria could therefore be described too fuzzy to be able to link achieved goals with the competences as a part of the future personal e-portfolio evaluation as a part of the (for example) job application process. Based on the Campbell and Barker (2013, page 5) there is a need to provide sufficient amount of “paradata” which is a form of metadata that records how, and in what context, a learning resource (in this context with respect to the particular process of awarding a digital badge) was used. Criteria should therefore contain e.g. information about the other digital badges of the same type (the same badges) that were already awarded, and maximum possible amount of them, to be able to evaluate how common (or rare) is this badge. In some cases, it could be also useful to know the order of all receivers of such a badge, to be able to distinguish between the first who finished all necessary achievements and some others who could only follow. The more information would be provided, the better. Without such information, context of the badge could be limited to a provided fragment of information.

3. CONCLUSIONS

The new skills and knowledge are being continuously obtained as a part of the lifelong learning process. However, only a few of them will be fixed in a form of some certificate and most of them will never be used again as we are facing the increased dynamics of knowledge and also the trend of decreasing half-life of knowledge. Nevertheless, any evidence that could lead to future recognition of (learning) goals we reached could be important indicator of the social status and labour market position.

The huge potential of Mozilla Open Badge Infrastructure and digital badges comes from their ability to provide authorized evidence and possibly also some comparison with others. All knowledge providers issuing badges should therefore carefully plan what could be relevant for future reviewers and provide as much evidence as possible.

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BIOGRAPHY

Jakub Štogr is the owner of the company Navreme Boheme, s.r.o. He is currently working mostly as: an evaluator, (data) analyst and project manager, but also active as: lecturer, researcher, information specialist and developer of information systems. Expert and project management experience with different international research projects, e.g. in the field of human resource (HR) development, HR management, information literacy, recognition of learning processes, standardization, self-assessment and certification. Expertise in the field of social innovation, distance learning (e-learning), gamification, digital badges, open source platforms (Drupal, Moodle, Mahara, WordPress, LimeSurvey) and usage of ICT for the special target groups (incl. implementation of inclusion strategies and multiculturalism into praxis). Involved in different impact evaluations of EU-funded Operational Programmes in Czech Republic (e.g. OP Human Resources Development, OP Human Resources and Employment, Education for Competitiveness OP, OP Transport) and abroad. Work experience with OP Environment, technical assistance of OPs and GIS (Green Investment Scheme). Master degree from the Charles University in Prague (Czech Republic) - Faculty of Arts - Institute of Information Studies and Librarianship in the field of Information systems. Teaching subjects like: Systems of Electronic Learning, Social Aspects of Electronic Communication, Processing Information Sources and eGovernment. He is an editor of www.Ikaros.cz - ejournal about information society. Keen on new ways of communication, cooperation and technology usage, social aspects related with multi user virtual environments (MUVE) and online games (e.g. MMORPGs), virtual communities, human-computer interaction (HCI) and knowledge transfer. For a long time scout leader of youths (and still continuing) implementing experiential, adventure and/or outdoor education together with LARP (live action role playing) principles.

INTEGRATING GAMES INTO THE SYLLABUS

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Abstract

Contemporary teaching strategies in our country have become a trend for a considerable number of teachers, particularly those of the young age.
New teaching strategies that are being implemented at the Faculty of Education, which is the institution that prepares future teachers, are applied through different techniques that make teaching more attractive and more successful.
However, there are still teachers who think that including games in teaching is a waste of time which distract students from learning the theoretical part of the lesson sufficiently.
This paper research will present the importance of games integration into the course syllabus, their implementation into the classroom and the impact of games into developing knowledge among students.
Two different groups of students that I have worked with concurrently have been part of this paper research for one semester. I have worked with one group using contemporary teaching strategies, including games as part of teaching. While with the second group I have worked by using the techniques giving the students many assignments during their study.
This paper research has been done to see the outcome of gained knowledge in these two groups. Which of the groups will have higher achievements at the end of the semester?
Paper research has been a quasi experiment with two groups; experimental group and control group, developed for a period of 15 working weeks.
I have used comparative methodology, comparing the work and achievements of the two groups.
According to the outcomes, it shows that the group where games integration was part of teaching has higher level and quality of the gained knowledge among the students. Students from the groups where games were implemented during classes stayed more focused and absorbed the covered material easier, which resulted in greater success at the final examination.
While the other group of students was more tired, less concentrated and had lower results at the final examination.

Key words*:* Teaching, syllabus, games, studying, etc.

1. INTRODUCTION

New Teaching strategies that include game implementation in the teaching plan and program are considered useful only for the students of the elementary and secondary schools. However, the new teaching strategies that include games are not considered adequate for students at university level. Application of different games during lectures in classrooms in higher education, is considered inappropriate by many teachers. They consider it a waste of time and believe that it underestimates the importance of matters discussed in the classroom during the lectures. These teachers believe students need more information, assignments and evaluation in order for them to be better prepared for their profession.

I oppose to this theory since I think that application of games in the class at university level brings more sustainable and more effective results among students, instead of just offering them information homework assignments and evaluation tests.
I'm going to present a research here which I did using the quasi experimental methodology, applied in two groups of students; the experimental group were I used new teaching methodologies including games; and the control group were I used methodologies that did not include games, but included interactive teaching.
Therefore, I decided to divide the group of 60 students into two smaller groups of 30 students each. Students were part of the third year at the Albanian Language and Literature Department of the Faculty of Education.
I had 15 weeks in total for this research including the period to get the final outcomes. The main question of the research was: "How much does the application of games in teaching process influence students' achievement?".
There were 15 topics in total that I had to cover with students during the winter semester. Those topics had the same content, same assignments for students, same evaluation tests but different teaching strategies.
With the first group, I used contemporary teaching strategies, applying different games related to the topic we were dealing with. While with the second group, even though I used the interactive form of teaching, apart from the giving of information, assignments and evaluation test I did not offer any kind of games during the lesson.
The topics I covered during the course had the same content. For each class I had prepared materials, including assignments for students. Both groups had 3 hours of lectures a week in the same hours of the day but on a different day. After each hour (45 minutes), students had a 10 minute break. First group had lectures on Tuesdays while the second group had lectures on Wednesdays. This was a good timing for me to do the research as planned.
At the start of the first class (first 45 minutes) students in both groups were ready for new topics and they concentrated on learning. Elaboration of the topic for the first group (experimental group) was interested and attractive in the first part of the class but in the second 45 minutes it started to become annoying even though I was applying contemporary teaching strategies with interaction as an important part of it.
In order to increase groups' interest and concentration on learning, I organized games related to the topic in the second part of the class. In the game, each student was directly involved with a particular role or assignment. I pre-selected the games carefully with the purpose of helping the students gather information while having fun.
The games were designed to last 15 -30 minutes. During this part of the class, none of the students of this group were annoyed or bored. They helped each other with information and shared their experiences without hesitation. At the same time, they were having fun together, enjoying the class at maximum. They express different feelings, i.e. joy, encouragement, stimulation. They where persistent in achieving results which were closely related to the information they had to learn regarding the topic of that day.
I used various types of games like: quizzes, role plays, rhythmic games, etc. After the games were over, students had spent a lot of energy and had had a lot of fun. They were ready to reflect on the activity and the topic.
This part helped students to calm down, analyze every stage of the game, and describe what they had done and what they had learned. During this time an extraordinary

cooperative atmosphere was created, with creative critical and tolerant discussions over the issues. After the reflection time at the end of the second 45 minutes of the class students had a 10 minute break. The last part of the class started with individual or group work of students when they had to do assignments related to the topic that was presented to them during the first parts of the class. It did not matter that 90 minutes had already passed, students continued to be active, with critical thinking and creativity, full of energy to fulfill the given assignments and prepare their presentations.
Usually their assignments took them around 30 minutes to complete. In the last 15 minutes of the class, students could present the results of their work which they accomplished successfully.
Apart from the successfully accomplishing their tasks which meant that they remembered the information given to them, and creativity, this group has also achieved that they were working together as a team in a very positive atmosphere. They functioned perfectly as a team, by sharing ideas, or even arguing in a creative and tolerant manner. The tasks they presented in the end were of a very good quality.
In the second group of students (control group), students were also very interested in the first part of the class – elaboration of the topic. Elaboration included involving students into the debates related to the topic. Also this group had a 10 minute break after the first 45 minutes of the class session.

Beginning of the second part of the lesson included discussion and feedback from students allowing them to focus on analyzing the topic and information we shared during the first half of the class. They discussed the given assignments and the tasks they had to accomplish in smaller groups. Analyzing those matters was not easy for this group of students. They debated a lot but were unable to create their attitudes regarding the issue we were discussing. They had a lot of insecurity and speculated a lot.
In the end of the class, during the last 15 minutes, they were unable to give any effective feedback regarding the topic we had covered and discussed in smaller groups or individually. After the end of the second part of the class, we had a 10 minute break again. In the third part of the class, students had to work on their given assignments and tasks in smaller groups. At the beginning of the third part, I could see that students felt tired and their lack of concentration on work was obvious. Some of them had headache and they kept stretching.
Even though I encouraged them and supported them continuously, it did not produce good results.
I was observing them during the time they were working in smaller groups and the way they were discussing. I noticed that they were not very tolerant and had a harsh approach team spirit.
Despite the fact that they were working in smaller groups, some of them kept working individually, some were silent and did not contribute to the discussion.
After 30 minutes of their preparation time, the results of their final presentations were not very good. Their work lacked analyzes and creativity. At the end of the session, all of them felt tired.
After the 15 weeks of the course, students in both groups had to take the final examination test. Students from the first group reached better results than the second group. For the students in the first group, the exam was not stressful and they could remember the information they had gained during classes as they remembered the

games we had played together. For students in the second group, the exam was very stressful. All the time during the exam their concentration was upon the knowledge they had learned and the assignments they had done. As a consequence of this insecurity, the second group had lower results comparing with the first group.
After I published the results I spoke with the students of the experimental group and the control group about their achievement.
Students of the experimental group said that: “During classes apart from the things we learnt we had also great fun.” “We had always looked forward to the next class as we never felt tired even though we had 3 hours of class each week.” “Games help me not to feel annoyed”. “Games have helped me remember things better“. “When I’ve entered the exam room, I felt as if I was in a regular class and expected there would be a great game at the end.” “I have learned a lot of good things even though my mind was on the games we were playing”, etc.
On the other hand, students of the control group expressed themselves like: “We had many assignments and they made us tired”. “I couldn’t bear the worthless comments from my colleagues and this has demotivated me to learn.” “I had headache during the class and I lost my concentration”. “We had no good cooperation as a group; therefore we couldn’t achieve good results.” “I liked the interactivity and discussions during the class but I don’t know why I felt tired during the assignments part.” “We didn’t motivate one another, that’s why we didn’t have good results”. “I wished I had been in the first group as they had a lot of games that had helped them to achieve great results, while we had many assignments”, etc.

Finally, after analyzing the situation with both groups and consulting literature review on this issue, I came to the conclusion that both groups of students were active and had similar capacity for gaining new knowledge. They had similar readiness and commitment for work. Implementation of games in the learning process made those two groups differ from one another in achieving a good result.

CONCLUSIONS

Based on the researches and facts, games are an inexhaustible source of pleasure for humans. They help with burning excessive energy, creating a working habit, and concentrating. They refresh the soul and mind and inspire logical, creative and critical thinking. They motivate people to achieve better results at work as well as help create skills for team work. Therefore including games in teaching and learning processes is necessary not only at lower schools but also with students at the university level. Students can refresh their mind and soul through games and they can achieve greater results in their work. Games do miracles not only in the childhood but all the time.

… “We also believe that as teachers there are times when telling and showing are appropriate, however, students, are most empowered when they are involved. (Griffing & Butler. 2005).

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EVALUATION OF DRAW SOMETHING APP IN AN EDUCATIONAL PERSPECTIVE

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Abstract:

Vocabulary is considered to be one of the most important components for learning a foreign language. Research suggests that educational games could be used for vocabulary learning. In the literature, there are cases of playing *Pictionary*, a word guessing game, as a classroom activity to learn new vocabulary. *Draw Something* is an online and collaborative game in English, similar to *Pictionary*. It is a mobile application which is played in pairs with players trying to guess the word from their partner's drawings. The purpose of this study is to evaluate *Draw Something* in an educational games perspective. This research is based on a questionnaire focusing on players' experiences of vocabulary learning while playing *Draw Something*. The data is collected from players who are not native English speakers. Results show that 44 out of 52 (85%) players have learned new vocabulary by playing *Draw Something*. Players use a variety of strategies to learn the meaning of an unknown word; using a dictionary, using a translator, asking someone, and using cheating application developed for *Draw Something*. With some additions to strengthen the educational features; a vocabulary building game similar to *Draw Something* could be developed.

Keywords:

English as a foreign language, vocabulary, educational game, mobile app, Draw Something.

1. INTRODUCTION

Vocabulary is considered to be one of the most important components for learning a foreign language. However, most learners experience difficulties in learning vocabulary especially when they lack motivation (Jung, & Graf, 2008). Learners perceive vocabulary learning as boring, especially digital natives who grew up in the digital age (Yip, & Kwan, 2006; Turgut, & İrgin, 2009). Since educational games make language learning more entertaining, their value is increasing (Donmus, 2010).

A lot of research has shown games' impact on motivation and motivation's support on learning (Rama, Ying, Lee, Luei, 2007; Li, Liu, Boyer, 2011). There is also research which shows the importance and potential of games in language learning (Turgut, İrgin, 2009; Griva, Semoglou, Geladari, 2010; Peterson, 2010; Li, Liu, Boyer, 2011). Rama, Ying, Lee, and Luei (2007) states that language games can provide competition and competition enhances effective learning. Various studies done by Marzano (2004), Sibold (2011), and Peterson (2010) show that games can be powerful tools for building vocabulary.

Pictionary is a word guessing game, which is played with teams with players trying to find given words from their teammates' drawings. *Pictionary* is often highlighted in the literature as a classroom activity for vocabulary. For instance, Belisle (1997) defined *Pictionary* as an excellent exercise that can be adapted to vocabulary building. Choudhury (2010) emphasizes that *Pictionary* is one of the practice activities to

strengthen vocabulary learning that force learners to use new vocabulary in pairs or groups. Sökmen (1997) says *Pictionary* is a fun way to associate a picture with a word. She says students' own drawings are more memorable for them. So she suggests *Pictionary*'s classroom version can be used in vocabulary learning.

With recent technological developments, the use of mobile applications in education has increased. Mobile technologies offer many practical ways in language learning (Chinnery, 2006). Li, Liu, and Boyer (2011) emphasize that the integration of gaming and learning increased with the development of gaming technologies and e-games' potential for language learning.

Huyen and Nga (2003) searched an answer to the question whether games help students to learn vocabulary effectively, by applying games in their own classes, observing other teachers' classes, and interviewing teachers and learners. They tried to shed light on the students' reactions, feelings and the effectiveness of games in vocabulary learning. The research shows games are effective in vocabulary building.

Yip and Kwan's (2006) research shows that retention of the vocabulary which is learned by playing online vocabulary games are longer and learners retrieve more words in vocabulary games than face-to-face lessons. This study also shows both students and teachers admit online games as effective vocabulary tools.

Turgut and İrgin (2009) made a qualitative study investigating learners' experiences of language learning while playing games in internet cafés. They collected the data through observation and semi-structured interviews. Results showed online games promoted language learning and vocabulary.

Draw Something is an online and collaborative game in English, similar to *Pictionary*. It is a mobile application which is played in pairs with players trying to guess the word from their partner's drawings. Two players take turns in drawing. Players who form these pairs are not opponents, they are team players. When one guesses the other's drawing, they both earn coins. Application gives three random words to draw, which are ranked by difficulty. Drawer chooses one of the words and draws. Then the guesser views the drawing, with blank spaces representing the number of letters in the word, and a selection of scrambled letters, which include all the letters of the word and some extra letters. The guesser has unlimited tries to find to word. Coins allow the players to buy colors for drawing or bombs to eliminate some of the letters.

The purpose of this study is to evaluate the *Draw Something* in an educational games perspective, especially the affects of *Draw Something* on vocabulary building.

2. METHOD

The data is collected from *Draw Something* players for whom players who are not native English speakers. A total of 52 players, 23 men and 29 women, have participated in the survey.

A questionnaire has been developed for determining players' opinions about learning vocabulary in English, mobile applications, *Draw Something* game, and building vocabulary by playing *Draw Something*.

Büyüköztürk (2005) explained the questionnaire development process on four steps as "defining the problem", "writing the items", "asking experts' opinions about the questionnaire", and "pilot study".

First of all, there have been literature reviews about games in language learning and vocabulary building for defining the problem. 3 players have been interviewed about their opinions about the game and especially their strategies in the game, for determining the items in the questionnaire. Prepared items have been discussed with 3 experts in instructional technology, English language education, and assessment and evaluation. Considering the experts' opinions some of the items have been changed. The questionnaire was filled in by 10 participants as a pilot study. After the pilot study, some of the items have been revised.

3. FINDINGS

25 of 52 participants (48%) stated that they use mobile applications for vocabulary learning. The names of the apps have been asked for with an open ended question. Then the apps have been categorized. There have been four types of apps that were identified as the ones that players use for vocabulary learning such as dictionaries, translators, vocabulary building applications, and games. Players defined *Draw Something* as one of the vocabulary learning games. The other games highlighted were *Scrabble*, *Words with Friends* and *Letter Press*. The study shows that some of the participants play commercial games as educational games for vocabulary building.

Results of the study show that participants' average play count of *Draw Something* is 56 times a week. In other words they either draw a word or guess a word from a drawing 56 times a week on average. It can be interpreted as players spend a lot of time with *Draw Something*.

One of the questions was about defining *Draw Something*. 46 participants (88%) defined *Draw Something* as entertaining, 18 participants (35%) defined it as addictive, and 17 participants (33%) defined it as instructional. There were some negative thoughts too, 5 participants (10%) defined *Draw Something* as boring or a waste of time.

44 participants (85%) stated that they learn new words while they are playing *Draw Something*. While *Draw Something* is not an educational game, most of the participants admitted that they are learning vocabulary with this game.

Another question will give details about how they learn new words. When players face an unknown word in the game, all of them try to learn the meaning. They all have their own strategies, some of them use more than one strategy; 42 of them (81%) use dictionaries; 43 of them (83%) use search engines like Google; 37 of them (71%) learn the unknown word from someone; 7 of them (13%) learn the unknown word from *Draw Something* cheating applications. All of the participants use at least one of these ways to learn the unknown word.

In addition, 46 participants (88%) stated that they prefer learning vocabulary through games.

4. CONCLUSIONS

While *Draw Something* is not an educational game, 85% of participants admitted they learn new vocabulary by this game. All of the participants use at least one strategy to learn the unknown word. These strategies are using dictionaries, using search engines, asking to someone, and learning from cheating applications. It can be

stated that the motivation of the game forces them to learn the new vocabulary. 46 participants (88%) stated that they prefer learning vocabulary by games.

Draw Something seems to be an effective tool for building vocabulary for learners of English as a second language. In this context, a game, similar to *Draw Something,* which focuses on vocabulary learning could be developed. It is important that not to unbalance the dynamics of the game and to develop educational game like this commercial game. A dictionary could be embedded to this game, and unknown words could be saved for repetition. There could be themes for words and words could be chosen from the curriculum.

It can be suggested that all of the commercial games which were mentioned in this study such as *Scrabble*, *Words with Friends*, *Letter Press*, and others could be analyzed for understanding the dynamics of learning vocabulary through games. Educational games, just like commercial games, should be developed to support vocabulary building. Yip and Kwan (2006) also suggests more games are needed to retain the students' interest and learning.

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COLLABORATIVE LEARNING WITH LEARNING TRAIL DESIGN TOOLKIT

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Abstract:

One of the main thrusts of infusing new technology in Education is creating and facilitating online collaborative learning environments. Pupils learn collaboratively when they typically work in pairs or in groups. Schools infuse collaborative learning both in classrooms and out of classrooms via experiential learning. Pupils are taken on learning journeys or learning trails where they work in groups collaboratively on specific tasks. Such learning journeys are typically designed by the educator or in liaison with an external vendor. The learning objectives are cascaded in the learning journeys. However, in a one size fits all system all pupils undergo the same learning journey. With the Learning Trail Design Toolkit with Trail Shuttle software designed by a group of schools in collaboration with Rockmoon Pte Ltd (a software vendor), pupils and educators can customize the trail to diversify and differentiate it with common learning objectives. Pupils work collaboratively to design the trail and execute the trail with the use of a device such as the IPad. Pupils then go through the trails with the iPads designed by their peers to assess the trails. The toolkit allows room for authentic collaborative learning with assessment for learning as well as creative thinking in place. Pupils gain in depth knowledge of the location where the trail is designed as they explore innovative strategies to allow the trailer to participate in the accompanied activities of the various hotspots in the trail. This paper and presentation explores the various possibilities of creating, assessing and room for collaborative and self-directed learning in the processes of a trail of learning journeys. The presentation engages the audience on how this toolkit was infused in a school wide approach with pupils as well as with staff on various learning journey opportunities.

Keywords:

collaborative learning, collaborative learning environment, learning trail, assessment for learning, mobile technology

1. DEFINITION OF LEARNING TRAIL DESIGN TOOKIT (LTDT)

A Learning Trail Design Toolkit harnesses the affordances of wireless mobile technologies and engages a wider community of learners in self-directed and collaborative learning. Using the Learning Trail Design Toolkit (LTDT) to design learning trails can eventually be shared and experienced by others. The advent of mobile technologies has dramatically revolutionized the conventional role of teachers and students. Harnessing the affordances of technology-mediated cognitive tools to engage learners, enhance learning effectiveness, empower and enable synchronous and asynchronous interaction and collaboration is believed to bring about greater student autonomous learning.

In line with the objectives of C2015 to develop confident, self-directed, concerned and active contributors to society and the 3rd ICT Masterplan's vision of "harnessing ICT effectively to develop self-directed learners with collaborative learning skills", LTDT will enable pupils especially pupils who are studying (History, Geography and Social Studies) to make explicit connections between their classroom experiences

and immediate environment by tapping the affordability accorded by LTDT. Using the pedagogical approach of inquiry, pupils will be provided with the opportunities to construct their own knowledge and understanding in location-specific areas where content relevant to current and future curriculum will be embedded in the learning experience.

1.1 Definition of Collaborative Learning

In line with the 21st century competencies and the desired outcomes collaborate learning promotes pupils' in one way or the other. The term "collaborative learning" refers to an instruction method in which students at various performance levels work together in small groups toward a common goal. When students interact for the purpose of achieving better understanding about a concept, a problem or a phenomenon, or to create a novel piece of knowledge or solution that they do not previously know, they are engaged in collaborative learning. Collaborative learning can be simply defined as social interactions that are targeted towards deeper knowing (Chai & Tan, 2010). These skills and process lead to the realization of the Desired Outcomes of Education (DOEs), namely Self-directed Learner, Active Contributor, Confident Person and Concerned Citizen.

Beside knowledge outcomes, students who are engaged in collaborative learning would also acquire soft skills such as ways of seeing from their peers' perspectives, internalized group and communication skills, and awareness of their personal strengths and weaknesses as collaborative learners if and when teachers guide them in reflection.

Another approach collaborative learning can be understood is from a "construct" perspective as mooted by the Ministry of Education in the recently released Third Masterplan for ICT in education (mp3).From such a perspective, collaborative learning can be viewed in terms of the Group Processes construct and the Accountability of Learning construct.

1.2 Theories of Collaborative, Cognitive Learning and Nature of Task Design in Trails

Collaborative learning can be subsumed as cooperative learning. According to the University of Tennessee (1998), "cooperative learning is a generic term for various small groups interactive instructional procedures." This learning concept allows small groups of students to work together to help themselves, simultaneously helping their teammates to learn. Students work together on common tasks or learning activities that are best handled via group work, namely designing and executing a trail with LTDT.

Characteristics of group work involve the following

- Students working together in small groups between four to five members
- Students who are positively interdependent as how they design trails for their peers to execute.
- Selection of hotspots and design of accompanied activities are structured so that students need each other to accomplish their common tasks or learning activities.
- Students are individually accountable or responsible for their work or learning.

We can analyze learning outcomes as opposed to the design of trails, in the light of two theories, namely, Behaviorism and Constructivism. Skinner and Watson, the two major developers of the behaviorist school of thought sought to prove that behavior could be predicted and controlled (Skinner, 1974). As one designs the trail, the behaviorists elicit predicted response from the trail participant. In order that the participant is completely engaged in the trail and able to derive stated learning outcomes, the behaviorist will explore all possible avenues to carefully design the activities.

The constructivists, however, viewed learning as a search for meaning. An artifact or a learning space that defines a hotspot has several accompanied associations where the constructivist would like to elicit from the trail participant. Approaches that are more constructivists in nature and have resulted in an emphasis on problem solving for students is a primary characteristic of the constructivism theory. Though positive aspects of Behaviorism in learning have emerged, there has been an ongoing shift toward more Constructivist learning situations involving problem solving (Sutton, 2003). The main argument is that learners actively construct their own knowledge based on their own experiences. This has resulted in an increase in popularity for the constructivist approach when utilizing instructional technologies such as the LTDT.

The cognitive domain of Bloom's Taxonomy (Bloom, 1956) involves the knowledge and the development of intellectual skills. This includes the following:

- **Remembering**: Retrieving, recognizing, and recalling relevant knowledge from long-term memory.
- **Understanding**: Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.
- **Applying**: Carrying out or using a procedure through executing, or implementing.
- **Analyzing**: Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing.
- **Evaluating**: Making judgments based on criteria and standards through checking and critiquing.
- **Creating**: Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing. (Anderson & Krathwohl, 2001: 67-68)

Planning and executing a trail for a particular audience and evaluating the trail based on a rubric definitely entail the Evaluating and Creating in the taxonomy. Students put several elements together based on their preliminary research of the place and hotspots, reorganize elements to form a coherent trail to ensure maximal understanding of the place and this forms the basis of Creating knowledge in the taxonomy.

1.3 Process of Infusing LTDT in Learning

The objectives of infusing LTDT in learning are promote critical thinking among pupils and at the same time to allow pupils to learn independently.

Ideally, infusing LTDT in Learning encompasses the following process. First, pupils discuss on the theme of inquiry and identify the objectives of the learning. This initial discussion helps pupils and teachers to cultivate a sense of ownership to the trail.

With collaboration learning, pupils would then proceed towards further discussion that may lead to idea improvement and argumentative knowledge construction. They articulate what they perceive with regards to the subject matter or the phenomenon. Once students' ideas and conceptions are articulated, a pool of ideas is made public within the groups and these ideas are naturally transmitted to the development of the lessons. For students engaged in collaborative learning, there will be effective Group Processes and Individual and Group Accountability of Learning

1.4 What are steps involved in implementing a trail?

In our school, pupils and teachers actually plan out on the steps when planning a trail: The steps are:

1. The first step was to work out what should go in the trail.

2. Having mapped a trail, pupils will start collecting data, photos and information to create the trail

3. As part of Collaborative learning, pupils will then discuss the various ideas to create the trail. They are actually given the liberty to choose their learning objectives as the end of the trail.

4. Last but not least, pupils will test out the trail they have created and make necessary changes to it. This allows them to edit their own trail and promotes self-discovery learning.

1.5 LTDT versus Fixed Conventional Trails

The advantage of using LTDT in learning is that pupils and teachers have the power to customize the trail to their own learning needs. They will have the liberty to choose their learning trail venues as well how they their trail to be designed. LTDT can be used to design trails to suit different ability of pupils. These characteristics may not be possible in a Fixed trail.

2. LTDT AND COLLABORATIVE LEARNING (COL)

2.1 The link between LTDT and COL

LTDT's unique features allow students to create their own learning trails as opposed to experiencing readymade trails. Not only does this approach gives students voices and choices on what, when, how and whom to learn from, it also provide excellent opportunities for the COL and self-directed learning. Teachers and students play the role of trail designers, creating customized learning trails to support learning across various grade levels and subject areas.

2.2 Link between COL and Assessment for Learning (AFL)

Assessment for Learning is student-centered; it adopts practices that fully involve the pupils and it empowers them to be in charge of their own learning. Collaborative learning can be used as an effective strategy for AFL as it places pupils as active participants of learning and allows to pupils evaluate and monitor their own understanding.

2.3 Collaborative Learning viewed as an aspect of Assessment for Learning and LTDT

A key concept in AFL is learners and teachers setting their own learning intentions and success criteria. LTDT enables pupils to take charge of their own learning and enhances collaborative learning with pupils setting their own and group learning goals; The pupils understand clearly what they expected to gain from the experience. LTDT also affords pupils the opportunity to reflect on their contributions while creating their own. This creates a certain mindfulness and reflection among students. LTDT is a particularly rich vehicle for supporting collaborative learning as well an important aspect for assessing pupils learning.

2.4 Principles of COL and LTDT Design Principles - Its attributes and in comparison to AFL

In COL, knowledge is constructed, discovered, and transformed by students. Learning is conceived of as something a learner does, not something that is done to the learner which is the focus of AFL. Students do not passively accept knowledge from the teacher or curriculum. LTDT's design allows the pupils to activate their existing cognitive structures and aim at developing students' competencies and talents.

2.5 Its implication for educators who elicit COL among students

COL will help educators to inculcate positives values among students: increased achievement, engagement, and pro-school attitudes. LTDT adds the flexibility of time and space as students collaborate with any students. Instead of spending large amount of time teaching a concept, educators take a back seat and rather act as a facilitator. In one COL lesson using LTDT, educators can achieve more learning points than a traditional lesson. Furthermore, the educators are able to view the lesson as AFL and assess the pupils learning effectively. Thus, there are only positive implications for educators who elicit COL among students.

3. LTDT IN SCHOOLS

3.1 The place of COL in the Singapore classroom and in designing trails.

Collaborative learning has been widely practice in the Singapore classroom. This strategy is used hand in hand with traditional teaching methods to further enhance the learning process. In Singapore, more teachers are using this approach in their daily teaching. It can be done for subjects like Social Studies, Science and English.

When designing trails, pupils are expected to work collaboratively. In this process, pupils are grouped heterogeneously. In Singapore, we live in a multi-racial society when there are Malays, Indians, Chinese and Eurasians. Therefore, race could be a consideration when it comes to grouping pupils together. Another consideration would be pupil's learning abilities. In particular for designing trails, pupils are grouped in mixed-ability grouping. This interaction encourages pupils to learn from each other's skills and experiences. Each statement and opinion made by each member is subjected to scrutiny. This shared learning approach gives students to engage in meaningful discussion, be responsible for their own learning and thus, helps them become critical thinkers (Totten, Sills, Digby, & Russ, 1991). Also, it promotes the

development of soft skills pertaining to group-based problem solving. This open communication channel helps pupils to further improve their trails.

3.2 Strategies for educators in promoting COL via LTDT.

LTDT gives room for collaborative learning. A strategy which was used in designing this toolkit is the 'Jigsaw' approach. In this approach, pupils depend on each other in their expert groupings and expand on the resources that could be shared with the home group. After which, pupils will go back to their home groups to come to a conclusion on what resources to share and how to present the sharing. Therefore, a pupil is an expert and a learner at the same time. Pupils are also encouraged to question their peers on the areas that they might not be familiar with. The teacher acts as a facilitator during the discussion or sharing.

This is done at the beginning of the design process when pupils are deciding on what to base their trail on. Pupils will delegate areas to each member. After which, each member will do their research on the assigned topic. This makes each member accountable for their own research area. The research will then be presented in their home group where other members will get a chance to contribute ideas and opinions on how a certain area can be improved. For example, in creating questions for the trail, the pupil who is an expert at that topic might come up with a question for his part of the trail. However, after presenting this to his team, they might have ideas on how he can improve in phrasing or increasing the effectiveness of the question to achieve the learning outcomes.

3.3 Experimental studies and their implications to the Singapore classroom.

According to Vygotsky (1978), pupils are able to perform at higher intellectual levels when working in collaborative situations as compared to working individually. Many findings and researches have come back with positive results in learning outcomes from using these strategies (Cohen, 1994; Johnson & Johnson, 1998).

In particular, Johnson and Johnson(1998) have concluded that collaborative learning techniques create a higher achievement in classroom, increases productivity and psychological health and reinforce positive relationships between pupils. The research also shows that these learners outperform those in individualistic environments. These learners show greater retention, greater willingness to take on more challenging tasks and demonstrate the ability to think creatively. They are able to generate new ideas and strategies that might not happen if they were working individually. It also increases the ability to apply their newly acquired knowledge to previously learnt information (Johnson and Johnson, 1998).

Another research study concluded that collaborative learning enhances the development of critical thinking. The process of discussion, clarification of ideas and evaluating of other's ideas help pupils to be critical thinkers. Therefore, if the purpose of instruction is to enhance critical- thinking and problem- solving skills, then collaborative learning is more beneficial.

In Singapore, we are developing our pupils to be 21st century learners. To be a 21st century learner, they have to equip with 21st century skills. These skills are civic literacy, global awareness and cross-cultural skills, critical and inventive thinking and information and communication skills. Therefore, collaborative learning supports and gives opportunities for pupils to demonstrate these skills.

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A BEACON IN THE STORM - A NEW PERSPECTIVE OF TECHNOLOGY USE IN EDUCATION

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Abstract:

This paper focuses on specific use of Second Life within the instructional design of a teacher education course in the aftermath of a hurricane super storm, which devastated this US metropolitan area. Second Life, an immersive learning software program of a Virtual World that allows self-directed learners to actively communicate not only with professors and peers within the course room but with people from different places and different cultures, with the assistance of simultaneous translation services. Teachers, with their students, can create scenarios in endless venues, focusing on concepts of culturally responsive teaching, while "meeting" educators, colleagues, and students from other cultures and countries for discussions, ideas, developing thinking skills, and participating in simulated field experiences thus providing a venue for continuous professional development under many circumstance.

Keywords:

technological simulation, global perspectives, continuous professional development

1. INTRODUCTION

Traditionally, lectured instruction has taken place in many a college course room, with the professor as the expositor of information toward students within the hallowed halls of academia. The twenty-first century learner has rapidly become testimony to multiple teaching and learning approaches with the use of technology in a constantly changing technologically immersed global society. One specific approach noteworthy of documentation will be extensively discussed in this paper as the alternative virtual learning environment introduced to students of St. Francis College in Brooklyn, NY, USA by one professor as a means to meet the technology standards of course instruction. This professor chose a virtual classroom environment to meet synchronously within the realm of Second Life as part of a hybrid methods course of the college in the immersive world environment created by a former colleague already established in Second Life (SL). "Second Life" poised not to replace the current physical classroom but to enrich an already strong teacher education program beginning with a Virtual World called Second Life (SL), available via the Internet.

2. METHODOLOGY

The specific design of this paper will illustrate a qualitative study using the methodology of focus group and narrative questionnaire analysis of student generated discussion and written documentation of continuous course of study during the aftermath of the storm. The findings and results will herald the voice of students in the education program at this specific institution of higher learning.

3. A TECHNOLOGICAL PERSPECTIVE FOR COLLEGE STUDENTS IN A TEACHER PREPARATION PROGRAM

With SL, already a virtual reality designed specifically by one of the authors of this paper for the use of teaching and learning in an immersive world technology, the authors of this paper will present the current possibilities and advantages of connecting traditional classroom instruction for students in a teacher education program with the expansive opportunities for classroom instruction provided by this technology format, which is part of the system known as *immersive learning*. What began as simply an alternative method of instruction based on the technology standards for the course ultimately found this method of instruction to be a beacon in the storm in the aftermath of the super storm Hurricane Sandy that unleashed its wrath of destruction in the NY metropolitan area on October 29, 2012. To date, there is still much devastation in the process of rebuilding and although much of teaching and learning has returned to normalcy in many courses of study, the use of the tool of technology for synchronous meeting continues to maintain excellence in the world of teaching and learning in higher education.

Currently, the Second Life Viewer refers to itself as a free *client program* that enables its users, called *Residents,* to interact with each other through *Avatars.* Residents can explore, meet other Residents, socialize, participate in individual and group activities, and create and trade *virtual property* and services with one another, or travel throughout the world, which Residents refer to as the "grid". SL is designed for users aged over eighteen. Built into the software is a *three dimensional modeling* tool based around simple geometric shapes that allows a resident to build virtual objects. This tool can be used in combination with a scripting language called *Linden Scripting Language for* adding movement and function to objects and can be combined with three- dimensional sculpted forms for adding textures for clothing or other objects, animations, and gestures. (Taken February 16, 2009, *Second Life*, Wikipedia, And The Free Encyclopedia). Once again, it is important to mention that at no cost to students in this immersive world of SL, students were graciously invited to the virtual world created by the co-author and professor from another US University, for synchronous instruction for educators. This virtual environment is shared by educators worldwide for continuous professional development available to anyone interested in not only exploring the immersive world technology in education but to build on content area learning in multiple disciplines.

3.1. Second Life in Higher Education

While teaching methods courses at St. Francis College in Brooklyn NY, one of the authors of this paper in collaboration with her co-author initiated a Second Life component to the Education Department's course of study for pre-service teachers in the undergraduate program in teacher education. While adhering to the in-place curriculum and conceptual framework for this course, she explored the possibilities of using **SL** with her students. As this component was developed, many significant principles of learning (Vygotsky, 1978, Gardner, 1983, Marzano, Pickering, Pollock, 2001, Strong, Silver, Perini, 2001) became available to all the participants, principles that were previously introduced by the professor in face-to-face instruction and the

participants were now able to receive the same body of knowledge in a virtual classroom synchronous meeting. The following extensions available through SL represent only the first steps in the merging of this SL technology with teacher preparation:

1. *Virtual Classroom Development* which can be modified continuously, as required, for specific subject area learning and attention to individualized needs
2. *Subject-Area Availability and Integration* through access to the Internet and human resources
3. *Practice Teaching Simulations and Role-Playing* allowing every pre-service student to participate and interact with colleagues
4. *Distance Learning Opportunities for Developing Culturally Responsive Teaching* with "distance" being global and communication made possible through immediate translations (ex. Italian to English and English to Italian, etc.)
5. *Simulated "Field" Experiences* that take students to "courthouses, hospitals, environmental sites, geographic regions" or wherever else one can actually and, therefore virtually, reach.

We will explore how each of the above aspects of this pre-service course was expanded through SL. Combined with these aspects of learning is the research that attests to their value for both classroom teachers and students and can be provided more effectively and efficiently by access to SL. This preparation is essential for developing quality teachers imparting a high-level curriculum who can particularly address the needs of students of diversity who may have previously been "under-served" (Rothstein, M. and E. Rothstein, 2009). Further, it is important to reiterate the knowledge we impart in a traditional setting of course instruction is mirrored in the virtual environment both synchronously and asynchronously—a clearly defined asset set in place for specific use in spite of the aftermath of a devastating storm which left many students unable to travel to campus for regular instruction.

3.2. Virtual Classroom Development

SL allows the teacher, as well as the students, to continuously "modify the classroom." The Second Life scenario, students can set up virtual environments of cities, countrysides, museums, wildlife settings or whatever is related to the curriculum just as the co-author of this paper has done for the purpose of coming together synchronously in a virtual presence. By creating these simulated settings, teachers and students are involved in active research from the Internet and other media, which they can then present, to colleagues or classmates for true sharing and discussion. Through this simulation, the teacher guides the students in a true cross-cultural model for individualization of instruction (Maisano, 2004).

3.3. Subject Area Learning and Attention to Individualized Needs through Virtual Instruction Time

> "Planet earth is inhabited by all kinds of people who have all kinds of minds. The brain of each human is unique. Some minds are wired to create symphonies and

> sonnets, while others are fitted out to build bridges, highways, and computers… (Levine, 2002: 1)

This opening statement in *A Mind at a Time*, rarely serves as the basis for subject area instruction in a traditional setting. Marzano, Pickering, and Pollock (2001) express a complementary viewpoint on instruction by challenging the concept of what "all students" need (rather than what the individual student needs) by asking if there are instructional strategies that are 1) more effective in certain subject areas 2) more effective at certain levels of instruction 3) more effective with students from different backgrounds, and 4) more effective with students of different aptitudes (9). In response to these questions, the authors state three strategies that have been shown to have positive effects, known as student-centered instruction, teaching of critical thinking skills, and use of hands-on activities. Pre-service teachers are taught to model these strategies in their course of study. This is implemented on several levels in the hybrid class, which embodies both face-to-face instruction and immersive world instruction in the virtual environment of Second Life.

While administrators and teachers may agree with the concepts of Levine and Marzano, they may ask, justifiably, how they could possibly create instructional formats that are "individualized" and "student-centered" when all the students know the same information, which they must all learn at the same rate. A modestly stated answer to this question might lie in the inclusion of Second Life in the classroom which can be introduced and maintained by the current population of pre-service and in-service teachers who enter the classroom with SL knowledge and skills which this paper addresses.

3.4. Subject-Area Availability and Integration

As pre-service teachers prepare, practice and model quality instruction they keep in mind the following iterated by E.D. Hirsch's second chapter in *The Schools We Need* is titled "Intellectual Capital: A Civil Right". Hirsch opens with the statement that "The need in a democracy is to teach children a shared body of knowledge" (17), which he calls *intellectual capital*. "Operates in almost every sphere of modern society to determine social class, success or failure in school, and even psychological or physical health." (19) Hirsch continues to explain the concept of Intellectual Capital as a necessity for economic and psychological well-being, focusing on those children denied access to this "capital." He empathetically writes, [these children] "fall further and further behind. He then compares this lack of intellectual capitalism with money stating that a "child's accumulation of wide-ranging foundational *knowledge* is the key to educational achievement" (20).

The inclusion of SL in the teaching/learning spectrum and in the preparation of pre-service teachers can be a powerful adjunct in the development of intellectual capitalism because not only does it have the advantage of being a virtual modifiable classroom, but because it offers access to specific subject-area topics that, again following through on Hirsch, "can be broadly shared with others" for effective communication and learning (20). Through SL, pre-service teachers and students of all ages can "go to" sites on beginning reading, mathematics, chemistry, or whatever curriculum area is needed. A further advantage of this access is the opportunity to truly integrate subjects. At an SL

site, students at their desktop through their "Avatars" with different aspects of knowledge can meet to present and discuss, for example, "the relationship of mathematics to chemistry, " or "the history of the English language and its effect on English spelling." Visitors to the site can bring their high-level intellectual questions and find other visitors and materials with answers. The learning is not linear and based on a pacing guide, but circular and expansive, and dependent on shared knowledge. This specific goal is maintained through the networking of educators worldwide. Pre-service teachers at St. Francis College, Department of Education had the unique opportunity to present and participate in an international online conference meeting teachers around the world to discuss pedagogy to practice. This practice alone is one aspect of using this specific technology tool to enrich the learning experience for all students on multiple levels of cognition.

Figure 1: Dr. M's Student Presentations prepared for class in Second Life

3.5. Practice Teaching Simulations and Role-Playing

SL gives every participant student multiple opportunities to participate and interact with colleagues. In the *History of Education in America*, published in 1994, the authors Pulliam and Van Patten wrote of the "Characteristics of Futuristic Education" (270-281), much of which they have said is not only relevant, but still needs to occur. They begin with the axiom that "Education is more than training". Training refers to providing students with existing information. The true purpose of education, they state, "requires an environment in which students are not asked questions for which the answers are known", but which develop the "ability to solve problems and communicate in a meaningful way" (272). The classroom, as we know it, is a limited setting for pre-service teachers to practice teaching simulations and to role-play not only the teacher, but also the learners. The teacher who lectures can only hope that the "wisdom and knowledge" emanating from the lecture reaches and interacts with the brain of the learner.

Two publications extend the earlier work of Pulliam and Van Patten: Howard Gardner's *Five Minds for the Future* (2007) and Daniel Pink's *A Whole New Mind* (2005). Gardner's "five minds" represent what he terms "five *dramatis personae*" that allow a

person to be “well-equipped to deal with what is expected, as well as what cannot be anticipated” (2). The five minds, according to Gardner, are the *disciplined* mind, the *synthesizing* mind, the *creating* mind, the *respectful mind*, and the *ethical* mind. Gardner’s specific use of the terms *dramatis personae* tie in not coincidentally with the need for “role playing” in teacher preparation. Daniel Pink (2005) also focuses on the mind, referring to artists, inventors, designers, storytellers, caregivers, consolers, big picture thinkers—those with minds needed for the forthcoming decades. Needed for a successful future will be those people who exhibit the qualities of inventiveness, empathy, joyfulness, and meaning. If we can imagine future teachers having minds that merge the qualities of Gardner and Pink, we can imagine teaching and learning environments well beyond the current classrooms we now have. To begin this process, teachers of the future need to begin their training by simulating and role-playing of what is likely to be.

The addition of SL to pre-service teacher preparation is designed by its structure to foster and promote continuous interactions and role-playing, based on solving problems that confront learners and learning, stretching their minds to be disciplined, synthesizing, creating, respectful, and ethical. Every participant in a SL setting must interact *cooperatively, (*not *competitively)* a behavior, which the authors emphasize, is predictive of not only success in school, but also success on the job and in life (Pulliam and Van Patten 274). Also, interacting cooperatively encompasses the qualities cited by Pink. In an SL setting, pre-service teachers can be involved in all or most of these simulations and role-playing activities (Maisano, 2010).

Figure 2: Dr. M’s Student Presentations prepared for Culturally Responsive Teaching in Second Life

3.6. Distance Learning Opportunities for Building Culturally Responsive Teaching & Continuous Professional Development

During the aftermath of the storm, lives were shaken, saddened by the destruction and devastated by the paralysis of life perhaps once taken for granted. Transportation of any kind was non-existent as railways and roads were riddled with debris and flooded tunnels. It is during this time that this alternative method of instruction had an impact on students to help them stay connected with one another, their classmates and professor as well as staying connected with their learning community. This model of culturally responsive teaching and learning was poignantly clear and appropriate to distance learning opportunities for building culturally responsive teaching. Aspects of teaching and learning are visibly simulated in SL, with “distance” being global and communication made possible through immediate translations. With the immersive world-learning tool of Second Life (SL), pre-service and in-service teachers communicate directly with a variety of educators from other countries and cultures with opportunities to become culturally responsive teachers.

Gay (2000) defines culturally responsive teaching as using the cultural knowledge, prior experiences, and performance styles of diverse students to make learning more appropriate and effective for them; it teaches to and through the strengths of these students. Similarly, Ladson-Billings (1994) studied actual instruction in elementary classrooms and observed these values being demonstrated. She saw that when students were part of a more collective effort designed to encourage academic and cultural excellence, expectations were clearly expressed, skills taught, and interpersonal relations were exhibited. Students behaved like members of an extended family assisting, supporting, and encouraging each other. Students were held accountable, as part of a larger group, and it was everyone's task to make certain that each individual member of the group was successful. As the potential of SL develops, pre-service and in-service teachers have direct experiences in communicating with peers from different cultures and backgrounds. Imagine a group of pre-service teachers from St. Francis College exchanging methods, concepts, and ideas with teachers from Yarrawonga, Australia, using the technology of Second Life to exchange materials and artifacts, share problems and solutions, and maintain on-going dialogues.

Figure 3: St. Francis College Pre-Service Teachers holding discussion during the storm on Teaching in Second Life

3.7. Simulated "Field" Experiences

Second Life (SL) can take students wherever one can virtually reach. In A Whole New Mind (2005), Pink outlines six "high-concept, high-touch senses that can develop the whole new mind" that students will need. He names these "senses" design, story, symphony, empathy, and play (5, 6). While all of these senses can be elevated or raised through participation in SL, "play" can have a special place and a special value in the SL experience. Pink cites the definition of play by Brian Sutton-Smith as "to act out and be willful, exultant and committed as if one is assured of one's prospect' (187).

One of the pleasant school activities for most students at any age is a field trip. A field trip is not only seeing and being part of a place outside the classroom, but means freedom to walk around, possibly touch plants or animals or unique objects, talking to classmates without disapproval, and learning "outside the box" (Maisano, 2010). Yet field trips are generally infrequent for many reasons. Adding the SL "field trips" to a one's course of study, can be a high-level substitute that expands horizons and offers visualizations beyond those that can be provided in textbooks and other written materials. Pre –Service teachers at St. Francis College (SFC) in this particular genre of learning had the opportunity to meet and greet educators from many international locations while presenting at a Social Studies International Conference with Virtual Pioneers (http://virtualpioneers.weebly.com/). Enhanced by a scenario of role-playing set in an historic period in new geographic locations populated by "characters" of a different era and maybe speaking a different language that is now simultaneously translated on the computer screen.

3.8. Findings & Results of Focus Group Student Led Discussion and Narrative Anonymous Exit Questionnaire Taken of Pre-Service Teachers at SFC and Their Use of Second Life in the Aftermath of the Storm

The focus group discussion and questionnaire comments were in response to the following discussion points.

- Did the course meet your expectations?
- What were the highlights/strong points of the course experience?
- Do you feel the course prepared you for your future teaching experience?
- Given the circumstances surrounding the aftermath of the storm during this semester, did you think the alternative method of instruction and use of technology helped to maintain the standards and requirements of the course?
- Is there anything you would have changed or done differently in this course or requirements?

The findings will be documented as positive and negative response to the aforementioned questions, which resulted in 85% positive responses and 15% negative responses. For the purposes of this paper, we have presented the questions and a sampling of the responses to each question divided in positive statements and negative statements.

POSITIVE:

- I feel that the use of technology during the hurricane was a brilliant idea. It was a wonderful accommodation for the students.
- The use of SL during the aftermath of Hurricane Sandy not only made learning convenient but also broadened our understanding of methods of teaching Science.
- A highlight of this course would have to be using Second Life.
- I strongly believe that although Hurricane Sandy was a tragedy, it was a great example to show us that these things happen, and we must continue with life as we are given. I was able to find a location with WIFI and didn't have to worry about attending class on campus. There was no way of getting to SFC because of transportation issues.
- I feel that given the aftermath of the storm our professor was prepared to continue class on second life. I thought that was great because everyone would still be together, we could hear each other and there was a certain comfort in being together and helping each other in the middle of so much confusion and destruction. I would have felt lost coming back to class 3 weeks later if it were not for our meeting in SL.
- We can't help natural disasters so I think the use of technology (Second Life) really helped all of us to stay in touch and be on target with our studies and connected to our classmates.

- I find it interesting how you can put up lessons and see the same things we would see in our face-to-face class even in a virtual learning classroom.
- Second Life was a bit challenging at first however, seeing how convenient it became in the aftermath of the storm I was drawn to it because it brought us all together when we couldn't be together in real life! I wish all my courses had the option of using SL.
- Because of Hurricane Sandy, we were not able to attend our class on campus at SFC. Second Life acted as a meeting place online. This was not the same as using ANGEL (Blackboard) because it was not like other online courses I've heard about. We actually met and learned together virtually. This helped our class stay on track and up to date with assignments and lessons. SL was a great experience.
- I learned not only how to teach science and social studies, but how to incorporate technology in our teaching.
- I was amazed at how much I could use SL. I learned quickly actually and was lucky enough to present at the Virtual Pioneers Conference in SL and got to meet teachers from many different places around the world.
- The technology allowed me to experiment, experience and gain knowledge on what I can push myself to do and ways to better serve my future students.
- This technology alternative allowed me to study social studies education in ways I didn't know were possible. I felt that the strong points for me in this course were being able to express my creativity in a variety of projects instead of only writing papers and taking tests.
- I learned so much in this class. Many activities and techniques that I could incorporate in my future teaching were the highlight of this class. It was amazing how many projects we could do in SL.
- I think the use of technology helped me maintain the standard for this course because we were doing the same thing we would usually do on campus in the virtual classroom.
- I think Second Life was a great asset to this course in particular. It was convenient and it made presentations easier than bringing everything to campus.
- I enjoyed learning in a different atmosphere.
- The use of technology we used in this course made my life as a learner easier and more enjoyable. I love learning new things.
- SL was not so new to me this semester and by having the prior knowledge, I was able to help my peers to adjust. The technology helped maintain the standard and requirements. We presented our projects in SL, which, I don't think many students at SFC are able to do.
- I wish all our methods classes were hybrid. This would give us all a chance to learn new technology while still covering our entire subject learning too.

- I enjoyed the online virtual aspect of this course. I believe that the online experience was a unique way of collaborating with classmates and getting to know everyone by presenting projects in SL.
- Everything we did with the use of technology was exactly as we would have done on campus. I enjoyed this different experience.
- The highlight of this course was using Second Life to learn how to teach social studies. I think technology in this course was very effective because of how much technology is present in the world around us every day.
- I had an awesome time teaching and learning in Second Life.
- I really enjoyed the Second Life experience. It was an introduction to teaching with technology for me. I enjoyed working in groups and collaborating and sharing ideas to put all our projects together.
- It was really important to me to be able to keep in touch with my classmates after the storm. I was stuck and couldn't get to campus and I missed the learning. I didn't want to think about all the terrible things the storm had done.
- Actually, the bad storm brought us closer together as a group because we were able to still have class online in Second Life.
- Using technology to interact with each other was very eye opening. I learned there are other ways of learning than just meeting on campus.
- Found a key aspect of this course was the effective use of Second Life and textbooks assigned. The online program enabled us to meet synchronously at any day and time and allowed the integration of more technology in the world of education.
- I absolutely feel the integration of technology into this course is vital to our career development. It broadens our teaching strategies and prepares us for the ever-changing classroom that is becoming more geared toward Smart Boards, tablets, and I phone apps. Though some professors may not agree with the use of Second Life, I find it very beneficial to meet the needs of students while still meeting the standards for the course.

NEGATIVE:

- I felt uncomfortable with my inexperience with Second Life. I was afraid to use it.
- I don't think Second Life has helped me. I don't know what I am supposed to do and I had trouble following along in class.
- I had a hard time with the program. Even thought the professor helped me I still felt like it wasn't the same as being face to face.
- The storm was too much for me and I didn't want to worry about school when so much was going on at home.
- I preferred class on campus and only some classes in SL.

- I did struggle with Second Life but I eventually got the hang of it. It might have been better if we had more learning technology time.
- I would rather have both on campus and SL experience in the course.
- Sometimes I felt overwhelmed.

4. CONCLUSION

In an analysis completed by the co-authors of this paper, we have come to the conclusion that for the most part, students were happy to have the opportunity to experience a new genre of technology to enrich the course of study. Most students agreed that meeting virtually did not change the content of instruction that students would experience in a face-to-face class. Given the nature of the circumstances surrounding the aftermath of the super storm Sandy, students felt a sense of comfort and normalcy in meeting virtually, which, would not have been able to happen in a class on campus because travel to SFC was impossible given the transportation issues after the storm. Students that struggled with the technology were given assistance by the professor and from peers, however they were overwhelmed with the technology added to the complications of the storm. Our experience as professors using technology in our teaching experiences and with using the immersive learning experience of Second Life is the potential for expanding the global perspectives of both teachers and their students. While many may struggle with the technology of new software and new ways of interacting both with “avatars” and the demands of the college and university programs, they had the unique experience of “meeting” a global world and have the advantage of meeting other educators worldwide and broadening the network of teachers dedicated to the profession.

Thomas Friedman (2005) stated the world is flat, a new way of looking at the globe and its potential for direct communication. Second Life, as one way of immersive learning, can be a starting point for global interaction, continuous professional development and a way of moving us closer to the long sought after goal of a world of teaching and learning in a global society.

Having the opportunity to gather thoughts and feelings of helping to maintain the continuity of teaching and learning in higher education during a devastating time after the storm was also a way to express the thoughts of our students and allowing them to find the beacon in the storm and exploring a new way of using technology in education.

Figure 4: Dr. Deborah Anne Banker & Dr. Maryanne Maisano

…aka Professor Chatterbox and DrM Magic after class in Second Life

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Libraries

TECHNOLOGY AND MEDIA PREFERENCES: RESULTS FROM SOME USER STUDIES IN ALBANIAN PUBLIC LIBRARIES.

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Abstract:

The paper studies the state of awareness of information literacy and media literacy in Albania and the role of libraries in raising their capacity in fostering use of technology and media and practicing polices of life-long learning (LLL) and education. There is an urgent need in Albania to raise the awareness of information and media literacy issues in the new realities and the skills needed to navigate, evaluate, and use information and technology. The role of the libraries and other institutions is of great importance and impact when it comes to assisting users of all levels not only to find but also to evaluate and use information properly for professional and daily life decisions. This research and the surveys done in Fier Public Library during 1995-2012, will bring a contribution to a greater understanding of the situation in most of the public libraries in Albania and the impact that information, media, and new technologies have in our daily life. The purpose of the research is to raise the awareness of all the stakeholders in Albanian society on its importance for future development. The research has shown that libraries, librarians, and other stakeholders of the society lack understanding on information and media literacy as well as the right infrastructure to support the development of information and communication technology (ICT).

Keywords:

Information Literacy, Libraries, Life-long Learning, Media Literacy, Information and Communication Technology

1. INTRODUCTION

The first time one of the authors was exposed to Information Literacy (IL)[1] concept was when participating at UNESCO Training the Trainers IL Workshop in Ankara, Turkey, 2008. In one of the panels, the author had the chance to share the new practices and the experience of Fier Public Library Albania (FPLA), which she

[1] Hereinafter “IL” is used instead of Information Literacy.

learned in her role as manager of that library for more than 10 years. This is why she decided to explore the IL state of the users of her library and some other IL issues in the region. This paper presents the results of some of these studies. The ability to adapt to the increasing developments in the "Information Age" requires a high degree of IL skills. People can be information literate in the absence of ICT, but the volume and variable quality of digital information, and its role in knowledge societies, has highlighted the need for all people to achieve IL skills. For people to use IL within a knowledge society, both access to information and the capacity to use ICT are prerequisites. Catts and Lau (2008) argue that IL is however, a distinct capacity and an integral aspect of adult competencies.

2. THE ROLE OF LIBRARIES IN NEW TECHNOLOGY ERA

Experience of Fier Public Library Albania and some other institutions from 1995 to date are shared below. Nowadays they are normal and simple activities for many libraries in the region, but they used to be challenging during that time and still are for many public Albanian libraries. Future research may compare the situations and share other practices.

2.1. Opinion survey, Fier Public Library Albania (1995-1996)

a) Sample: all users of Fier Public Library, 200 answers received, the average age 25.

b) Method: questionnaire with one question: "How would you like (imagine) your library in the future?"

c) Findings: Most readers (70%) wanted to go and find the book in the shelves by themselves (the concept "users" and "open access" were not known by the Albanian librarians at that time). After that, things have changed. In 2000, the library introduced open access to all departments and materials being the first public library in Albania to do it. This increased significantly (by 4 times) the number of users with library cards, also a big number of the visitors and users of the new services and activities. Almost every week, local TVs were present to cover the activities.

2.2. Introducing a new service for children and the Influence on the number of library users (2001-2002)

The author noticed that the 4-6 group age was not encouraged to visit and use the library. The mentality was that it was better for children to register after they learn to read. Inspired by the participation in IFLA 1999, ALA 2000, and the study visits in Plum Public Library Chicago, Illinois, and the libraries of Frankfurt Municipalities, Fier Public Library introduced the "Story Time", an activity reading to small children. To avoid staff resistance to this very new service, volunteers were encouraged. A new and attractive corner was built and kindergarten children were invited once a week. The program was accompanied by creative activities. The example was nationally shared and some other few libraries tried to offer it. During 2002, 689 children became part of the reading program and they remained permanent users.

2.3. A preference survey in various institutions (2002-2003)

During plans to create a new Information and Training Centre, Fier Public Library surveyed users for their information preferences (hard copy or electronic).

a) *Sample:* NGO, school teachers in Fier, users of Fier Public Library and governmental institutions.

b) Method: questionnaire with 6 questions. About 250 were distributed and 191 filled in. This study presents only the answers to the question about information and format preferences. Other questions included library opening hours, location, staff.

c) Findings: More than 84% preferred electronic information and they appreciated the idea of the information and training centre in the library. This was the time when the internet was used only in few offices for administrative use, few lucky families, or in 3-5 Internet café's in the city.

The results were presented to the donors. ICT infrastructure was offered. We offered open access to all materials in all the departments (was previously not a norm in our library or other Albanian ones) and eIFL, EBSCO and different information and trainings in ICT. This service really increased the number of users especially among the youth. Every day, more than 300 people visited the library. This Centre was the next logical step towards the further development of the library.

2.4. Survey of all Libraries of Communes and Schools in Fier Region (2002-2003)

a) Sample: all schools and commune libraries in Fier Region.

b) Method: questionnaire, with 9 questions about the library space, staff, books, users, infrastructure, reading programs, activities, training, etc. About 50 copies were prepared, one copy per school, filled in by the director of the schools or the head of communes.

c) Findings: From 44 schools and commune libraries, only 4 offered some services and had the space and a part time staff.

The survey studied the situation of these libraries after the many changes that occurred in Albania. Another reason was that Fier Public Library, had many requests from people living outside the city and the library with the staff and limited number of new book entries could not afford serving them all. We also wanted to offer training for all the teachers working with the school and commune libraries (usually language and literature teachers without training in librarianship. After data analyse, we invited all district school directors, vice directors, and staff in charge of libraries. They were informed on the new library services and trained to catalogue the books and offer reading programs.

2.5. Who is shaping our opinions? How do we know that our opinions are really our own? (2010)

A survey held for testing one of the IL skills, quality evaluation, and relevance of the information sources. The topic: Is the AH1N1 Swine Flu Pandemic True or False?

a) Sample: Employees of an International Organization in Albania. 6 participants, Albanian with postgraduate degrees. Average age is 32 years.

b) Method: Questionnaire with 3 questions: Is a H1N1 Swine Pandemic Flue True or False? Which was the source that influenced the choice? Evaluate its relevance.

c) Findings: 5 of the 6 think it is false, 1 thinks it is true. 4 respondents out of 6 think that one of the sources that influenced the choice is media.

As we see, the most popular, relevant source for the respondents is media or consumption of the ready offered information that has a great influence in shaping our opinions, even about health.

Media and other information providers such as libraries, archives, and the Internet are widely recognized as essential tools for helping citizens make informed decisions…and, therefore, citizens need a basic knowledge of their functions and how to assess them. The purpose of media and information literacy is to impart this knowledge to the users. (MILID Yearbook 2013: 301).

2.6. Library Infrastructure and Staff Training (2012)

The goal of this study was to see where state libraries stand to support the new flow of information and ICT developments and how they deliver it to the end users.

a) Sample: 5 state libraries: 3 school libraries (a nine year school, a general high school, and a technical high school), a local municipality unit, and a university library.

b) Method: Interview with 20 questions.

c) Findings: The school libraries serve a community between 700-1700 students and have only 1 part-time employee serving for 3 hours per week. There are no available internet and computers in the library. Internet was available only in one laboratory of informatics. Last entries were more than 1-2 years before, limited titles and copies done only through the General Directorate of Education. The space and library reading posts were limited compared to students they serve. Library instructions, which usually lasted one hour and were held annually, were offered. They were not familiar with IL concept and never participated in seminars, conferences, and trainings related to library issues.

The library of the local municipality unit has 3 employees. None of them has training in librarianship. No internet, only 1 computer, last book entry is 4 years old. The university library has 2 trained librarians. They have 2 computers in the library but no internet access. The online databases offered by IZUM through ERA project are used by students through remote access in internet cafés or at home. 1 librarian was informed about IL concept during her recent Master Studies in Library Science in Slovenia.

3. CONCLUSIONS

Results of all these studies show that Albania needs better understanding of Media and IL concept, its benefits and requirements, integration of Media and IL curricula at all levels of education, creating the right infrastructure in the schools and libraries to support the new technologies and take the utmost care for further education and training.

IL in Albania has to become soon a priority for all the responsible authorities and other institutions and professional associations.

Albanian libraries, librarians, school libraries and library associations need to take the leadership role in creating a lobby, developing a Media and IL Action Plan, building and supporting IL initiatives, strategies, cooperation among schools, academic libraries, and in fostering a dialog among Ministries and Local Government authorities responsible for curricula and libraries, evaluating the impact of Media and IL, enhanced learning, and disseminating examples of good practice.

Albania will have to properly deal with the developments of the information age as they will have enormous impact in the country's democratic life and the nation's ability to integrate in Europe.

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HOW *BIBLIONET* PROGRAM MADE CHANGES

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Abstract:

This presentation aims to present the results of BIBLIONET program in Mehedinți County. As a trainer in this program I will present the collaborative learning methods that I used in my courses, and how they increase professionalism and IT skills for the librarians in my county. At the beginning I have a brief presentation of collaborative learning as a learning method. The second part is about the BIBLIONET program in Romania, and the next one is about the BIBLIONET program in Mehedinți County. I also have a presentation about DigiTales technology, a course that improves creative and technical skills for those who attended the courses. At the end, I will speak about the role of blogs and forums in libraries development.

Keywords:

BIBLIONET, librarian, collaborative

1. COLLABORATIVE LEARNING CONCEPT

Current advances and convergence trends in Web 2.0 have changed the way we communicate and collaborate, and as a result, user-controlled communities and user-generated content through Web 2.0 are expected to play an important role for collaborative learning.

Web 2.0 based technologies have been changing the ways we communicate with other people, how we acquire and assimilate information as well as how we produce knowledge. This networked world creates a sense of "*always being in touch or reachable*" for "*sharing, remixing and reusing information*". Users, both organizations and individuals, can now create their own communities, construct content together and enable formal or informal learning collaboratively.[1]

2. BIBLIONET PROGRAM IN ROMANIA

BIBLIONET is a five-year program funded by *Bill &Melinda Gates Foundation* that facilitate free access to information for Romanian citizens by developing a modern public library system in Romania. BIBLIONET helps libraries better serve their communities through training and technology as a partnership of International Research & Exchanges Board Foundation (IREX), the National Association of Public Libraries and Librarians (ANBPR), local and national governments, and libraries through the country.

Starting from the fact that over 50% of the population, especially in rural areas had no access to the Internet, many citizens were not able to access economic and social benefits of the access to the Internet, such as e-government services, finding a job,

[1] http://books.kmi.open.ac.uk/cl2oer/

health information, online banking and business administration or communication with relatives abroad.

Standard equipment of a local library includes: computers with free public access to the Internet and a black and white multifunction printer, a scanner, a projector, projection screen, web headphones with microphone wireless router. Each library included in the program BIBLIONET became a hotspot, allowing Internet access to all who wish to access the wireless network.[2]

In Romania there are now nearly 3000 public libraries that provide services for a population of nearly 20 million people.

At the beginning of BIBLIONET, less than 10% of these libraries were computers with public Internet access. According to studies on the impact that BIBLIONET had in Romania, over 425 000 Romanians have first used the Internet in a public library because of this program.

Also BIBLIONET program offered Romanian people the opportunity to create things together, playing the main role in setting up collaborative learning through technology in libraries and Romanian communities.

3. BIBLIONET PROGRAM IN MEHEDINȚI COUNTY

Due to unfavourable circumstances, Mehedinti County became a part of BIBLIONET program, relatively late, in 2011. The changes produced by this program are however very deep and useful for community and county librarians. So far, a total of 45 local libraries were included in the program, which means around 70% of all libraries in the county. Outside of technology, BIBLIONET is the first among librarians who introduced the concept of collaborative learning, showing them the benefits of this type of learning. If at the beginning the collaborative learning was made directly face to face, in different courses, with time librarians began to use collaborative learning through technology. It created a real network of librarians in the county where they can collaborate, learn from each other, consult each other regarding certain issues, share opinions and solve problems together. All of these thanks to the online world, and here we talk about e-mail, Skype, blogs, Facebook pages. We all have found great advantages of virtual communication, because before the program we didn't know each other personally, now we can communicate online and do great things together.

4. DIGITALES

In 2011 and 2012, 14 librarian trainers from 12 counties in Romania (Constanta, Vrancea, Dolj, Ialomita, Buzau, Valcea, Bihor, Dambovita, Neamt, Galati, Sibiu, Bacau) participated in professional training for DigiTales storytelling, organized by Goldsmiths College in Great Britain. This was possible due to a grant won by Progress Foundation in partnership with CUCR – Great Britain, Mitra – Slovenia and Laurea - Finland. Financing was possible due to Grundtvig Program of the EU.

After returning to Romania, trainers in turn trained seniors in their communities and so have reached two important goals: keeping the cultural identity of communities

[2] http://www.biblionet.ro/show/index/k/30/lang/en

and digital literacy, digital inclusion of people of third age. They created over 100 personal digital stories, interesting and exciting.

Following this approach, Biblionet decided to broaden the area in Romania that digital stories can provide courses, so that 4 people from the 14 that were formed in Britain to become the turn trainers of trainers for librarians County libraries where this course was not yet delivered.

Following this project, thanks to Biblionet, the total of about 400 people were trained in methodology that will help communities preserve digital memory, the digital literacy of vulnerable groups and to expand the services that libraries can offer communities.[3]

In Mehedinți County 10 local librarians were trained in DigiTales technology, realizing together videos, that promote their communities. In addition to collaborative learning used in DigiTales courses, librarians collaborated via Skype and helped each other to make attractive short movies. The results of their collaboration were 10 well-made clips.

All these clips have been uploaded on YouTube, so the promotion wasn't limited to our country but all world.[4]

5. BLOGS

Through participation in this program, Romanian libraries were encouraged to create blogs: blogs of libraries or library-specific blogs, blogs that have dual roles: to inform and to provide examples of good practice. Moreover, collaboration connected with creating these blogs, usually strengthened librarian collaboration, because each contributed either with written materials or technical support, to develop professional and general interest blogs. An example of a blog with librarian profile, which works to achieve more comments from librarians all over the country is http://blogtibro.wordpress.com/author / blogtibro /. This is a blog for young librarians from Romania. When there is an issue, librarians express their point of view trying to solve it together.

6. BIBLIONET FORUM

Other online environment where librarians, and users have learned to communicate and learn together, is the BIBLIONET forum.

Within the site (www.biblionet.ro) there is a section called forum where there are discussions about certain issues regarding libraries and courses held in some libraries for the community. That way, any interested person, whether if s/he is a librarian or not can create his/her own account and ask questions or give answers to various issues discussed.

Thus people learn from each other. The major advantage is that you can contact more people online and you get more answers to a specific problem. In such a forum, you get the answer you are looking for from people that you would never meet in real life. Another advantage is that you can ask questions anonymously. There are certainly people who are still not comfortable enough to ask questions and because

[3] http://www.biblionet.ro/show/index/k/3245/a/8682
[4] http://www.youtube.com/watch?v=SdHLsJiPbsc.

of their own ego will not recognize that they still have much .to learn from others. Then you can find answers to your questions in forums like this

For 2014, BIBLIONET Romania has proposed to create a platform for the community to include courses and tutorials to perform various activities within the city or county libraries. These courses and tutorials will be made by any member of the network. In the future it is desired that this network encompassing all librarians in Romania. Thus, any librarian can submit their work experience, personal or hobby, to be known throughout the country, and the knowledge and skills to be assimilated by those who want it.

7. CONCLUSIONS

In conclusion, our county community life was improved thanks to BIBLIONET program because it provided the infrastructure for communication, trainers' training in county libraries and local librarians' training. Hence the inhabitants of villages were able to integrate into the www community. This has all been made possible through the use of IT resources and collaborative learning passed from the formal (trainer local librarian or local librarian - user) to informal environment so users can bring new people in town who have learnt to read, to create and manage blogs, forums or websites.

8. WEBLIOGRAPHY:

http://www.biblionet.ro/show/index/k/30/lang/en

http://www.biblionet.ro/show/index/k/3245/a/8682

http://books.kmi.open.ac.uk/cl2oer/

http://www.youtube.com/watch?v=SdHLsJiPbsc

Languages

LEARNING A FOREIGN LANGUAGE FOR ACADEMIC PURPOSES BY MEANS OF DISTANCE EDUCATION

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Abstract:

The paper deals with the issue of distance learning in the field of the foreign language training for academic purposes. The purpose of the article is to analyze achievements and current practices of distance language learning in order to present a unified model providing solutions for foreign language training of the academic staff by means of the distance learning.

Keywords:

Foreign language competence, professional and academic contexts, distance education, academic purposes, ICT, model.

1. INTRODUCTION

The investigation is based upon the analyses of the methodologies and experiences implemented in Ukraine and the Czech Republic (Sekret and Hrubý, 2013). The authors claim that the content of distance language training for academic purposes is determined by the specifics of the language required to meet professional and communicational needs of the academic staff of the university, and the circumstances of its delivering in a frame of the distance learning.

To achieve the purpose of the research the authors emphasize the necessity of foreign language education for the academic staff of the university as a crucial factor for their further professional development, establishing international relations with their colleagues from other countries, and conducting mutual investigations at the global level.

On the basis of their investigation of methodologies and approaches practiced in Ukraine and the Czech Republic (Sekret and Hrubý, 2013) the authors describe a model which suggests a system of approaches to build up the content of the distance language course for the academic staff and to realize it by means of distance learning which are supposed to cover needs of the communication for learning purposes.

2. FOREIGN LANGUAGE COMPETENCE REQUIRED

Professional competence of an academician realized by means of a foreign language comprises a number of components which in their interrelation determine the fulfilment of the professional activity in the foreign language environment. Thus, foreign language competence consists of linguistic level competences, sociolinguistic competences, and pragmatic competences in the unity of key competences, general and specific professional competences (Sekret, 2011).

Competences of linguistic and sociolinguistic levels can be viewed as the interrelated unity of the linguistic, cognitive and socio-cultural dimensions (Uribe, 2008; Sekret, 2009).

Thus, the Linguistic Dimension includes:

(1) the phonological component as knowledge of phonological features and spelling of Academic English and English for Professional purposes, including stress, intonation, and sound patterns;

(2) the lexical component – knowledge of the forms and meanings of words that are used across academic and professional disciplines as well as everyday settings; knowledge of the ways academic words, professionalisms are formed with prefixes, roots, and suffixes, the parts of speech of academic words and terms, and the grammatical constraints governing academic words and professionalisms;

(3) the grammatical component – knowledge and corresponding skills to use morphological and syntactic features associated with argumentative composition, procedural description, analysis, definition; knowledge of grammatical metaphor, complex rules of punctuation and restrictions of the word occurrence;

(4) the sociolinguistic component – knowledge of an increased number of language functions, number of genres, including expository and argumentative text;

(5) the discourse component – knowledge of the discourse features specific for academic genres and including text organizational devices that aid in gaining perspective on what is read, in seeing relationships, and in following logical lines of thought.

The Cognitive Dimension is viewed to contain:

(1) the knowledge component – knowledge of the ideas, concepts based upon the personal experience and internal knowledge necessary for understanding the academic texts and texts on professional issues;

(2) the higher order thinking component – knowledge and skills of higher order thinking which involve interpreting, analyzing, evaluating, synthesizing, citations in reading at the advanced level;

(3) the strategic component – knowledge of the advanced strategies (organize study, monitor errors, assess progress, etc.) that enhance the effectiveness of communication;

(4) the metalinguistic awareness component – knowledge of advanced functions which allow to improve linguistic performance and particularly useful in editing and revising.

Simultaneously the Socio-cultural (Psychological) Dimension comprises social and cultural norms, beliefs, values, attitudes, motivations, interests, behaviours, practices, and habits which develop and shape in the larger social context where academic foreign language occurs.

3. ICT IN LEARNING A FOREIGN LANGUAGE FOR ACADEMIC PURPOSES

Grounding upon the recent investigations of ICT in teaching English as a foreign language (Dudeney and Hockly, 2007, etc.) and as a language for professional purposes (Gomez, Rico and Hernandez, 2007; Trajanovic, Domazet and Misic-Ilic,

2007; etc.) and considering own practical experience (Sekret, 2011, 2012), ICT were analyzed from the point of view of their application for enhancing competence in a foreign language applied for academic purposes (Sekret, 2011, 2012) (Table 1).

ICT	Implementation and Types of Learning Activities	Foreign Language Competence and its components
Word	In modes of individual and group work: • language skills assessment; • designing an informational product on a professional issue in a foreign language (report, presentation, essay as the result of the project, investigation, etc.)	• informational competence; • professional competence; • competences of linguistic and sociolinguistic levels; • creativity in profession
Web-sites	In modes of the classroom and self-regulated individual / group work: • directed search for web-sites to find necessary information for its further analysis / comparison; • web-site evaluation on its content, the information reliability and validity; • problem-solving using web-site information	• informational competence; • professional competence; • competences of linguistic, communicative and sociolinguistic levels; • cognitive dimension
Internet-based project work	In modes of the classroom and self-regulated individual / group work: • search and analysis of English Internet resources for problem-solving and preparing a presentation in the classroom; Internet search is directed / free; • modelling and solving professionally determined tasks and problems (making up the route of the business trip, applying for services, buying goods via Internet, etc.); • solving web-quests; • creating web-quests	• informational competence; • professional competence; • competences of communicative and sociolinguistic levels; • cognitive dimension; • creativity in profession
E – mail	In mode of individual self-regulated work: • consulting, coaching; • learning materials distribution among students; • writing personal / business letters; • establishing personal, learning, professional and academic contacts with representatives of other societies (students, experts, etc.) followed by discussions in the classroom	• competences of communicative and sociolinguistic levels; • professional competence; • linguistic and cognitive dimensions
Chats	In modes of the classroom and self-regulated individual / group work: • consulting, coaching; • establishing personal, learning, professional and academic contacts with representatives of other societies (students, experts, etc.) followed by discussions in the classroom	• competences of communicative and sociolinguistic levels; • professional competence; • informational competence; • linguistic and cognitive dimensions
Blogs, wikis, podcasts, on-line dictionaries and reference resources	In modes of the self-regulated individual / group work: • creating individual / group blogs on professional issues; • establishing personal, learning, professional and academic contacts with representatives of other societies (students, experts, etc.) followed by discussions in the classroom; • analysis of the wiki materials for designing a presentation / writing a report; • submission of own materials to wikis; • creating focus subject wikis; • listening / watching audio / video files with further discussion in the classroom; • creating audio / video files	• competences of communicative and sociolinguistic levels; • professional competence; • professional competence; • informational competence; • creativity in profession

Asynchronous learning materials, e-textbooks (CD, DVD), interactive boards, projectors	In modes of the classroom and self-regulated individual / group work: • distribution and preserving of learning materials; • creating e-libraries; • watching / listening with further discussion of the material learned; • testing; • creating e-portfolio; • providing visuality at the lesson	• competences of communicative and sociolinguistic levels; • professional competence; • informational competence; • creativity in profession

Table 1: ICT in Enhancing Foreign Language Competence Applied for Academic Purposes

4. DESCRIPTION OF MODEL PROPOSAL

4.1. Basic Ideas of Model Proposal

Firstly, the model proposal should be based on:

- openness to the improvement and next development;
- high-quality feedback;
- openness to the new ideas;
- independence on contemporary software.

Secondly, the model proposal should be based on the characteristics of the target group (academic staff) such as:

- various age groups and consequences to the appropriate health status (e. g. older people have worse hearing);
- various types of personalities with higher IQ;
- irregular workload;
- various professional focus;
- independence;
- higher capabilities for self management.

Thirdly, two types of user's access to the electronic study materials should be supported:

- regular user with language expert support;
- irregular (totally independent) user, which uses study materials totally free without a language expert support.

4.2. Structure Definition

Schematically the model of enhancing foreign language competence applied to academic contexts can be presented as a unity of a number of aspects functioning simultaneously (Sekret, 2011) (Figure 1).

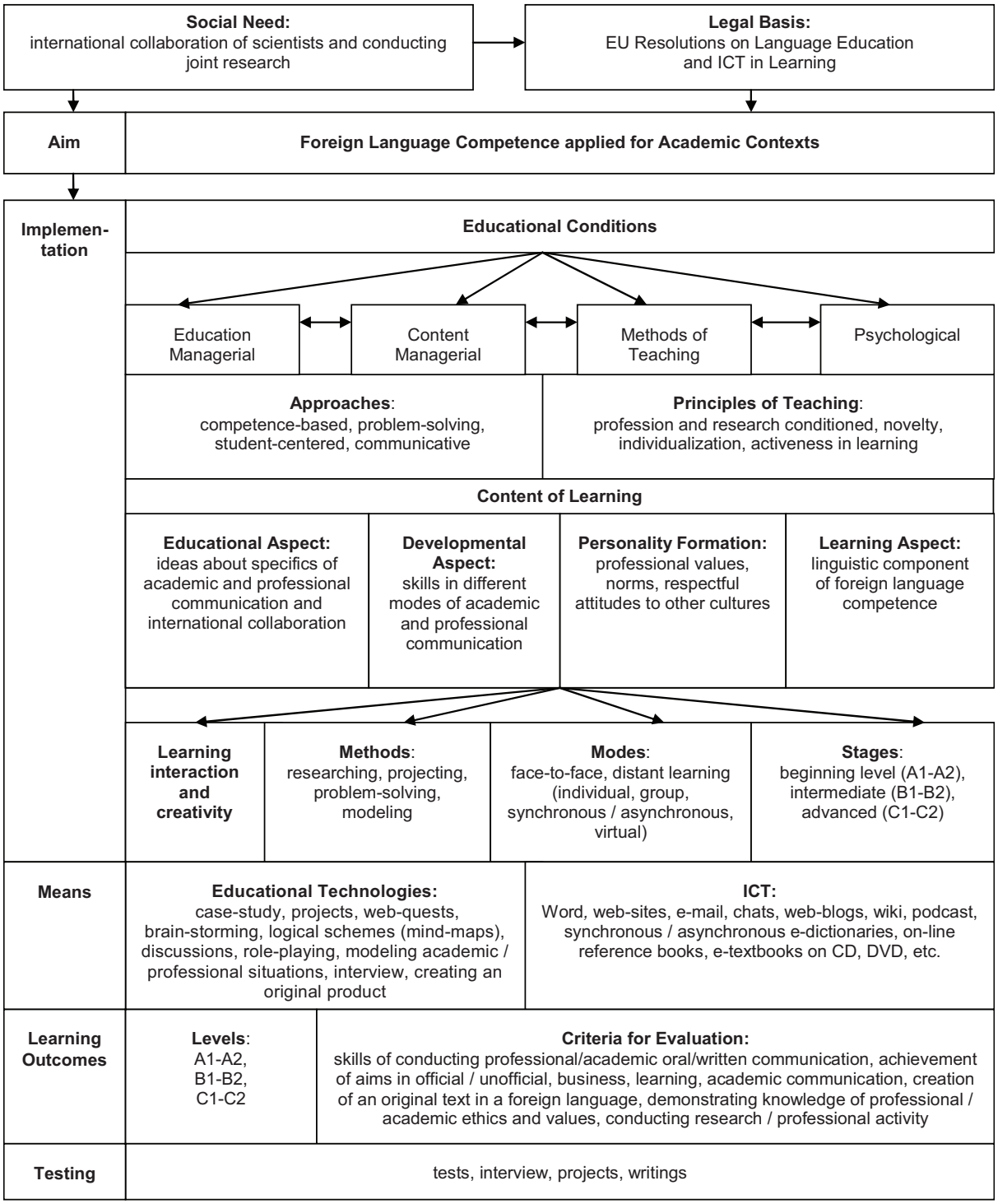

Figure 1: Theoretical Model of Enhancing Foreign Language Competence applied to Academic Contexts by Means of Distance Education

5. CONCLUSIONS

To sum up what has been laid out above, the following conclusion can be drawn.

Firstly, the content of learning a foreign language for academic purposes should be determined by the specifics of the professional activity of the university academic staff. Therefore, it is urgent to discriminate types of professional activities, possible situations of professional communication and academic interaction, main kinds of professional tasks and problems which academicians have to solve, in order to create appropriate learning conditions modelling the given situations.

Secondly, the introduction of ICT should be motivated by the content, clear in purposes, and not too cognitively overburdening even if the learners have certain experience of using ICT for personal purposes.

Thirdly, any new learning activity needs adaptation which can be achieved through thoroughly planned group work, mutual discussions, sharing ideas and feelings where ICT can act as a mediator of communication and a means to work out and to present the results of one's creative thinking.

Fourthly, face-to-face sessions should be primarily aimed at establishing personal connections and communication between the learners and the instructor, while ICT-mediated learning interaction must be purposed to achieving learning tasks which would presuppose the involvement of representatives of other social and academic communities for making learning as close to the real professional situations and academic interactions as possible.

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STUDENT – TEACHER INTERACTION IN ONLINE ENGLISH COURSES

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Abstract:

The paper deals with teaching the English language in the online mode at the university level. Special attention is paid to the appropriate amount of student - teacher interaction. The author presents an online Business English course at the university level, compares the outcomes of the classroom mode and online mode of instruction, and summarizes collected student feedback. The comparison shows significant differences in learning outcomes, which is attributed to the level of involvement of the face-to-face contact between students and teachers.

Keywords:

Online learning, blended learning, language learning, CALL.

1. INTRODUCTION

In education of the 21st century, there is an increasing need to satisfy various learning styles and individualized learner needs while incorporating information and communication technology. To deal with these challenges, many schools and universities have adopted the online or blended mode of course delivery. The human factor has an irreplaceable role in design of online courses, especially in language learning. Special attention should be paid to learner involvement, learner - teacher interaction, and their impact on learning outcomes.

2. STUDENT INVOLVEMENT IN ONLINE LEARNING

Computer-assisted language learning is becoming an important element in modern education. L. Knowles believes in the need to combine both computer courseware and the human element of teaching in the classroom – the so-called blended learning. The social environment is a necessary prerequisite of successful adoption of a foreign language since it provides natural condition for adopting and practicing language skills. If either the effective computer software or the classroom environment is absent, learning becomes harder, slower or not motivating (Knowles, 2004).

With respect to lifelong learning goals, a good e-Learning program should actively involve a learner and his/her creative ICT skills. The Web 2.0 generation offers a possibility for learners to intensify their learning experience. The so-called permanent learners are able to design their own learning plans and share their learning experience with other users by publishing their achievements and using various resources, such as wikis, blogs, and podcasts. Learners should become developers of their own learning path, while tutors should act as their guides and help them develop their critical thinking (Sanchez-Villalon et al., 2010).

Effective on-line courses should be focused on appropriate pedagogical content, independent learning, interactive activities, sustainability, and learner satisfaction. According to Miyazoe and Anderson (2010), there are several kinds of interaction

taking place in online learning, each representing a different type of information transfer. For instance, the teacher – content interaction happens during the process of developing the learning content of the course. The content – content interaction is ability of intelligent learning systems to communicate without human intervention. The student – student interaction is represented by communication and sharing between learners. The authors claim that deep and meaningful learning can take place if one of the three forms of interaction student – teacher, student – student, student – content is at a high level.

An interesting view of learners' perception is provided by a study of 60 university students of English courses in Hong Kong (Ng, Yeung & Hon, 2006). The students studied in a blended course of English for academic purposes (70 % of online interaction, 30 % of face-to-face communication), where the teachers controlled the learning content but the learners controlled their learning progress. The respondents evaluated their language competence, ability to manage their learning process, interaction with teachers and peers, motivation, and overall satisfaction with the course. Learners with higher perceived language competence felt more comfortable with studying and communicating online when compared to learners with lower perceived language competence. Therefore, authors claim that online learning is more suitable for students of higher proficiency. For the other learners, a blended mode of learning is more efficient (Ng, Yeung and Hon, 2006).

G. Kartal's study (2010) shows that online learners achieve better study results if the provided learning content is personalized and informal rather than formal. Also, cultural background determines the way the learning content is presented. For some languages and cultures, written explanation may be more effective than spoken explanation. Higher personalization level of multimedia learning content produces better learning outcomes, and students evaluate such learning content as easier and more user-friendly (Kartal, 2010).

3. ONLINE ENGLISH LANGUAGE COURSES AT THE UNIVERSITY LEVEL

The School of Management in Slovakia provides online English language courses in 5 proficiency levels (beginner to high-intermediate), including a Business English course, each lasting 10 weeks. The Learning Management System Moodle is used for the course delivery. Students have access to information regarding learning material and tasks for each week. The tasks include completion of written assignments, online discussion with peers on topics of the week, and weekly virtual interviews with the teachers via Skype. Qualified language instructors act as tutors who create and assign tasks, evaluate students' work, lead virtual discussion, interview students, etc. Therefore, in this online teaching format, the human factor is an irreplaceable component.

3.1. Comparison of In-class and Online Learning Outcomes

Comparing the efficiency and quality of learning outcomes in online and in-class forms of language learning is a complicated task due to the very different nature of these two forms of study. One of the comparison criteria may be actual study results, expressed in the form of course grade. As an example, grade results for the midterm test and final test in the English course for intermediate students at the School of Management have been compared for a group of online students and a group of in-class students. In the middle of the course, students took a midterm exam and at the

end of the course, they took a final exam. The midterm test and the final test respectively were identical for the in-class and online group of students. However, the test results showed significant grade differences between the two groups. The test grades of the in-class students are much higher than those of on-line students of the same course in the same academic term - Fall 2012. Specifically, the average grades for the midterm and final exams in a group of 8 in-class students were 73.6 % and 70.3 % respectively, while the average grades for the midterm and final exams in a group of 10 online students were only

60.4 % and 45.5 % respectively. Although a sample is rather small, it does show impact of the learning mode on learning outcomes.

Both formats of the course were taught by the same teacher, using the same course material. However, the student-teacher interaction differed, mainly in the following aspects: in the in-class group, the teacher had more frequent contact with the students, therefore she could answer their questions immediately and in detail, without any time delay. She could explain the learning material in personal communication and adjust the content, structure, and pace of her explanation to the learners' needs. She could control involvement and participation of learners better than in the online course format. Therefore, more personal involvement and more frequent eye-to-eye interaction with a teacher contributed to better study outcomes of the students. This conclusion is in agreement with the findings of Ng, Yeung and Hon (2006) that lack of face-to-face communication with a teacher or peers may discourage learners from group activities and fulfilling of assignments.

3.2. Student Feedback

Student satisfaction survey is conducted regularly at the School of Management in Bratislava. According to the student feedback from 25 respondents in the period of March 2012 – March 2013, some of the positive aspects of the online English courses were:

1) flexibility – the time and space barrier is removed and the learner has a lot of control of how he/she does the course work while using time efficiently;
2) efficiency - the learners feel motivated to do their work due to a well-organized weekly schedule of activities and deadlines;
3) possibility to communicate with the instructor via Skype – it is more accessible and flexible than via personal appointments;
4) grammar explanation tools created by the instructor; 100 % of respondents evaluated them as very helpful.

Some of the perceived negative aspects of the online English courses were:

1) lack of personal, face-to-face communication with the instructor; 88 % considered the allotted time of online interviews with the instructor as sufficient, while 12 % respondents would prefer longer or more frequent interviews;
2) not enough opportunities to practice and correct the learner's pronunciation;
3) limited "controlling role of the teacher" - some learners feel they need "a supervisor" to guide them and "force" them to do their work.

Overall, 92 % respondents considered the online mode of delivery of the Business English course as very efficient.

4. CONCLUSIONS

The human factor is an essential component of any online language course. The intensity of student-teacher interaction has significant impact on learning success and student satisfaction. Further research of these issues is needed to show how much learner independence is necessary to result in effective learning outcomes.

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APPLYING NEW COMMUNICATION TECHNOLOGIES IN DEVELOPING AND EXPANDING PERSIAN LANGUAGE

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Abstract:

The very fact of availability of new communication technologies can by itself pave the ground for strengthening language studies and expanding the realm of languages including Persian. Provided that the required arrangements exist, using new technologies, much more can be done in expanding the realm of the language and enforcing language studies than before when it was less feasible or took much time and costs. Nowadays using computers, variety of electronic networks, internet, satellites and so on it has been made possible more easily, with lowest costs and it is much more economical than before. The general and main goal followed in the present study is to investigate the impact of modern communication technologies on Persian language with the emphasis on its impact on vocabulary. Moreover, other objectives will be followed in the study including:

- Recognizing the capacities of Persian language in contact with information technology
- Studying the amount information technology can be used to enforce and develop Persian language
- Identifying some guidelines for even better confrontation and more profitable interaction of Persian language and Persian speakers with information technology as well as endless entry of foreign vocabulary into Persian language and at the same time preventing invasion of risk factors or at least reducing their influence.

The present article can be regarded as an applied type in which findings, results and suggested strategies of the interviewees as well as the references will lead to development of applied science in the field of language studies especially at the level of vocabulary.

Keywords:

New Communication Technology, Information Technology, Persian Language, Vocabulary

1. INTRODUCTION

Persian language for Iranians has a great value and holds a holy position, as it binds them to their national and historical past and it is a link for them to ensure their religious interests. It is at the same time a reflection of Iranian flourishing talent in creating literary and artistic works throughout the ancient history of this nation which amazes them by its beauty and finally it is one of the most significant factors for the coherency of Iranian nation.

Development in information and communication technology and types of electronic communication networks throughout the world and as well in Iran, has enhanced the cultural influence and impression, linguistic contact, lexical borrowing and the like. As language is a social phenomenon, these linguistic facts have always existed since the past, although, they are now much more important due to their extent.

The present paper tries to study various aspects of the impact the modern communication technologies have on Persian language with the emphasis on the lexical impact. It will study what opportunities have been brought by technology to develop and promote the Persian language and Persian speakers and at the same time it investigates the actual and potential capabilities and capacities of Persian language which have to be taken advantage of even more than before. It also investigates what threats, if any, have been targeted toward Persian language and how they can be changed into opportunity or at least minimize their scope of impact.

2. LITERATURE REVIEW

Loan Linguistic Phenomena in Persian language is the title of an article by Mohammadreza Bateni in his book," Language and thought" in which while stating the fact that language is a social phenomenon he adds that it is made of three systems. Phonology, Grammar and vocabulary (Bateni, 1975).

Alimohammad Haghshenas in his article, "The Challenge of Word Formation" points out the invasion of new concepts in Iranian community within the few recent decades and the lack of Persian words against them (Haghshenas, 1991).

Loan words in Persian language is a title of a chapter of the book "Some Talks on Linguistics" written by Kourosh Safavi. The chapter begins with the social aspect of the language and language interaction and then discusses borrowing in different situations of linguistic contact (Safavi, 2001).

Abolhassan Najafi in his article, "Is Persian language in danger?" primarily gives a warning to literary scholars and language speakers on what he calls," Increasing invasion of foreign words into Persian language" and the necessity to find a remedy for that and then deals with the issue of language interaction (Najafi, 1987).

Negar Davari Ardakani in her paper," The Position of Word Formation in the theory of planning" while proposing the theoretical principles on language planning and policy, issues, remedy, standardization, standard languages, outlooks and motivations, language pluralism and heterogeneity ,purism, language and national identity, targets of language planning in Japan and the achievements of this country in this regard and then has a look in an experience of language planning in Iran (Davari, 2003).

3. METHODOLOGY

Since the present paper aims to recognize and describe the relations existing in Persian language , as a dependant variable and its confrontation with modern communication technologies , as independent variable, it elaborates current condition and draws a perspective of the future considering the two above-said variables and some key factors such as the nature of language socialization , the relation of thought and language, language and community, language borrowing, word formation, words equivalents selection, cultural interaction, cultural acceptance as well as the following questions describes the current condition and offers a perspective of the future.

-What capacities and facilities does Persian language hold to confront or interact with modern communication technologies and as a result new related concepts and words?

-What are the available solution for a better and more profitable interaction of Persian language and Persian speakers with Information and communication technology and the entrance of related numerous new vocabulary and concepts?

This study can be regarded as applied type in which the findings and the strategies presented will lead to development of applied science in the field of linguistic studies and research, especially at the level of vocabulary. The findings and suggestions stated in this paper can be manipulated in strategic, executive and linguistic planning. It has been done in descriptive-analytical (non-testing) studying current status of Persian language with emphasis on major issues.

4. THE IMPACT OF MODERN COMMUNICATIVE TECHNOLOGIES ON PERSIAN LANGUAGE

The theory of “Language Socialization” is among significant and widely discussed issues in linguistics based on which learning a language is not possible without establishing a constant semantic relationship between the individual and other persons of the society ,as a culture-oriented social entity, language is influenced by social transformations and reacts against extra-linguistic social factors .Moreover, linguists see language as a living being whose life and liveliness depends on its relation with other social realities and phenomena and interaction with other linguistic communities. (Mohammad Nezhadali Ali Zamini, 2008)

According to what is said, the research findings are analyzed with emphasis on its lexical impact based on the theory of sociality and the definiteness of language interaction concerning the impact of modern communication technologies on Persian language considering the main goal of the research. Accordingly, the classification of these findings is based on the pattern proposed on loan words and unnecessary words and types of finding equivalences processes in confronting this undeniable linguistic phenomenon. Loan words enter borrower language in two ways of direct and indirect and may change their main form or get changes when entering the borrower language.

By studying the writing and spoken form of Persian language, we will see words entering Persian language directly from English or other foreign languages .Although part of these new words and concepts have been translated and found equivalences ,Persian speakers prefer to use them in writing and speaking in their original form. Of course the reasons for this fact demands separate studies.

The other point that has to be pointed out here is that a large number of loan words are necessary loan words that have no equivalences in Persian, therefore they have a longer life in Persian language and probably a large number of them will survive in the language and will be absorbed by it after a series of linguistic transformations. That is true for a countless number of Arabic necessary loan words such as /Khoms/,/Zakah/,/Jihad/ and /shahdat/ have remained in Persian and have become part of it as it will almost be impossible to take them out from Persian. That’s the case for many English, German and Russian loan words which have entered Persian language within the last one hundred years and have been accepted by Persian speakers in such a way that it does not seem logical or even applicable to try to ignore them or take them out from Persian language. Words such as telephone, television, cinema, film, park,

autobus, metro, machine, mechanic and hundreds more are placed in this category. Moreover, there have been words which were common among Persian speakers specially the literals for a period of time and then have gone out of Persian vocabulary for a variety of linguistic or social reasons even though their existence primarily seemed necessary. Words like faculte, dictionnaire, dousieh, traduction, program and so on are among loan words which have no trace in Persian language today.

This is to emphasize that a large number of loan words which have entered into Persian language within the last fifteen years under the impact of modern communication technologies, have been necessary loan words which have to be accepted by the speakers. Now Types of these loan words which have entered Persian language under the influence of new communication technologies are pointed out here.

Loan words related to modern communication technologies include words related to computer, internet, telecommunication and generally IT which have entered Persian language and can be put in the following general categories:

a. loan words in hardware

b. loan words in software

c. loan words in applied computer choices

d. loan words in ICT

e. loan words in new concepts in the field of ICT(Kafi,1984)

Although the academy of Persian language and literature have chosen Persian equivalences for most of these parts and hardware elements, most Persian speakers prefer to use the original name of these parts.(the lexicon of the words approved by Academy, first book, p. 112)however, since the durability of loan words related to new concept is possibly very high, in case no enough attention is paid in finding or coining equivalences and localizing the new sciences, there is the risk of increasing their usage among the Persian speakers parallel with the development of science and technology in the West and emerging new concepts .This will force us to use the concepts in Persian language and in this way the entrance of these words will be turned into a constant trend which will definitely threaten the independence and durability of Persian language.

4.1. The selected or coined equivalences for loan words or concepts

The speakers of each linguistic community not only accept some foreign words and concepts in their original form, but also act for choosing equivalences including diachronic equivalences, synchronic equivalence, choosing clear equivalences including word by word translation semantic generalization, lexical interpretation and inductive equalization.

4.2. Inductive equivalents

In inductive equivalents for new words and concepts related to modern communication like other scientific and technical fields, a structure which have previously been used and is now forgotten by the Persian speakers are retrieved and recommended as an equivalent for the new foreign words. As an example of this Persian equivalent let’s have a look at the two following words:

/kaze/: Case referring to a box in which the main hardware pieces are put together in a special order. This word had been used in different cultures as a cottage made from wood, straw and grass, shelter or an isolated room for old Christians. (Academy of Persian Language and Literature,2006)

/feresteh/:Dispatch meaning a bag or a series of bags sealed or unsealed and plumbed exchanged among post offices .This word is defined as “something sent for somebody.”(Academy of Persian Language and Literature,2006)

4.3. Synchronic Equivalent:

When the coined word is new and has not had a diachronic meaning. A large number of Persian equivalents related to communication technology have been coined with this method of word formation.

4.4. Clear equivalent:

Another type of equivalent is clear equivalent made under operation such as lexical translation, lexical combination, acronyms, semantic generalization and lexical translation and interpretation.

4.5. The actual and potential characteristics of Persian language in confrontation or interaction with modern communication technology

The invasion of modern communication technologies to the country accompanied with new words and concepts as well as other sciences entered much more extensively than before -again because of the said technologies- made it necessary to recognize the potential capacities and capabilities of Persian language to confront these new concepts. To investigate the issue, it should be emphasized that each language has its own capabilities and facilities established on the basis of its structural foundation on one hand and the historical way it has been used on the other hand. This manner of application is a significant one. Its use in different fields or in a special field determines that language how much to acquire of a special ability. Some capabilities may never find opportunity to emerge as they are expected to. In other words, the fact that how a nation who is the speaker of a language thinks , what kind of world it has , the way it forms its thought in the language and the innate capabilities it selects and develops ,will undoubtedly have a fundamental impact on developing the nature of the language. It is only in this way that one or some aspects of a language dominate other aspects and each language takes habits and moods special to it.

In order for Persian language to be able to handle the new capabilities we expect to some extent, two points must be taken into consideration: The manner of word formation in Persian and the syntax.

Persian language is highly rich in the ability of word formation. The word structure in it provides a rich capacity for development of the lexicon. This innate capability of the language can be of great help today while we need thousands of new words in the fields of science, technology, philosophy and art.

The main lexical elements of the language (noun, verb, adjective and adverb) are combined and create new concepts and meanings. Moreover adding prepositions (in

verbal combinations), prefixes, suffixes accompanied with simple or compound words , again add to the possibility of extending the range of Persian language lexicon. In fact, we can say that a large number of nouns, adjectives, adverbs or verb roots can take part in the combination as prefixes or suffixes and form new words.

In addition to the feature of being combinable, Persian language has another interesting characteristics, i.e., its ability of derivation. Although its application has extensively been weakened under the impact of foreign words and their morphological and semantic patterns .It seems that the renovation of this feature in Persian language seems essential. That's because the feature of being combinable can only be used in abstract words with no relation with the family of words, while a large number of scientific words belonging to a family are made from it.

Using people-coined and colloquial words is among potential capabilities of the language that although has received attention to some extent within recent years, is still an unknown treasure that has not shown its real value so far. The same is true for the possibility to use the capacities and capabilities existing in dialects and languages existing within the geographical boundary of Persian language, that is Iran.

Using modern communication technology to develop and strengthen Persian language

As said before, the very fact of existence of modern communication technology, by itself, paves the ground for enhancement of linguistic studies and expanding the scope of languages including the Persian language, provided that the required arrangements including the strategies offered by the interviewees as well as the references of the study are available. The following hints can be pointed out in this regard.

-Organizing groups for finding word equivalences in universities and research and development centers in industries, social and civil foundations, scientific and professional associations, trade centers, banks, in order to have their active cooperation in the issue and being connected through internet to the policy-making and decision making centers like Academy of Persian language and literature on one hand and other parallel groups in all public and non-public organizations.

-Creating sites and online data banks to poll among academic elites, craftsmen, tradesmen and all other speakers of the language interested in the fields of concepts, words, the name of instruments, appliances and so on which enter Persian speaker community through different ways and pave the ground to get benefit from their professional experiences in finding equivalences or word formation and directly involving them in finding equivalences or word formation.

- Widespread publishing of selected or coined words and concepts for foreign words through modern communication technologies and stabilizing them in scientific, industrial, social and business associations and thus guaranteeing their application in scientific and social situations.

-Creating linguistic data bases which have incorporated the past and present forms of Persian language and different varieties of historical, geographical, social, writing and spoken forms with possibility of selection, search and linguistic process.

-Establishing data banks to store and offer significant and brilliant resources of old and modern literature , prepare and store critical notes ,edited and confirmed and finally

establishing and equipping scientific and academic websites with the latest articles, manuals and scientific achievements.

Moreover, obviously, the very fact of existence of modern communication technology, by itself, paves the ground for enhancement of linguistic studies and expanding the scope of languages including the Persian language, provided that the required arrangements are available. By using these technologies, much more can be done in the realm of language influence and language research development than before when it had hardly been possible or it was too costly and time-consuming. Today, the computers, internet, satellites and types of electronic networks have made it possible and much more economic than before.

4.6. The negative attractions ascribed to communication technologies

Along with the great advantages modern communication technologies have as partly described above, they may have some negative attractions –though few-as well. Although compared to the positive results, the undesired outcomes of the technologies are so few that they can easily be ignored. The other point that has to be put into consideration is that some people put the blame for their own failure in using modern communication technologies leading to unfavorable results on the technology and hide their own failure in using them .This is perfectly true in Iran for using computer, internet, satellite, types of electronic networks and cell phone The concerns sometimes raised for destroying Persian language and script can be seen within these technical or managerial weaknesses.

5. CONCLUSIONS

The fact that Persian language is in a weaker position compared to English which is now the main and most applicable language in communication technologies and the scope of Latin script is much more extensive and capable to influence other scripts including Persian is not something one can deny and it is not something special to Persian language. That's the same for many of the world languages. Nevertheless, the communication and information technology opens for us new possibility to develop Persian language and culture with an astonishing speed as some instances were mentioned before. Therefore with this outlook, it seems that not only the technology is not regarded as a threat and danger to Persian language, on the contrary, it is seen as a unique opportunity provided for us that should not be easily lost. The failure to get benefit of this opportunity will definitely change it to a threat endangering our cultural and linguistic dignity.

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Students and technologies

EDUCATING A CREATIVE AND COMPETITIVE TECH GENERATION

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Abstract:

There are a lot of papers and books that argue about using new technologies for teaching and learning. Very often, the emphasis is on technologies like tablets and smart boards that are replacing old whiteboards and books, or using videos and presentations aiming to clarify the new concepts. LMSs and LCMSs, which manage the overall educating process, are mentioned a lot also.

There are a lot of projects about teacher training on using ICT tools in their classrooms and outside, with the objective to improve the teaching and learning process. But, the question is: how much are pupils taught to produce technologies, and not only to consume it? Children are consuming technologies for internet searching, video games, texting and social media, without some major difficulties. However, should electronic games be the only area where they compete?

In the research presented in this paper we try to investigate what students are taught in their IT subjects and how much they are educated to generate new products. We try to define a framework that will help to educate new generations to be creative and competitive, instead of a tech consumer one. It includes curricula improvement in schools together with the best know-how coding practices for younger students. This framework involves also out-of-school activities like coding labs and summer schools.

Keywords:

IT curriculum, primary and secondary school, teaching coding.

1. INTRODUCTION

Subjects that teach children on Information technology are part of standard primary and secondary school curriculum nowadays. They all have one objective: to develop children's information technology skills, helping them become digitally literate. Their purpose is to help children to be competent, confident and critical users of IT by making resourceful and effective use of software and hardware in their everyday school occupations. Usually they list those basic skills that students should be self-confident in, at the moment they leave their schools.

The problem with the information technology subjects is that they are too static. On one side we have a rapid growing technology and on the other side IT syllabuses are changing to slow or not changing at all. With these syllabuses children are taught things that they already know – mouse clicking, browsing, mail sending, document attaching, text processing.

This paper enumerates the various ways by which Information Technology (IT) curriculum can be re-structured to enhance the interest of student's right from primary school. It proposes a prototype of an IT curriculum that can be introduced as a new framework in school curriculum where the keyword should be *Computing* rather than *Information Technology*.

2. WHAT ARE CHILDREN TAUGHT

According to the Bureau for Development of Education in Macedonia[1], children start with information technology subjects since the third grade. The program for the primary schools in general involves:

- Main computer concepts
- Work with files and folders
- Word processing
- Spreadsheet processing
- Presentations

The program for the secondary schools is mandatory for the first two years. For the next two years is elective. In these subjects, students start learning programming, which is usually done through the C++ programming language or Pascal. Its program of study is the standard syllabus for university *Introduction to Programming* courses, which for the most of the students are incomprehensible and only few of them get to really understand abstract programming concepts.

A very similar situation is in Albania and Kosovo. Children are taught how to use mouse dragging and left/right click, when in the meantime two-year old children play and run YouTube using touch-screen tablets. Children are taught to use relative/absolute addresses in spreadsheet, and very few of them understand which is the difference. And they are not finding it interesting. Even typing, which should be a must in schools, is never mentioned in IT study programs in the region. This could fare more attractive than trying to understand what BIOS is.

It seems that this is not a problem only for the developing countries, but the same goes for the developed one. This situation is better illustrated by the well-known declaration of Michael Gove, the UK Education Secretary*: the curriculum was not fit for purpose – leaving children "bored out of their minds being taught how to use Word and Excel by bored teachers"*[2]*.*

3. IT CURRICULA AND STANDARDS

As a reaction to economic and social transformation, governments are formulating standards and strategies that feature the use of IT or educational technology in education. Most of these strategies have set national guidelines that outline the role that IT should play in improving the system of education as a whole (Kozma, 2003). In this context, the use of IT in education is becoming an significant part of educational policy making and reform (Wong, Li, Choi, & Lee, 2008) and has already brought about substantial expenditure (Mulkeen, 2003). The primary occupation of most educational policies is to provide schools with funding and resources for equipment, network infrastructure, and to a lesser extent, the professional development of teachers (Jones, 2003; Owston, 2007).

A report prepared by the President's Council of Advisors on Science and Technology (PCAS), "Prepare and Inspire: K-12 Science, Technology, Engineering, and Math (STEM) Education for America's Future", provides a strategy for improving K-12 STEM education that responds to the tremendous challenges in US (PCAS, 2010).

[1] http://bro.gov.mk/
[2] http://www.guardian.co.uk/politics/2012/jan/11/michael-gove-boring-it-lessons

International Technology Education Association (ITEA) has successfully distilled an essential core of technological knowledge and skills aiming all K-12 students to acquire. It is not enough that the standards are published. To have an impact, they must influence what happens in every K-12 classroom. This will not happen without the development of new curricula, textbooks, and student assessments, to name just a few of the more important factors (STL, 2007).

All these curricula and standards reflect society's underlying vision and philosophy of the future role of IT in education. Vanderlinde, van Braak, and Hermans (2009) argue that the formulation of such IT curricula causes a shift in the policy actions of IT support, i.e., from a technical rationale that focuses on funding and resources to a pedagogical rationale stressing the integrated use of IT within the teaching and learning process.

In New Zealand, a new Computer Science strand for senior high school students is being implemented extremely quickly and with a lot of goodwill, with strong support from tertiary, industry and government (Bell, Andreae, & Lambert, 2010).

Recently, a multi-year effort of a large group of German educators and researchers resulted in "Educational Standards for Computer Science in Lower Secondary Education" (Brinda, Puhlmann, & Schulte, 2009). These standards were modeled after the "Principles and Standards for School Mathematics" presented by the National Council of Teachers of Mathematics (National Council of Teachers of Mathematics, 2000) and describe the competence standards that students should have reached at the end of the tenth grade.

In this context, there is an essential link between appropriate and effective teacher preparation and exemplary teaching (Ericson, Armoni, Gal-Ezer, Seehorn, Stephenson, & Trees, 2008). The ACM K-12 Education Task Force Report draws attention to the need for appropriate CS teacher training programs and points out that "teachers must acquire both a mastery of the subject matter and the pedagogical skills that will allow them to present the material to students at appropriate levels" (Tucker, Deek, Jones, McCowan, Stephenson, & Verno, 2004).

A model program for high school computer science education, based on an analysis of the structure of the Israeli high school computer science is proposed (Hazzan, Gal-Ezer, & Blum, 2008). The model consists of four key elements as well as interconnections between these elements:

- A well-defined curriculum (including written course text books and teaching guides).
- A requirement of a mandatory formal CS teaching license.
- Teacher preparation programs (including at least a Bachelors degree in CS and a CS teaching certificate study program).
- Research in CS education.

It is proposed that such a model be considered and/or adapted when a country wishes to implement a nation-wide program for high school computer science education.

Despite several well-received designs for Computer Science curricula in secondary education, being published both on national and international level, the implementation of these curricula is still being impeded by a variety of factors.

4. HOW CAN BE CHILDREN TAUGHT TO CODE

Teaching children to code is not a topic of 21st century, social networks, e-everything and i-everything. In his book, "Mindstorms: Children, Computers, and Powerful Ideas", Papert showed us how computers could completely change how students learn. Papert says: "In my vision, the child programs the computer and, in doing so, both acquire a sense of mastery over a piece of the most modern and powerful technology and establishes an intimate contact with some of the deepest ideas from science, from mathematics, and from the art of intellectual model building" (Papert, 1980).

Unfortunately, more than three decades since invention of the Lego programming language, coding is still not a practice in schools. But, in the last years, there is more and more an increased voice of those who think that coding teaches thinking skills. And for this reason, it should be a must subject in schools, together with other science subject like math, physics, chemistry. There are a lot of organizations created with this cause in mind.

Code.org is a nonprofit organization started in 2013 to help students find local organizations or programs that will help them learn to code[3]. The group created a viral video as part of its launch, featuring celebrities - the much talked about *Code.org* video. It is a short film directed by documentarian Lesley Chilcott, where entrepreneurs like Facebook chief Mark Zuckerberg, Microsoft's Bill Gates, and Twitter founder Jack Dorsey, describe the intricacies of coding. Its platform is implemented as in-class module, afterschool program or summer schools in dozens of schools in US.

According to this organization, one million of the best jobs in America may go unfilled because only one in 10 schools actually teach students how to code. Code.org points to a state of unbalanced opportunity, when, by 2020, there will be 1 million more jobs than students who can fill them, despite the notion that computer science is among the highest-paid college degrees[4].

CSTA (Computer Science Teachers Association) is a membership organization that supports and promotes the teaching of computer science and other computing disciplines[5]. CSTA provides opportunities for K–12 teachers and students to better understand the computing disciplines and to more successfully prepare themselves to teach and learn.

CS4HS (Computer Science for High School) is an initiative sponsored by Google to promote Computer Science and Computational Thinking in high school and middle school curriculum. With a gift from Google's Education Group, universities develop 2-3 day workshops for local high school and middle school CS teachers[6].

EdSurge Inc. is an educational technology company that publishes newsletters and operates databases used by venture capitalists, teachers, school administrators and others[7].

There are some projects developed to make code teaching and learning easer for younger students.

[3] http://www.code.org
[4] http://www.code.org/stats
[5] http://csta.acm.org/
[6] http://www.cs4hs.com/
[7] https://www.edsurge.com/

One of them is Kodu, a programming integrated development environment (IDE) by Microsoft's FUSE Labs, available for download from Microsoft's FUSE web portal[8]. Kodu lets kids create games on the PC and XBox via a simple visual programming language. It includes also a classroom kit is a set of lesson plans and activities for educators, after-school instructors, parents, peer mentors and administrators. One of the most promising aspects of this project is the *Imagine Cup Kodu Challenge* - a challenge for kids aged 9-18 to create their games and submit for a chance to win great prizes, which is a global competition.

Scratch is a project of the Lifelong Kindergarten Group at the MIT Media Lab[9]. Similar to Kodu, it is provided free of charge. With Scratch, children can program their own interactive stories, games, and animations — and share their creations with others in the online community. Scratch helps them learn to think creatively, reason systematically, and work collaboratively.

Lego Mindstorms series of kits contain software and hardware to create small, customizable and programmable robot[10]. They contain a programmable brick computer that controls the system, a set of modular sensors and motors, and LEGO parts from the Technics line to create the mechanical systems. It utilizes a graphical language that is pretty simple to capture.

Here are some other applications that teach basic problem solving ideas in different ways:

- **Codecademy.com** - an online interactive platform that offers free coding classes in different programming languages.
- **Phrogram**, formerly known as Kids Programming Language. It comes with a lots of sample programs and could do both simple and complex things.
- **GameMaker -** GameMaker is a pretty sophisticated tool with a lot of options. There are tutorials to help you get started.
- **ACS Logo** – is a popular language used to teach simple programming by guiding the progress of a 'turtle' which moves around a graphics screen.
- **Tynker** - a new computing platform designed specifically to teach children computational thinking and programming skills in a fun and imaginative way.
- **RoboLogic** - drag commands to move a robot.
- **LightBot** - programming-style puzzle game.
- **CargoBot** - a puzzle game where children teach a robot how to move crates.
- **Move the Turtle** - teaches children (ages 5+) the basics of programming.
- **KidsRuby** - includes several of the best resources on the web for kids and learning Ruby.
- **RoboMind** - educational system for programming robot simulations.

5. CONCLUSIONS

In this paper we tried to point out the main elements that affect what children are learning in their IT classes and if that is appropriate. During the recent years, there are increased voices about teaching children to code. Which involves doing research and making standards in this context, developing applications that could make coding for children fun and taking initiatives for establishing organizations to help to this new

[8] http://www.kodugamelab.com/
[9] http://scratch.mit.edu/
[10] http://mindstorms.lego.com/en-us/default.aspx

literacy. And all above mentioned schemes are not only for in-school classes, but also for those after-school and out-of-school activities, which could be in the form of coding camps and competitions.

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MODERN TECHNOLOGY AND UNIVERSITY STUDENTS

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Abstract:

The paper is an outcome of a research project currently in progress, involving the Faculty of Arts, Masaryk University in Brno and the Faculty of Education, University of West Bohemia in Pilsen. The objective is to study the learning process of the current generation of students with focus on using modern technologies and electronic sources for their studies.

It emerged from the previous qualitative research done at the Faculty of Arts of the Masaryk University in 2010 that significant diversity is distinctive for using modern technologies for university studies. Phenomena identified by qualitative methodology are now being verified quantitatively so as to catch the diversification frequency of these phenomena in population.

Data collection was realized during 2012. The form of a printed questionnaire was used. Respondents included students from both universities and students in various programmes (in social and technical sciences) of the University of West Bohemia in Pilsen. We concentrated on how well students were equipped with electronic devices, what experience with technologies they had when they entered the university and how they utilized technologies and study support systems in everyday practice.

The paper contains a presentation of selected research findings including a comparison with results of the previous qualitative research. Characterization of various types of respondent relationships to using modern technologies and presentation of the young generation's opinions on e-learning and on the use of ICT for their studies is a considerable part of this presentation.

Key expressions:

ICT, university, students, internet, e-learning

1. INTRODUCTION

In 2012, a questionnaire survey was conducted at the University of West Bohemia in Pilsen and at the Faculty of Arts of the Masaryk University. Its objective was to explore (using quantitative methods) the learning process of the current generation of students with a focus on the use of technical devices and electronic resources in their study. The project directly follows the previous research from 2010, where qualitative research was conducted at the Faculty of Arts of the Masaryk University (Zounek, 2010)[1].

The prior qualitative research showed that there was a significant diversity in the use

[1] The research was based on qualitative methodology and consisted of two phases. In spring 2010, a total of eleven in-depth interviews with students of the Faculty of Arts of the Masaryk University were conducted. The selection of respondents reflected the sample population variability in terms of the gender, the field studies, the degree pursued and the type of study programme. The respondents thus included male and female students (hereinafter referred to collectively as "the students") and participants in Bachelor's and Master's full-time and blended study programmes. The sample population consisted of students of history, pedagogy, Anglistics, aesthetics, ethnology and other disciplines. The interviews were recorded on a dictating machine, transcribed and analysed using the Atlas.it software. The second phase of the research took place in autumn 2010. It was based on observation and think-alouds. During an interview, selected students demonstrated what electronic devices they possessed and how they used them in their studies.

of modern technologies during studies at the university. The phenomena identified by the qualitative methodology are being verified in quantitative terms, so that we can find out the distribution of these phenomena within the population. Previous surveys by the Faculty of Arts of the Masaryk University were focused mainly on students in teacher education. The inter-institutional cooperation significantly expanded the group of respondents to include students from various study programmes which provides a more precise background for generalization of the findings and results of the research.

This contribution summarizes selected data of data analyses obtained at the University of West Bohemia in Pilsen only; it does not contain the full research data from both institutions concerned. Their comparison and evaluation will be part of a follow-up analysis.

2. METHODS

The research is based on a quantitative method which relies on findings from prior qualitative research. The survey itself was divided into two phases. In the first phase, pilot verification of the questionnaire was conducted at the Faculty of Arts of the Masaryk University. In the second phase, data was collected at both institutions and then processed using statistical tools. The printed questionnaire was the only form used. The respondents were students of teacher training programmes of both universities and students enrolled in other (social sciences and technical) programs of the University of West Bohemia in Pilsen.

The questionnaire contains 25 primary questions regarding the characteristics of the respondents and their possession of modern devices, opinions on ICT and the use of technical devices in their learning. Additional ten questions focused on the experience of students who participated in tutor-led on-line courses. The second part of the questionnaire was completed by 90 respondents.

The questionnaire combines various types of questions – several types of multiple-choice questions, questions with yes / no answers and open-ended questions.

The data was collected in the period from May – June 2012 and entered in the IBM SPSS Statistic 20 system in August.

At the University of West Bohemia in Pilsen, the questionnaire was completed by 560 respondents from various years and Bachelor´s and Master´s degree programmes from the Faculty of Education, Faculty of Health Studies, Faculty of Electrical Engineering, Faculty of Mechanical Engineering, Faculty of Applied Sciences, Faculty of Philosophy and the Institute of Art and Design. 178 men and 322 women took part in the survey; 60 respondents did not indicate their gender. The form of study was not indicated by 57 respondents; 468 respondents are enrolled in full-time study and 35 respondents in a blended study programme.

The results of the first analyses were presented at the conference of the Czech Education Research Association in Prague in 2012. We continue to process and evaluate the data set using the method of univariate, bivariate and multivariate analysis (Hendl, 2004, Chráska, 2007). The large set of data obtained from the questionnaire contains 142 variables for each respondent.

3. RESULT AND DISCUSSIONS

3.1. Students and Modern Technology

The level of student's working knowledge of ICT was mapped using a question focused on the respondent's self-assessment. 1.4% of respondents consider themselves as beginners in using ICT (they can do basic work on the computer and use the internet). Ordinary users of ICT make up 45.8 % of respondents (they use the computers routinely as a tool during their studies, but they do not have a deeper interest in computers).

42.2% respondents think about themselves as advanced users (they operate computers without any difficulties, are able to make partial modifications to programs or to the computer itself, and they use various services on the internet).

10.2% of respondents considers themselves fans of ICT (they are advanced users, computers are one of their hobbies, they can also do some programming work, they are able to run web portals, etc.). The data shows that almost all respondents can work with ICT. One of the implications for e-learning is that learning with the aid of digital technologies should not be an obstacle for the students, at least in terms of using various digital devices. Besides, it was clearly shown that it was not necessary to organize courses for students aiming at working with basic ICT devices.

The bivariate analysis did not confirm the anticipated correlation between the respondent's own view of his/her relationship to ICT devices (beginner × advanced user) and the frequency of the use of digital devices in studies-related matters. However, it can be shown that there is a dependency between the level of ICT proficiency and the number of devices the respondent owns (laptop, MP3 player, tablet, desktop computer, e-book reader, digital camera, scanner, mobile phone, video camera, dictating machine, etc.). The beginner probably owns four out of the listed devices, whereas the ICT fan owns up to 9 devices. This result can lead us to exploring whether the advanced users create a more sophisticated personal digital learning environment for themselves and whether they can make a better use of the advantages of various technologies for the study (e.g. adapt the environment to their learning style or to the nature of the studied field). Answers to these questions are beyond the scope of this paper.

The respondents were also asked to indicate which tasks or activities they perform on the web (see Table 1). The univariate analysis of the frequency shows the highest frequency of activities related to communication between students on social networks. Activities in publishing, obtaining and sharing specialist content are minimal, with the exception of following specialist video documents on YouTube. This result demonstrates the currently significant popularity of social networks which are actively used by the young generation and which, in many cases, displace conventional formats of internet presentation. A small number of students who are active in the Second Life virtual world demonstrate that this virtual platform has not gained ground on the market and that its popularity is currently low. When implementing projects focused on education in virtual worlds, one has to bear in mind that this will be a new experience for most students, making the effort difficult in terms of operating the application.

Activities on the internet	Frequency
I have a profile on Facebook	83.9
We have a class at Spolužáci (similar to Classmates.com)	70.0
I communicate via Skype and/or similar services	63.4
I use Google documents (writing, sharing)	59.5
I follow expert videos on YouTube	46.3
I have a profile on some social network (Google+, etc.)	23.0
I use a particular online environment in my learning	22.0
I have a subscription for expert electronic articles	11.6
I run my web pages	9.6
I contribute to my blog	2.7
I have a profile on some professional network, e.g. LinkedIn	2.3
I have published on Wikipedia (even a keyword)	5.0
I contribute to a web magazine (professional journals)	1.1
I am editing an internet magazine	0.4
I am active in Second Life	0.2

Table 1 Which of the described activities do you do on the web?

The correlation coefficient reveals the relationship between the level of knowledge of ICT and the number of activities, in which the respondent engages on the internet. In this case, a more detailed analysis using adjusted residuals suggests no more than a statistically significant probability of increased occurrence of seven of the above listed internet activities for individuals who define themselves as advanced users of ICT and a statistically significant probability of increased occurrence of nine activities for respondents describing themselves as ICT fans.

3.2. Verification of Quantitative Survey Outcomes

From the qualitative survey conducted in 2010 we selected interesting statements of respondents and attempted to verify them in quantitative terms. Due to the scope of the present paper, we only discuss several of them.

Today, the importance of informal education and social learning in communication with other students is being discussed ever more often.

This is why we were interested to know whether students do actually tend to use the time they spend at the computer for studying specialist topics in professional communities and for sharing information with other students.

The topic was raised in the qualitative survey in 2010. In the survey, the respondents reported using ICT for exchanging study materials and information on study arrangements and for discussions within professional communities.

In the questionnaire, we provided the following statements, to which respondents were offered responses from the “agree – tend to agree – tend to disagree – disagree” range. With regard to the limited scope of this paper, we only list three statements here:

A) I am a member of a virtual (extramural) professional community where I can

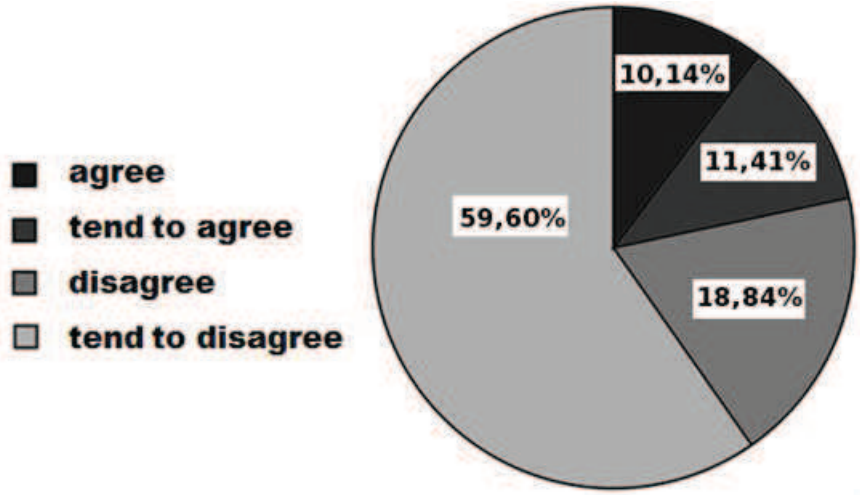
discuss issues related to the field of study (it includes specialists in the field and professional topics are discussed here).

B) I and my classmates exchange exam preparation materials, information on the organization of studies, level of difficulty of exams, etc. on various virtual forums.

C) Using various forms of electronic communication (ICQ, Facebook, Skype or e-mail) distracts me from studying – I spend too much time chatting and cannot focus on the studies.

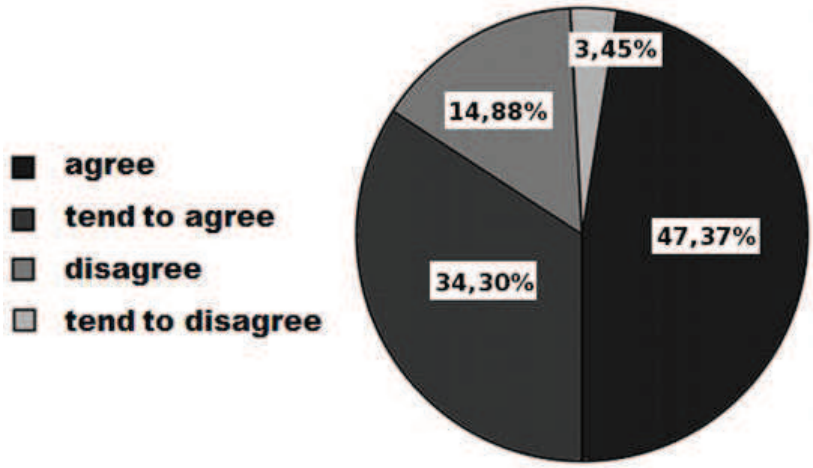
Re A) In this case, too, analysis shows that the time students spend on the internet or on social networks is rarely devoted to specialist topics. Membership in a professional virtual community was only reported by 21.55% of respondents (10.14 % agree, 11.41% tend to agree).

This result may suggest that students do not tend to seek professional communities. However, an alternative explanation may show that students lack opportunities to learn about the working of such communities and opportunities to take part in their activities.



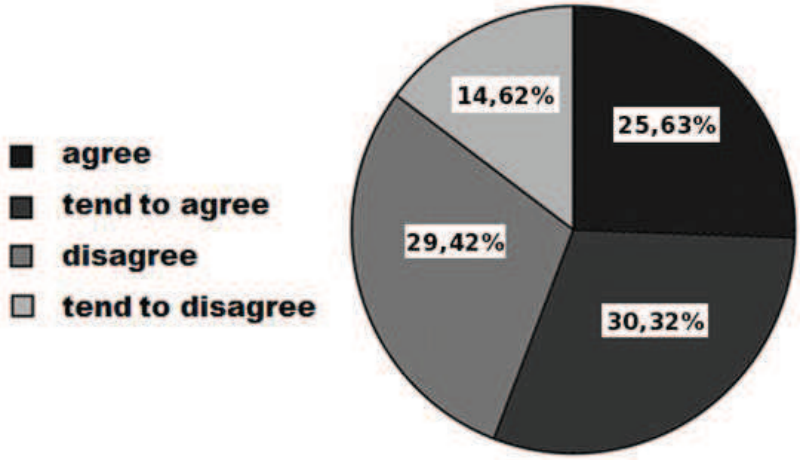
Graph 1 I am a member of a virtual (extramural) professional community

Re B) Modern technology is used by students much more frequently for simplifying their organization of studies than for voluntary professional activities. They help one another, exchange materials and provide one another with support in preparing for exams. This assumption was confirmed by responses of 81.67 % respondents (47.37 % agree and 34.30 % tend to agree). Although that is an important part of the studies, it does not strengthen the notion of professional communities as places for mutual learning. One may also ask to what extent communities organized along these lines share disclosed results of tests, completed exam questions and similar materials. This leads us to considering the negative aspects of the use of ICT in learning.



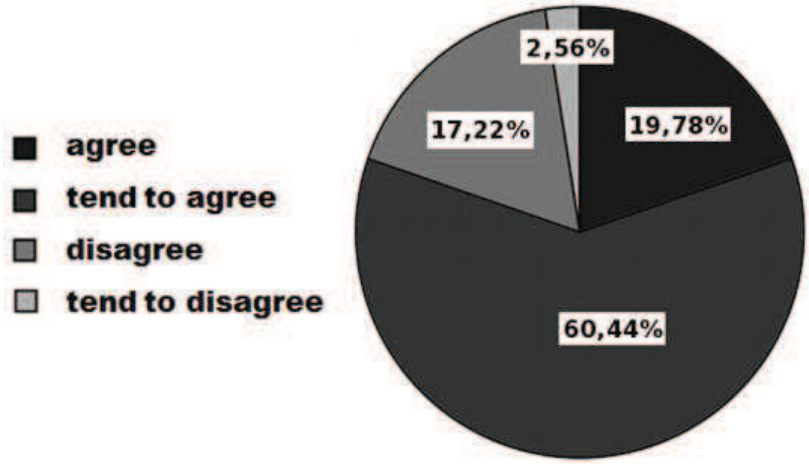
Graph 2 I and my classmates share exam preparation and similar material on various virtual forums

Re C) Use of various forms of electronic communication distracts from learning 55.95 % of respondents (25.63 % agree, 30.32 % tend to agree). This fact should be kept in mind during preparation of e-learning courses and students should be recommended to control their multitasking activity during on-line learning. We may also ponder the question of how advisable it is to incorporate in a course a multitude of communication tools and to what extent should students be required to contribute to various forums, etc. We have only listed a few issues but we believe that this finding is a rather important challenge for further research.



Graph 3 Using various forms of electronic communication distracts me.

Students' overall favourable view of the importance of ICT to education is documented in the following graph. 80.22% of questionnaire respondents reports that using ICT in education leads to good learning results (19.78 % agree, 60.44% tend to agree).



Graph 4 Use of ICT in education leads to good learning results of students

4. CONCLUSIONS

Studying without using ICT is unimaginable today. Students themselves see ICT as a tool that contributes to better study results. However, one should keep in mind that overemphasizing ICT may have negative consequences as well: overwhelming by virtual communication, psychosomatic difficulties, loss of identity and others.

At this point, we would like to stress the importance of continuing the research into the use of ICT in education. In many aspects, educational research opens our eyes, showing that ideals spread by the media, as well as general notions we may have about the real-world use of technologies by the current digital generation may often be rather distorted.

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A Study on the Information Literacy Skills of Students in Different Undergraduate Programs

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Abstract:

Quantitatively increasing information renders it important to possess the skills necessary for reaching the required information and using the information effectively in line with the requirements. These skills are discussed in the information literacy concept and educational institutions are expected to provide individuals with these skills. Within this scope, the study was conducted with university students and the effects of their education on the information literacy were sought. The study was performed on students at two different departments which are closely related to information and information technologies for the purpose of clearly explaining the relationship between the educational processes and information literacy. The two departments included in the study are the Department of Computer Education and Instructional Technology (CEIT) and the Department of Information Management (IM). The study aims to find the differences between these students regarding their levels of possessing information literacy skills.

The analysis showed that, there are some significant differences in terms of information literacy skills between the students at the two different departments. The significant differences in the information literacy skills are related to synthesizing the information; or in other words, organizing the information.

KEYWORDS:
Information Literacy, Information Literacy Skills, Information Literacy Self-Efficacy Belief, Information and Communication Technologies

1. INTRODUCTION

In general terms, information literacy defines the ability to locate the information for a given need and to effectively use that information for the issue or problem at hand. This concept has been used beginning from the early 1970s and has been altered in the following years in its extent and meaning. The rapid change of the information technologies and the increased need for information are the most important triggers for this change. The skills corresponding to information literacy were in the forms of locating and using the information at the beginning, yet in the following years, they have been extended to include identifying what information is needed and locating, using, evaluating and transferring the information (Kurbanoğlu 2010).

The most widely used and accepted definition for the information literacy is the one made by the American Library Association [ALA] (1989) which states, the information literacy is recognizing when information is needed and have the ability to locate, evaluate, and use effectively the needed information.

Developed by Eisenberg and Berkowitz and identified as “informational and technological skills for the students’ success”, The Big6 model evaluates information literacy skills in six stages. The model indicates a process how an information problem is solved. Task Definition, Information Seeking Strategies, Location and

Access, Use of Information, Synthesis and Evaluation are the six stages of the Big6 model which is widely recognized and applied through the world. (TheBIG6, 2013)

These are important skills that students have to gain in the educational processes. Thus, as noted by Akkoyunlu and Erdem (2000), schools must rearrange their teaching programs so that they provide students with information literacy skills as a necessity for the modern education. Likewise, individuals who use technology to reach the information for the purpose of problem-solving, communicating, decision making and generating new information are thought to be thriving individuals of the future.

What percentage of the university students possess the aforementioned skills which have been overemphasized since the 2000s? Does the university education have any effects on the information literacy skills? From these questions, this study determines the level of possessing information literacy skills and the regarding self-efficacy beliefs of undergraduates at the Department of Computer Education (CEIT) and Instructional Technology and the Department of Information Management (IM). It was foreseen that, the educational program of the former department supports students in terms of providing them with the information technologies which makes it easier to reach the information and the latter invests them with the skills for organizing and sharing information.

2. METHOD

2.1. Participants

The study was conducted on junior students at the Department of Computer Education and Instructional Technology and the Department of Information Management. A total of 67 students (CEIT:37, IM:30) participated in the study. With 10 students from each group, 20 students in total participated in the second part of the study which aimed to determine information literacy skills.

2.2. Research Process

Students began with answering the information literacy self-efficacy scales. Then, two groups with 10 students were formed for the each part and the information literacy skills of the groups were determined. Choosing students with higher academic grades was favored while forming the groups. In making this selection, it was assumed that students who more effectively benefit from the education they receive, would have higher academic grades. Volunteerism has also been a determinant in the selection of the study groups besides academic grades.

Each group was assigned a common performance task which was present in their programs for the purpose of comparing their information literacy skills. The common theme was chosen as the RFID technologies for the performance task assigned. In the created scenario, students were asked to prepare a presentation that includes suggestions for using RFID technologies within the campus perimeters. As per the scenario, this presentation is to be prepared so as to be submitted to the university administrative board which plans to make an investment in the RFID technologies. At the end of the 3-day allocated period, students submitted their presentations and the reports explaining their processes. Evaluations on the information literacy skills were made along these presentations and reports.

2.3. Data Collection Tools

Information literacy self-efficacy scales: It is a scale developed by Kurbanoglu and Akkoyunlu (2004) for the purpose of determining information literacy self-efficacy beliefs. It is a 40-item seven-point Likert scale. The reliability co-efficient of the scale is .71.

Information literacy skills evaluation rubric: It is a rubric which was developed by considering the students' reports and presentations along with the information literacy competencies defined in the body of literature in order to evaluate the completed performance tasks in terms of information literacy skills. It contains 20 criteria which are adaptable to Rubric Big6's five stages. In performance tasks, no characteristic was observed which is concerned with the evaluation stage, the sixth stage of Big6', and rubric was designed to have five stages. The scoring key used in the rubric is in the form of 0=unobserved, 1=partially sufficient, and 2= sufficient. (Table1)

Stages of Information Literacy	Criteria	0	1	2
Task Definition	Literature review was made Needed information was tried to be defined			
Information Seeking Strategies	Planning was made, a general frame was constructed Information seeking strategies were diversified Different sorts of sources were used (web, books, articles etc.)			
Location and Access	Sources were evaluated Selections were made among the sources available Quotations were made References section was provided			
Use of Information	Informative information was given about the RFID technologies Application areas were included Critical information for the target market was cited			
Synthesis	Synthesized information was used Information was clearly organized Unnecessary information was avoided Suggestions for the intended application were provided Visuals were used to make the complex process more meaningful Target market was regarded while preparing the presentation Efficiency of the content was ensured in the presentation Visual design principles were respected in the presentation			

Table 1: Information literacy skills evaluation rubric

2.4. Data Analysis

"T-tests for independent groups" was conducted by using the data that was obtained from the scales in order to determine whether there is any difference in terms of information literacy and self-efficacy beliefs between the students at the two different departments. Mann-Whitney U statistic was applied along the rubric data to show the difference in the information literacy skills.

3. FINDINGS

In the study, it was determined whether there is any difference in information literacy and self-efficacy beliefs between the students at the Department of Computer

Education and Instructional Technology and the Department of Information Management.

The average values for the two departments were calculated as $\bar{x}$=5,40 for CEIT and $\bar{x}$=5,46 for IM. The obtained values are regarded as high according to the sections defined by the scale which was used. The values look alike. However, a t-test was applied concerning the significance of the difference between the information literacy self-efficacy beliefs of the two groups (t= .342, p=.566>.05) and it was found that, there is no significant difference between the groups.

In order to determine whether the information literacy skills change depending on the received education, the performance duties assigned to students with the highest academic averages were evaluated using the information literacy skills evaluation rubric. The general average that was calculated as a result of this evaluation is $\bar{x}$=25.7 for CEIT and $\bar{x}$=21.4 for IM. The significance of the difference between the information literacy skills of the two groups was tested using the Mann-Whitney U test, a nonparametric test. The scores attained for each sub-stage of the information literacy were tested separately and a difference was detected between the two groups in the "synthesis" stage (Table2). This difference is in the favor of CEIT students (Table3).

	Task Definition	Information Seeking Strategies	Location and Access	Use of Information	Synthesis
Mann-Whitney U	41,500	50,000	50,000	45,000	22,000
Wilcoxon W	96,500	105,000	105,000	100,000	77,000
Z	-,704	,000	,000	-,406	-2,124
Asymp. Sig. (2-tailed)	,481	1,000	1,000	,684	**,034**
Exact Sig. [2*(1-tailed Sig.)]	,529[a]	1,000[a]	1,000[a]	,739[a]	**,035**[a]

Table 2: Results of Mann-Whitney U Test

Stages of Information Literacy	IM	CEIT
	$\bar{x}$	$\bar{x}$
Task Definition	2,9	2,6
Information Seeking Strategies	3,2	3,2
Location and Access	3	3,4
Use of Information	5,1	5,3
Synthesis	7,2	11,2
TOTAL	21,4	25,7

Table 3: Values for the stages of information literacy

Table 4 shows scores of the two groups attained by each criterion in the "synthesis" stage. The results show that, students at CEIT performed better in organizing the information, using visuals to make the complex process more meaningful, regarding the target market while preparing the presentation and respecting the visual design principles in the presentation.

Criterion for the synthesis stage	IM	CEIT
	$\bar{x}$	$\bar{x}$
Synthesized information was used	0,3	0,6
*Information was clearly organized	1,1	1,8
Unnecessary information was avoided	0,8	1
Suggestions for the intended application were provided	1,7	1,6
*Visuals were used to make the complex process more meaningful	1,2	1,8
*Target market was regarded while preparing the presentation	0,8	1,9
Efficiency of the content was ensured in the presentation	1	1
*Visual design principles were respected in the presentation	0,3	1,5

Table 4 Values for the sections as per the criteria in the synthesis stage

4. CONCLUSION

This study was conducted on students at the Department of Computer Education and Instructional Technology and the Department of Information Management in order to examine the differences in their information literacy self-efficacy beliefs and information literacy skills. The results show that, students at the both departments have strong information literacy self-efficacy beliefs and that; there is no significant difference thereof. Considering that a strong and positive self-efficacy belief would be useful for dealing with possible problems in the relevant subject, the examined groups can be claimed to have an advantage in overcoming information problems. When CEIT and IM students were analyzed in terms of information literacy skills however, it was found that they exhibited similarities in all stages of the Big6 model except the “synthesis” stage having significant differences in their “synthesis” stage competences. Synthesis is related to organizing and presenting the information (TheBIG6, 2013).

The data obtained shows that, CEIT students have superiority in synthesizing the information and they share the information more effectively. The collected data did not prove the prediction which was mentioned in the introduction part of the study; “educational program of the CEIT department supports students in terms of providing them with the information technologies which make it easier to reach the information and DIM department invests them with the skills for organizing and sharing information. Students who had similarities in using information and communication technologies, exhibited differences in synthesizing and presenting the information. This result can be attributed to the fact that, CEIT department prepares its students to be teachers and thus, gives more importance to organizing and sharing information.

Conducting similar studies with different scenarios and subjects and repeating the study with larger participant groups is necessary for determining the effects of the scenario and the subject on the findings.

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NEW APPROACHES TO HIGHER EDUCATION IN BOSNIA AND HERZEGOVINA: USE OF WEB-BASED STUDENT RESPONSE SYSTEMS

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Abstract:

Increased uptake of student response systems (SRS) has been fueled by fast technological advances. Such systems provide various opportunities for enhancing teaching and learning environments through increased student engagement, interaction and provision of immediate feedback. The purpose of this study was to explore student participation and challenges of SRS use in a higher education setting in Bosnia and Herzegovina. Results showed encouraging willingness of students to participate in new educational approaches and also revealed that the type of class in which SRS is used; gender and access device are factors that affect students' approach to partaking in SRS exercises. Finally, challenges of SRS use are identified.

Keywords:

Student Response System, SRS, Bosnia and Herzegovina, Higher Education, Educational Technologies

1. INTRODUCTION

In recent years, fast technology advances have led to an increase in modern educational approaches employing different types of information systems to provide feedback to instructors and enhance student engagement and learning (Lu et.al, 2010: 2970-2975; Salemi, 2009: 385-404; Russell, 2008: 58-65). Fies & Marshall name a wide range of terminology used to describe these systems, such as: classroom response systems (CRS), student response systems (SRS), audience response systems (ARS), electronic response systems (ERS), to name a few (2006: 101-109). The fast uptake of mobile and Internet technologies has led to the popularity of web-based SRS tools which record student responses via portable Internet-enabled computer devices such as Internet-enabled phones, smartphones, laptops, tablets, etc. The purpose of this paper is to explore student participation in and challenges of SRS use in higher education (HE) in Bosnia and Herzegovina (B&H) for assisting and enhancing the teaching and learning process. The significance of the environment in which the study was carried out is the lower degree of e-readiness of B&H compared to developed countries (World Economic Forum, 2013; Zarimpas, 2009: 141-147).

The specific research questions are:

RQ1. Do HE students in B&H participate in SRS sessions?

RQ2. Which factors affects B&H HE students approach to answering questions in SRS exercises?

RQ3. What, if any, are the challenges of SRS use in a HE setting in B&H?

The paper is structured in the following manner: Section 2 provides a brief review of the existing body of SRS literature, Section 3 explains the employed methodology and data collection tool, while Section 4 presents the results of the analysis conducted on the gathered data. Section 5 contains a conclusion and recommendations for future research on SRS use.

2. BACKGROUND

Most reports on SRS use to date refer to the use of clickers or similar specialized SRS in the classroom rather than use of web-based SRSs (Jagar et.al, 2012: 12-14). Apart from a very recent paper by Jagar et. al (2012: 12-14), little work has been done in the domain of SRS use in higher education in this part of the world. A number of literature reviews on SRS use have been done (Caldwell, 2007: 9-20; Fies & Marshall, 2006: 101-109; Roschelle et.al, 2004; Simpson & Oliver, 2007: 187-208). The common denominator is the benefit of SRS use to the various components of students' classroom learning environment such as student perceptions' of increased class engagement, interactivity and enjoyment. Another specific advantage derived is that the use of such tools leads to increased awareness of both students and instructors of the students' understanding (Fies & Marshall, 2006: 101-109) and, overall, to students' improved understanding of material in class (Mantoro et.al, 2010: 34-39), which presents a prerequisite to responsive instruction.

Kay and A. LeSage summarize the reported benefits of SRS use into three main categories: classroom environment benefits including anonymity, increased attendance, attention, participation and engagement levels; learning benefits reflected in the following elements: interaction, discussion, contingent teaching, quality of learning, learning performance; and thirdly, assessment benefits: feedback, formative assessment and students being able to compare responses with peers (2009: 819-827).

Nevertheless, more systematic research across diverse settings is called for (Fies & Marshall, 2006: 101-109; Kay and A. LeSage, 2009: 819-827; Patry, 2009: 111; Simpson & Oliver, 2007: 187-208). This paper acts in response to that call and serves as a starting point for future research of this phenomenon in higher education in the Western Balkans region.

3. METHODOLOGY

The SRSs were used in five courses during the Autumn/Winter semester of 2012 at a private HE institution in B&H, University Sarajevo School of Science and Technology (SSST). Table 1 shows the names and characteristics of courses in which the SRSs were used.

Among the five courses, four courses used EduMECCA SRS (Stav, 2009) and only the HCI course used Mentimeter SRS (Mentimeter, 2013). The SRSs were used once a week at the start of a class in each course and student responses were collected through devices such as laptop, smartphone, tablet, or desktop PCs during a lab. The questions asked were either multiple choice or yes/no answers and were based on material covered in previous week's classes. Students were informed that the voting is anonymous and their results would not count towards their course achievement.

Course Name	Year of Study	Major Discipline	No. of Students
Human Computer Interaction (HCI)	4	Information Systems (IS)	10
Selected Topics in Information Systems (STIS)	4	Information Systems	10
Database Systems (DBS)	2	Computer Science and Information Systems (CS/IS)	22
Information Systems Security (ISS)	3	Information Systems	3
Databases (DB)	4	Economics	33
Total number of unique participants			68

Table 1: Names and characteristics of courses in which the SRSs were used

A survey questionnaire was used to obtain students' feedback. The questionnaire was divided in two sections. Section A contained 3 demographic questions and Section B contained questions relating to the use of the SRSs and disadvantages. There was a total of 9 multiple choice questions.

4. DATA ANALYSIS

4.1. Data preparation

As shown in Table 1, the total number of students who used SRS for the purpose of this study was 68 (note that the same 10 students attended HCI and STIS courses). Of those, 42 responded to the survey, resulting in a response rate of 61.76%.

Data preparation stage consisted of cleaning the data set of incomplete and invalid responses by deletion or filling in missing values, and transforming variable values. Data was cleaned of 3 rows where section B was left completely empty and evident invalid responses were given. Two variables were deleted due to insufficient number of responses (fewer than 2), or no answers provided.

The preprocessed data set resulted in 39 records, and 16 variables created from 9 survey questions. The included variables were of categorical data type. Software tool used for data analysis is IBM SPSS Statistics 20.

4.2. Results

In the conducted study the majority of student respondents were male (56.4%), sophomore (48.7%) and senior (43.6%), and 79.5% were enrolled in technical majors (CS/IS, Information Systems). The general data of SRS use is given in Table 2.

Variable	Values	Frequency	Percent
Type of SRS used	*EduMECCA SRS*	30	76.9
	EduMECCA SRS and Mentimenter	9	23.1
Course for which SRS was used	*DBS*	27	69.2
	HCI and STIS	9	23.1
	ISS	3	7.7
Type of class in which SRS was used	*Lab*	19	48.7
	Lecture	11	28.2
	Both	9	23.1
Device used to access SRS	*Smartphone*	18	46.2
	Lab computers	18	46.2
	Laptop	3	7.7

Table 2: General data on use of SRS

89.7% of respondents participated either in all SRS sessions or most of the sessions (Figure 1). Only two respondents (5.13%) stated they did not participate in SRS sessions at all, which coincides with the percentage of missing (non-answered)

responses for the questions "Student approach to answering questions via SRS" (Figure 2) and "Total percentage of questions answered correctly via SRS" (Figure 3).

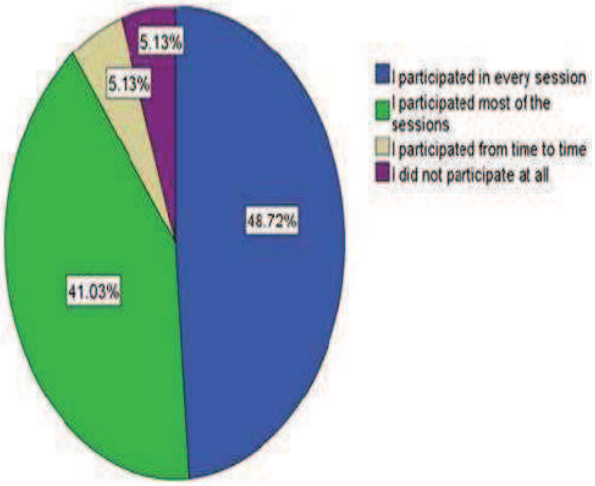

Figure 1: Extent of student participation in SRS sessions

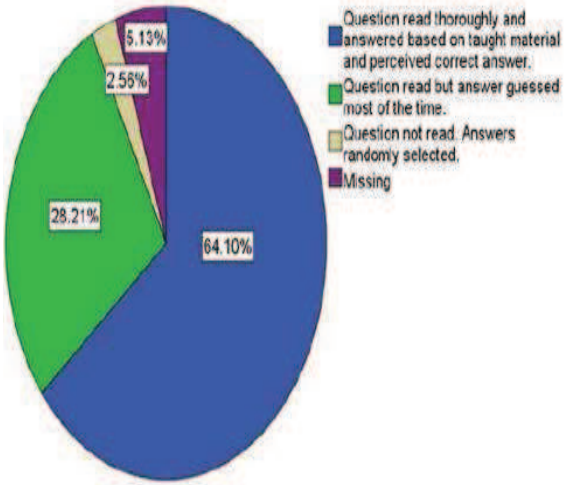

Figure 2: Student approach to answering questions via SRS

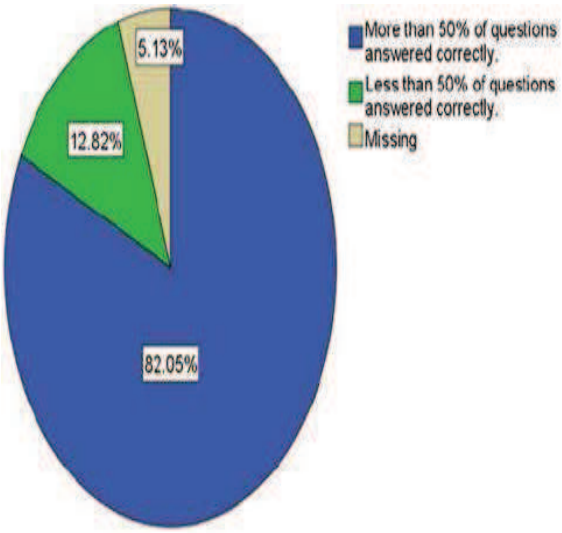

Figure 3: Percentage of questions answered correctly in SRS.

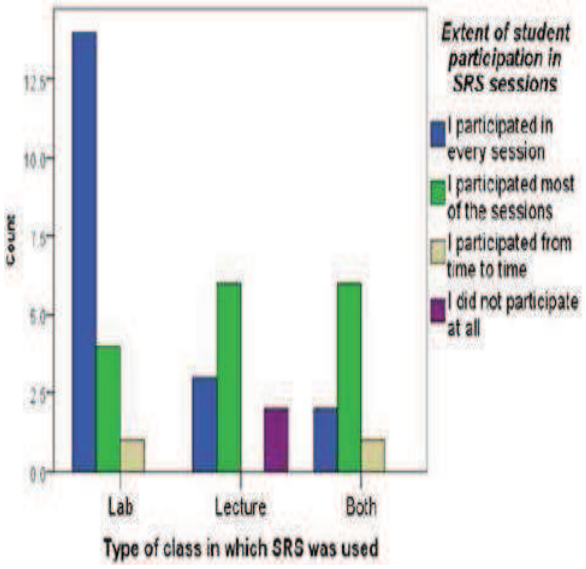

Figure 4: Cross-tab analysis of "type of class in which SRS was used" and "extent of student participation in SRS sessions.

Pearson's R and Spearman Correlation indicate a positive relationship between the variables student participation in SRS sessions and the type of class (lecture, lab, and both) in which SRS was used, at the significance level of 0.05 ($p = 0.034$ and $p = 0.005$, respectively). Cross-tab analysis shows that the majority of students who participated in every session used SRS in labs (35.9%), whereas those who stated they did not participate at all used SRS only in lectures (5.1%)(see Figure 4). More than 90% of respondents read the questions and more than 64% also answered them based on knowledge.

Pearson's R test was further conducted on the following variables: Extent of student participation in SRS sessions, Student approach to answering questions via SRS, Total percentage of questions answered correctly via SRS. The only significant relationship evident at two- and one-tailed 0.05 level (p = 0.02) is the positive correlation between the extent of student participation in SRS sessions and the student approach to answering questions via SRS.

46.2% of all respondents stated that they answered more than 50% of questions correctly and participated in every SRS session. Within this group of respondents, 77.8% stated they answered questions based on knowledge rather than guessing (see Figure 5). This indicates that continuous active participation in SRS sessions increases the likelihood of answering questions based on course material comprehension.

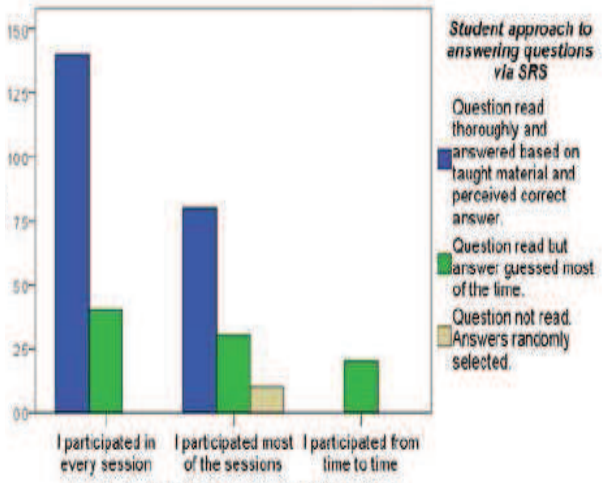

Figure 5: Cross tab analysis of "extent of student participation in SRS" and "student approach to answering questions via SRS"

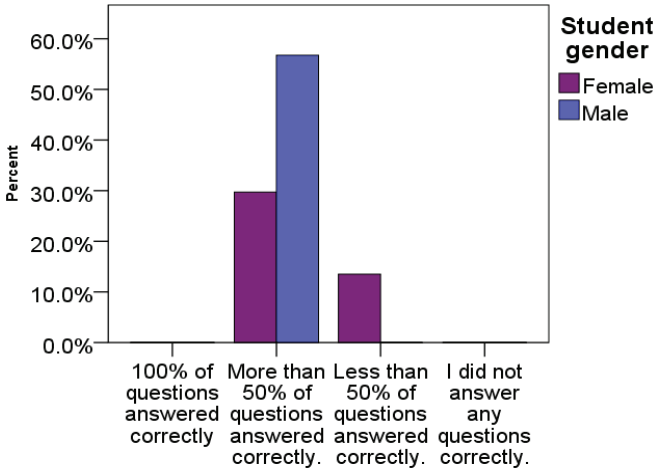

Figure 6: Distribution of total percentage of questions answered correctly via SRS across student gender

Moreover, all male respondents stated that they answered more than 50% of questions correctly in comparison to 30% of female respondents. The remaining percentage of female respondents admitted to have answered questions but less than 50% correctly.

When it comes to devices used to access SRS, the respondents claimed to have used in equal percentages smartphones (46.2%) and lab computers (46.2%), and only 7.7% used laptops.

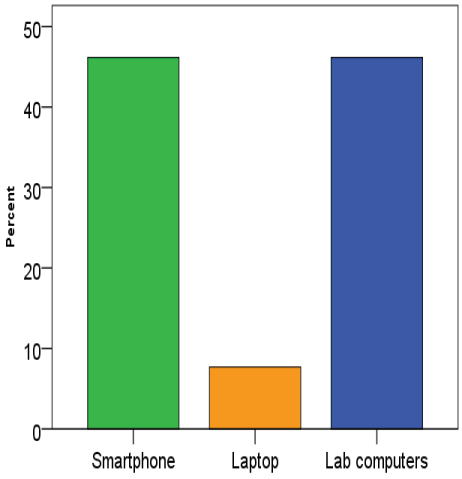

Figure 7: Devices used to access SRS

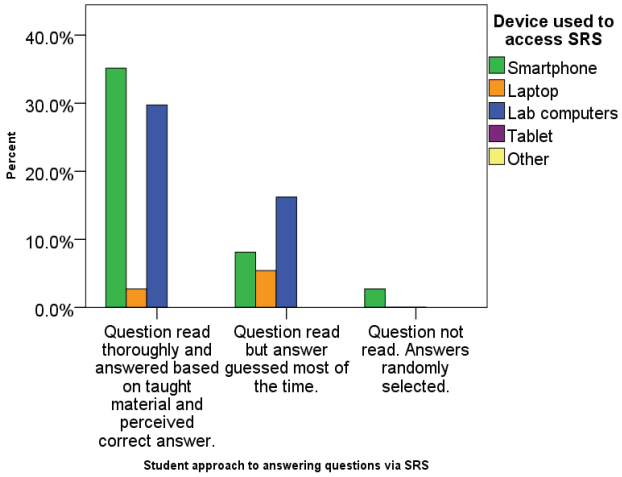

Figure 8: Cross-tab analysis of "student approach to answering questions via SRS" and "devices used to access SRS"

Respondents who used smartphones to access SRS claimed to have read questions thoroughly and answered based on knowledge (approximately 35%). However, it is evident that student who used smartphones were the only respondents who did not read the questions at all and selected answers randomly (approximately 2.5%). In comparison to these, respondents who accessed SRS via lab computers always read the questions; approximately 30% of these respondents claimed to have answered based on knowledge, while more than 15% guessed the answers.

The most commonly reported disadvantage of SRS use is the fact that questions are not shown within the SRS system (32.4% - refers to the use of EduMECCA SRS). Other identified disadvantages are: Technical difficulties in system usage exist (21.6%), Answers are not listed (16.2% - refers to the use of EduMECCA SRS), GUI is not interesting (16.2%), System is complicated to use (2.7%).

5. CONCLUSIONS

The study results imply that students in B&H HE institutions are willing to participate in new technology-enabled educational approaches (RQ1), furthermore they do their best to actively engage and obtain good results in SRS exercises.

When referring to RQ2, assumptions can be made that gender, type of class in which SRS is used and access device are factors which affect respondents' approach to answering questions in SRS exercises. Namely, while the majority of respondents were male, the results implies that male respondents are not objective and honest about their approach to answering questions and female respondents seem to be more open about their rate of success in SRS exercises.

When it comes to access device, students who had access to lab computers, or owned a smartphone tended to participate in SRS sessions more often. Unlike respondents who accessed SRS via other devices, those who used smartphones are the only ones who admitted to not having read questions and answered questions randomly. On the other hand, those who had access to lab computers seem to

always have read the questions. Although assumptions could be made that the small size of the screen on smartphones may pose problems with reading text, it may be that greater student participation and involvement in answering questions in labs is due to a more reliable and available Internet connection and practical nature of labs, rather than the theoretical, inert nature of lectures.

A few challenges were pointed out as part of this study (RQ3) and are mainly related to the interface and low-user friendliness, and system access barriers, such as the lack of access device and technical difficulties in connecting to the system.

The here presented study took into concern the experience of only one group of participants in SRS use - the students, and enrolled in a private HE institution. Majority of students attend technical majors, thus leading to possibly biased results. Future work on this topic should include a larger, more diverse sample of students enrolled in B&H public and private HE institutions, and include technical and non-technical majors. Furthermore, it should evaluate both students' and professors' experience in SRS use.

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IMPLEMENTING A 'MEDIA CURRICULUM' AT THE HAMBURG UNIVERSITY OF APPLIED SCIENCES. FINDINGS FROM A STUDENTS' SURVEY

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Abstract:

The use of new media in teaching requires media literacy of both groups: Teachers have to be able to use the media in a didactic and in a technical way. On the other side, and against the popular saying of the 'digital natives', students need support to use media in learning as well. In our opinion, overrating of the 'net generation' hinders the realization of media-based learning arrangements, because teachers are not always aware that students on the average do not always sufficiently know how to apply digital media. This insight lead to the concept of a "media curriculum" (Hofhues 2012, Hoffmann 2012) at the faculty of Business and Social Science HAW Hamburg, To put this concept to the test a survey was undertaken to find out what students know about using digital media, how they use them and what kind of support they wish.

Keywords: media curriculum, net generation, media competency

1. INTRODUCTION

Learning and research at the university nowadays generally implies the use of computers and software. To foster the use of new media in teaching and learning, the faculty for Business and Social Sciences of the University of Applied Sciences Hamburg [*Hochschule für Angewandte Wissenschaften Hamburg (HAW Hamburg)*)] started the project 'Informatization Taskforce' (*Taskforce Informatisierung*) in 2011. To reach this goal a preliminary 'media curriculum' was defined, based on informal interviews and observations. (Hoffmann 2012, Hofhues 2012) The insight into the complementary needs of teachers and students shapes the media curriculum. To get an overview over the students' knowledge and habits concerning digital media, a detailed survey of the students' opinion and self-estimation on their media related competencies was made. The talk will focus on the results of the questionnaire and gives an idea at which point the students need support in applying digital media for their study and how much the innovation in teaching and learning is teacher driven.

2. THE CONCEPT OF "NET GENERATION"

In the faculty, the concept of the "net generation" played an unofficial, but important role. Prensky (2001) explained this phenomenon with a dividing concept. He classifies people in different groups according to their age coupled with their use of new media. In accord to Prensky, people who grew up with digital media are 'Digital Natives', and hence the ones who did not are 'Digital Immigrants'. Oblinger and Oblinger (2005) call the first group 'net generation'. They assume that the first group is more experienced in media and that this has positive effects on the appropriate skills. But just the fact that today's

learners use other media than in earlier times does not justify branding or mystifying an entire generation as different. (Schulmeister, 2008)
Nevertheless, the public assumes that younger people 'naturally' should be able to use computers and the internet. In the faculty, this sight was very common too.

2.1. Media Curriculum

At the beginning of the project 'Informatization Taskforce' in 2011 the following concept for implementing digital media was set up for the faculty (see Figure 1).

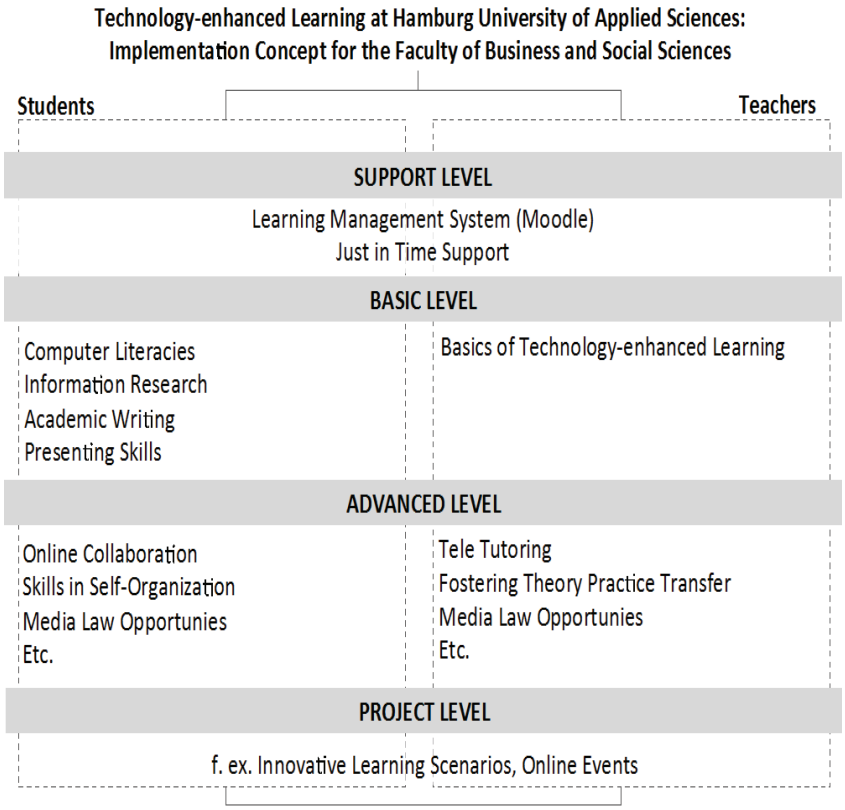

Figure 1: Media Curriculum of the HAW Hamburg

Different levels for the implementing process were planned. The first one is the 'Support Level' which includes a just in time support for teachers as well as for students concerning mainly technical usage of Moodle and other systems like presentation or writing software. For the students, the 'Basic Level' contains skills in 'Academic Writing' and 'Information research' with new media. In the 'Advanced Level' the technical aspects of using new media should not stand in focus anymore. The students should be able to learn the usage of new media in greater depth and to realize the opportunities e.g. Online Collaboration and Self-Organization. The last level consists of the 'Project Level'. The aim is to enable the students to use media in a more creative way and to implement their own media projects.

3. SURVEY DESCRIPTION AND RESULTS

The questionnaire was created as an online form. All students of the four departments of the faculty were invited by e-mail. The students had three weeks for their answers and were twice invited. 307 (9.3%) of 3290 students answered. The questionnaire was meant to be analyzed in regard to gender and membership of a certain department. The participants' quotes of gender and department membership correlated with those of the sample originally asked. The difference was, that the quota of male business students is much smaller than it is in reality (10% instead of 19%)

3.1 Knowledge about Software and habits of use

The typical student is familiar with using Microsoft Word (98.2%), Microsoft Excel (86.9%) and Power point (96.1%). On the other side she or he even does not know that reference management systems exist (80%-88%). Besides they use Facebook (68.5%), Dropbox (60.1%), Skype (66.7%) and WhatsApp (59.3%).They know, but do not use, ICQ (84.8%), Twitter (87%), StudiVZ, a German social network (82%) and Google+ (75%). Besides Open Office, Open Source and Apple Office Software is hardly known.
In sum, there is a typical and homogenous use of software. None of the software tools mentioned is very demanding in its use. Besides of Dropbox, Skype and Twitter the programs used are "classics" for scientific work and studying. So it fits well, that students, beside the mostly privately used (57% to 83%) web 2.0 applications, work in average in 60% of cases with a certain software, because teachers ask them to do so. An extreme value can be found for learning management systems: 84% reply that they only use the systems in the way their teachers suggest them.

3.2 Self-Concept of using PC and Internet

In the third section we asked for the self-concept of students while using pcs and the internet. The questions target technical competencies such as installing software and drivers, self-reliance while using electronic devices and the interest in computer issues.
More than 90% of all students feel self-assured while using a pc. In regard to different user groups three kinds of results can be found.
No difference in self-estimation can be found in using programs such as presentation and text software. All groups of student feel self-assured while using those programs (93 % for text programs, 94.4% for presentation software. Nearly no difference can be found too regarding the knowledge on digital rights. While 96% Public Administration students estimate they have a good knowledge on digital rights, only 70% of others think this. This will be a consequence of the fact that 'Digital Rights' is a regular subject of the Public Administration study program.
A couple of items show that women and men think the same way of their competences, but women feel themselves slightly less capable than men. This is the case for issues as self-reliance while using a personal computer and using statistic programs (same median).
Significant differences between groups can be found concerning the need to increase the daringness in administering a personal computer(women 46.6%, men only 14.4%) knowledge and competencies in installing drivers (women 53.3%, men 77.6%) and software (women 75.8%, men 97.4%) in general, where men feel significantly more assured than women. An enormous difference shows up in the topic of interest for new

computer technologies where 71% of men answer “yes” and “rather yes” while 76% of women reply “rather no” and “no”. As for the departments you can find in general a slightly higher self-estimation in the business department.

3.3 Wish and Need for Support

78.5% of the students ask other people or use a search engine (81.1%), when they are facing technical problem. On the average 58.1% are nevertheless interested to receive support for computer problems in the university. This varies within gender: Only 5% of women do not want any help at all, but 39.2% of men estimate that they are able to solve problems on their own. Half of them (52.8%) prefer personal advice, 42% would like an online support. 63% wish help for computer programs, 44% want support when they have to select suitable software. Within that they do not expect help from their professors (2.0%).

3.4 Interest on Knowledge on Media and Participation

In Order to get better through their studies, 30% of the students like to acquire knowledge on the use of media while studying. 48% want to be better prepared for their professional life. The interest depends on the department; 55% of social work students are interested in the social consequences of media use, while students of other department are rather not (20% to 28%) in this point. Although the students’ participation in developing the media curriculum is intended, only 20% of students are interested in participating, while 30% are not sure and 37% never want to do so.

4. CONCLUSIONS

The survey shows that students are interested in principle in all fields that were envisaged in the media curriculum. Although it seems to teachers that students know more than themselves, at least half of students want support and an adequate education for their professional life. In fact students orientate themselves while using software by following teachers’ advice. So teachers act as multipliers and have big influence on students’ using behavior without being aware of it. Therefore both groups, students and teachers, need advice.

Apart from their needs students in general feel self-assured, maybe they feel as a part of the net generation. A closer look shows that differences between the groups correspond to social roles. Women are not interested in new IT technologies and feel more uncertain in general. Business students stress their competencies more than other students do.

On the other hand, in the use of common tools as MS word and Power point no differences can be found; so it seems that differences in self estimation should disappear with more experience.

The tasks, which result from the concept of the media curriculum and survey, may in general not be adopted by professors of the departments but by specialists for media didactics. So in sum the assumptions of the concept were proved.

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INTERGENERATIONAL MEDIA EDUCATION: PUPILS AND TEACHERS AS "LEARNING PARTNERS"

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Abstract:

In order to define the role of media it is not enough to speak of the omnipresence of media in everyday life. Rather, this is a case of mediatization, understood as processes of a fundamental social and culture change (Krotz 2011: 24) that result in far-reaching competence requirements for everyone – even for the so-called Digital Natives (Prensky 2001): Although today's adolescents grow into the use of digital media in the same way that they learn their mother tongue, thereby implicitly acquiring numerous media-related skills, a reversal of expertise only exists to a limited extent – if it exists at all. In fact, the competence advantage vis-à-vis many adults is generally limited to a few of the areas included in the definition of media literacy. All things considered, it still requires informed external stimulation – especially in contexts of academic education. However, reviews of the literature regarding adult media literacy suggest that teachers, who should be helping adolescents overcome the challenges posed by mediatization, can only do so to a limited extent (namely due to their own limited knowledge and skills passed on through parenting and education). A conceptual change in the training of school teachers is certainly an important step toward a new practice of media education in schools. But those who already are teachers, and who will be for many years to come, will no longer profit from it. In terms of lifelong learning their media education competence needs to be fostered on the job. Own pilot projects have shown that intergenerational on-the-job trainings that are guided externally and that include the pupils in their implementation are particularly successful, for it is meant to forge a reciprocal relation in which participants from different generations exchange and complement their knowledge, skills and individual experiences.

Keywords:

media education, media literacy, on-the-job trainings

1. LIVING IN MEDIATIZED SOCIETIES

Due to the today's importance of information and communication technology, one can no longer talk simply of the omnipresence of media in everyday life. Rather, this is a case of mediatization – a theoretical concept understood as processes of a fundamental social and culture change. This refers to more than a functional shift of media or the fact that new content is presented in new forms. It refers to changes in the way media and their contents are perceived and experienced, and to changes in expectations and in usage (Krotz, 2007). And the requirements placed upon those who were born into mediatized societies are significantly more comprehensive than in the past: Media literacy now counts as the fourth cultural technique, alongside reading, writing and arithmetic and for that has become a catchphrase in education and cultural policy discussions around the world.

In view of the German discourse media literacy is a *level* to aim for, a life-long goal, rather than a *state* at the end of an educational process that can be concretely determined through exams. It includes all the knowledge and skills necessary for

proper, independent, creative and socially responsible action with and in the media (e.g. Baacke, 1996; Tulodziecki, 1997; Schorb, 2005). These skills can be categorised into:

the *knowledge of the media* (of their structure, creation and function and the ability to orientate oneself in them),

the ability for *media analysis and reflection*: skills that enable the use of knowledge of the media to critically evaluate, reject or enjoy different formats and contents and

the *using of and acting in media*: the ability to sensibly choose and use media offers based on knowledge of the media and media analysis and reflection, in order to participate consciously in the media society through the interactive usage of media and the creation of own media products.

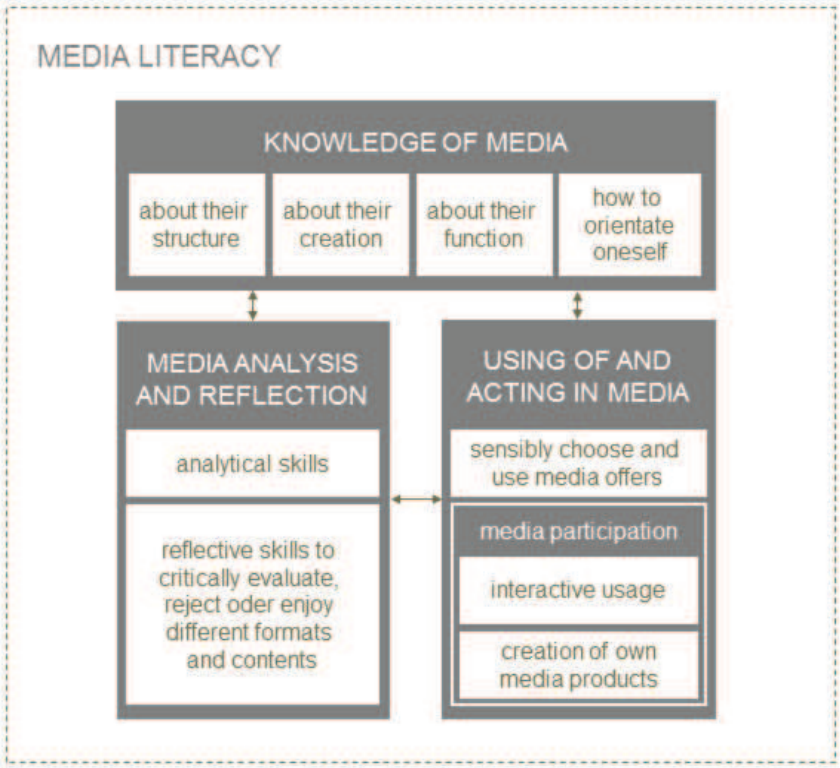

Figure 1: Media Literacy

Growing into the use of digital media in the same way that they learn their mother tongue children and adolescents implicitly acquire numerous media-related skills that place them at an advantage over all those who only grew up with analogue media or whose media-technological development is not as advanced. However, the competence advantage vis-à-vis many adults is generally limited to a few of the areas included in the definition of media literacy, in particular functional knowledge. Skills related to knowledge of the media or to a critical reflection of one's own media actions still require informed external stimulation.

Regarding this, school is of special importance for it is the only place where a systematic and continuous media education could be guaranteed. However, conditions precedent to encourage adolescents developing their critical and creative

abilities is teachers that have both media literacy on their own and media-related abilities and skills to give pupils the possibilities to enhance their media literacy (Blömeke, 2000). But in fact, due to their limited knowledge and skills passed on through their own parenting and education they can support adolescents overcoming the medial challenges only to a limited extent.

2. COPE WITH THE CHALLENGE: INTERGENERATIONAL MEDIA EDUCATION

In order to support teachers in contexts of media literacy education a conceptual change in the training of school teachers, like the one slowly taking place in Germany, is certainly an important step toward a new practice of media education in schools. However, those who already are teachers, and who will be for many years to come, will no longer profit from it. They need to be fostered *on* the job in terms of lifelong learning.

In current media-related vocational trainings usually teachers are just enabled to transfer new knowledge in the traditional assignment of roles. In order to complement available subsidy programs and being aware of the existing *and limited* media-related skills of adolescents I developed, tested and evaluated a concept of intergenerational media education in schools: Over 3 month 25 teachers and pupils of a German secondary school participated in several projects dealing with different media-related subjects. However, it was not about the pupils taking on the role of teachers, but it was meant to forge a reciprocal relation in which participants from different generations exchange and complement their knowledge, skills and individual experiences (Kade, 1999: 64). The participants should view themselves as “learning partners” (Marquard et al., 2008: 37) engaged in a “critical-reflective dialogue” (Gregarek, 2007). The point was to engage in the experience of difference and to reflect upon the formation of one’s own and others’ modes of action and interpretive models. For active media work is particularly adapted to this that method was applied in all the teacher-pupil-projects. After all, discussions with and about media create a space that allows different generations to actually come together with their (differing) mind-sets, requirements and competences – a space in which they learn about their generational perspectives and in which they talk *to* each other instead of only *about* each other.

3. EVALUATION RESULTS

There are three basic preconditions for intergenerational media-related learning processes: First of all, it is necessary that teachers and pupils are willing to *free themselves from the traditional understanding of teachers’ and pupils’ roles* within the teaching-learning process. Only based on openness, trust, empathy, reciprocity and ambiguity tolerance it is possible to initiate a collaborative learning process at eye level.

In addition, referring to time and rooms adequate *opportunities for interaction* have to be offered, respectively arranged (e.g. full-time-education offers, project weeks or alternatives to teacher-centered education approaches).

Moreover, for an intergenerational teach-learn encounter to be successful, it needs *intensive pedagogical support throughout the process*. Just the conception of the method and the didactics requires taking into account the skill prerequisites (that is, the level of media-related knowledge and skills as well as general cognitive capabilities) and the motives of the participants, as well as the differences stemming from different biographies. Besides stimulating the described reflection processes before and during the project, the educators also act as moderators. Their task is therefore firstly to animate and to encourage the participants to become active, and secondly to ensure that communication structures are as balanced as possible in order to enable an exchange at eye level. The educators must also be sensitive to the reserve of some participants, both toward others and toward the activities, which could be due to a limited experience with team work, with persons from different generations or with the object of study (e.g. use of the internet).

Provided that the listed conditions are fulfilled, the full potential of intergenerational media education can be realized (Kuttner, 2012):

Dependent on the subject matter of the projects and the applied methods various dimensions of *media literacy of pupils and teachers can be enhanced*.

Additionally, the abilities and skills of teachers in respect to *media literacy education can be improved*. Experiencing adolescents using and discussing media teachers get a picture of their pupils' media-related abilities. This is important for being able to estimate the skill prerequisites and need of media educational support. Furthermore, by observing the interaction between the pupils and the media educator teachers implicitly learn about the reasonable use of media within educational contexts and become acquainted with adequate approaches to discuss media issues within their classes.

To name just one other potential: An informal atmosphere helps to learn more about the media usage and interests of the counterpart. Especially in respect to what pupils know about their teachers this aspect that has not been discussed sufficiently. However, within the interviews with the adolescents who participated in the model projects it became apparent that the knowledge about their teachers is an important condition for *apprehending them as authentic and reliable contact persons* with regard to media education.

4. CONCLUSION

Pilot projects have shown that on-the-job trainings that are guided externally and that include the pupils in their implementation are particularly successful. On the one hand, this makes it possible to integrate the training into daily school life in a context-sensitive manner. On the other, it allows the bringing together of the knowledge and

skills of teachers *and* pupils, thereby devising a media education in schools that is in touch with everyday life.

However, the list of tasks of the pedagogical support reveals the breadth of the spectrum of competences that is needed to guide intergenerational educational processes. The formation and further training of media educators therefore faces a new challenge: it must foster both media-educational competences that reside somewhere between media work for children and adolescents and adult education, and the competences to stimulate and guide intergenerational communication processes.

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Teachers and technologies

USING MEDIA IN REFLEXIVE TEACHING

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Abstract:

The paper is focused on the reflexive teaching in primary school classroom. The strength of a contemporary teacher, as adult learner, is in their involvement in the processes of learning about the media, using the media in their own learning and the teaching of the others and evaluation of the achieved outcomes.

Paper consists of three main parts. In the part named *Adult learning as a paradigm of the educational change* are elaborated and confirmed the positive values of the adult learning and the place of the teachers in that process. Affirmative notes for the implementation of media in teaching and learning process are critically viewed in the next part *Using media in teaching- decision pro and contra*. The following part *Multimedia teaching- the paradigm of successful reflexive teaching* emphasizes the necessity of teachers multimedia knowledge and gives the possible direction in using media in being reflexive.

Keywords:

Reflexive teaching, Multimedia teaching, Adult learning, Learning objectives, Life-long learning.

1 INTRODUCTION

Using media in educational processes is primarily focused on improvement of the communication among the pupils, between the learning goals and pupils, realization of the curriculum and teachers. On one hand, that improves the processes of sending information, receiving and proper understanding, and dimensioning of the behavior of the involved. On the other hand, using media in teaching and learning characterizes the processes, peoples and conditions as a modern and contemporary. The paper specifies the legal and practical dimension of using media in the Republic of Macedonia in the light of adult learning, multimedia realization of the teaching processes and the quality of reflexive teaching.

2 ADULT LEARNING AS A PARADIGM OF THE EDUCATIONAL CHANGE

"All human beings- not only professional practitioners- need to become competent in taking actions and simultaneously reflecting on this action to learn from it." (Argyris and Schon, 1974: 4) This sentence of Argyris and Schon gives broader and makes wider the sense of learning. That means that there is no space for discussing about passive learning. In that case adult learning, especially in a changing society, can become a real potential for improvement the processes, individuals and institutions. If for adult we consider someone who "…Exercise a much greater role in making of our own choices…" (Tight, 2002: 15) than we strongly believe in the strength of the adult learning as a movement for independently acting in the society. The role of the

teacher in this process of adult learning can be described through engaging in activities for being learner, activities for being teacher and activities for being reflexive professional. In relation to using media in the learning process, the role of teacher as adult learner and creator of the processes of learning of the others can be focused on: learning about the media, using the media in their own learning and teaching of the others and evaluation of the achieved outcomes.

3 USING MEDIA IN TEACHING DECISION PRO AND CONTRA

The importance of the media in teaching process can be described with the uses of ICT mentioned by Muijs and Reynolds (2006: 222-224): "presenting information, quick and automatic completion of routine tasks, assessing and handling information, modeling and control, interactivity and extended the school to the pupil`s home". With the same content, but more oriented to the benefits, are the views of the authors of the book *Technology for Education- a practical guide*. The benefits from application of technology in teaching elaborated in this book are: "instructional effectiveness, active learning, critical thinking, individualization, motivation, flexibility for students with special needs, cooperative learning,…" etc. (Barron at all, 2006: 4-19) Of course that this knowledge and much more is known by the institutions and individual in Macedonia but there are still pro and contra followers.

Discussing about pro and contra using the media in teaching process in the Republic of Macedonia is the answer of the questions do we need the changes, are we prepared for life-long learning, who is in charge of development of the society, do we have faith in our competences for being a teacher? The sensitivity of this questions makes two distinguish and opposite opinions: pro and contra. The state takes care about all this questions in affirmative way, but the individuals are basically on a negative side.

State based motives	**Individual based motives**
*Reasons for **affirmative** decision*	*Reasons for **negative** decision*
Modern and compact educational system.	No impact on the salary.
Compatible educational system with Western countries.	No career development.
External control over teaching process.	Suspicious in personal abilities.
Political influence on the school management.	Changes from up do down.
Promote life-long learning of teachers.	Implementation of the % of using the ICT in a teaching process without the agreement and willingness of teachers.
Justification of the money spent on the media infrastructure (cable, electrics, …)	Too much time spend for preparation of any equipment (as media preparation).
Justification of the money spent on the media.	Provoke life-long learning based on external motives.

Table 1: Using media in teaching: Pro and contra

As we can see from the Table 1, both parties have arguments for their position. The media in a teaching process concerns all parties: teachers, pupils, parents, school

managers, local governors and the state. The levels of the concerning can be seen as:

- Indirect, theoretical and secondary
- Direct, practical and primary

The first one is based on the legal and scientifically determination of the using media in teaching processes. In the Republic of Macedonia there are a lot of laws and regulation which refers to and define the possibilities of using media in the classroom. In the *Law for primary education* (in the part related to duties and responsibilities of the teachers (*Article 86*) determent that the teacher, along with the other tasks, "…plan the teaching process in both written and electronic form, makes didactical media," etc. Another regulation which regulate the compulsory time for using of computers in a teaching processes during the lessons is enact by the Ministry. 30% of time the teacher should plan and realize the lessons with using computers. Bearing in mind that every pupil and teacher in primary school has a personal notebook allocated by the Government, this request is practically possible. The similar situation is in secondary education which becomes compulsory in 2008. The relation of the teacher with the media is one of the dimension which is in the focus of *The State Educational Inspectorate* when monitoring "the fulfillment of the educational standards, provides quality of the education, effectiveness through evaluation of the work of the educational institutions, as well as application of the laws, other regulations and general acts from the field of education." (*The Law for Educational Inspection, 2005, article 8*). Especially the inspectorate is dealing with the specific forms of evaluation: integral evaluation, nonscheduled monitoring and control monitoring. *Integral evaluation* is focused on organization and realization of the teaching process, conditions, management, professional development of the teaching and management staff, communication and relation to the public, cooperation with parents, environment etc.

Direct, practical and primary concerns arise from the realization of the educational work in the classroom. The pupils, teachers and parents contributes to the practical implementation of the media in the processes of learning about the media, using the media in their own learning and the teaching of the others and evaluation of the achieved outcomes. The practical implication provokes personal and professional suspicion.

The results of researches and the opinion of the teachers and all involved in the educational processes shows that using media in teaching in a changing societies should:

- Be bottom up organized;
- Introduced and developed through partnership;
- Based on individual needs, situated learning and contextual factors;
- The amount of money spent for the equipment must be in relation with the money or salary;
- The goals of the state and the teachers must be compatible and correspond one to another.

4 MULTIMEDIA TEACHING- THE PARADIGM OF SUCCESSFUL REFLEXIVE TEACHING

If we want to talk about the unity between the teacher and the state in a changing society, we can only take that into consideration if the teacher think and act as reflexive practitioner. That means that the teacher knowledge is flexible and "…provides a starting point for critical reflection." (Carr and Kemmis, 2002: 44) In one of his paper Blazich concludes that: "The school is developing into a learning workshop, a laboratory for new learning and teaching approaches… Media have undoubtedly forced the school to face the basic question of acquiring and transferring information." (2004:18-19)

In the introduction of their edition Boud, Keogh and Walker (2002: 11) illustrate the perception of the reflective learning as: "…only learners themselves can learn and only they can reflect on their own experience…", "…reflection is pursued with intend" and "… reflective process is a complex one in which both feelings and cognition are closely interrelated and interactive". In a similar way about the reflection and self-organized learning write Candy P. with her colleagues. According to them "…largest proportion of learning occurs in situations, without a teacher, which are neither planned nor mediated as educational, and in writing about the differences between formal, non formal and informal,…" (In Boud at all., 2002: 101)

There are a lot of positive cases of using multimedia as a tool of successful reflexive teaching in Macedonia which can me mentioned in this context.

Looking back in a period of separation of the Republic of Macedonia from the Former Yugoslavia, there were a lot of problems articulated, observed and experienced by the teachers in the process of teaching. We can discuss about *institutional or systemic reflection* and *personal reflection*.

The processes of inclusion of pupils with special needs were impossible in the context of "poor with technology" classroom. In the same classrooms the changes in a teaching were impulsive, teacher oriented and tended to the average pupil. The work with talented pupils was primarily based on individual "teacher-pupil" work. The assessment and the evaluation of the pupils were based on teacher perception, the memorized pupil achievement by the teacher, etc.

In 1990s project like *Project Modernization in Education,* financed by the government, World Bank, and the Dutch government, project *Creative teaching and learning* financed by USAID and Institute Open Society, *Step by step*, *Basic IT skills development trainings to primary school teacher, supported by USAID,* etc. had an influence from the Western countries and financed media purchase and equipped the classrooms. That was the first step of institutional learning. Following that step the state reflected and answered with the projects: *Computer for every children*; e-Registry book (e- Dnevnik), *SMART board interactive whiteboard for every classroom*, *Computer for every teacher, Computer based external evaluation of pupils and teachers etc.*

The institutional changes influenced the processes of teaching so that it can became more systematic, structured, pupil oriented, cumulative and opened on the personal level. Today the pupils have the possibility to create their own way of learning, to find, create and offer the information they have and need, to share and discuss the opinion and attitudes. Furthermore, the teachers according their contextual and situational experience can manipulate and manage the process taking into account

the positive and negative perceptions of the classroom, their own behavior with pupils, usage of media in a teaching process. Everything that is noticed and experienced by teacher usually is transform and reflect as: using more media for satisfied the didactical and pedagogical priorities and principles, accomplishment of the learning and teaching goals on a creative ways through media teaching, setting systematic road for development of the pupils, planning the lessons, etc.

If we take into consideration the mentioned attitudes, the processes of provision of the media for pupils and teachers, and the legal bases of the implementation of the media in the teaching and learning processes in the Republic of Macedonia, we could define the next few steps for successful reflexive teaching:

- The media could improve the processes only if there is a willing to become a reflexive teacher;
- Teachers can become professionals only if they learn about the media, create media and teach by using the media;
- The reflexive and experienced teacher in Republic of Macedonia can become more flexible, contemporary and efficient if they involved in a processes of adult life-long learning;
- Media could become teaching media only if it is design and used in the teaching processes in order to satisfy the setting goals, pupils needs and curriculum setting.

5 CONCLUSIONS

When we discuss about the media, we think, act on and promote the values of the differences among people. By creating the media, their “multy” usage in a process of positive differentiation of learners we promotes the strength of the individuals, the effectiveness of the community, but the quality of the educational system, too. Reflexive teaching by using media, especially in countries as Macedonia who are trying to adopt their educational system with “the others”, is a step for salutation and encouragement. The reflexivity by using media in the classroom strengthened the personal abilities, values and competences of teachers for leading and adaptation of the changes. On that way the changes becomes more acceptable for pupils, parents and the community.

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7 BIOGRAPHY

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PERSON-CENTERED COMMUNICATION FOR KNOWLEDGE ENGINEERS AND TEACHER CANDIDATES - INCLUDING NEW MEDIA TO FOSTER THE ACQUISITION OF COMPETENCES.

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Abstract:

Educational strategies tend to move away from the pure accumulation of factual and intellectual knowledge and increasingly acknowledge the importance of the acquisition of competences. This general tendency applies, in particular, to the cross-cutting concern of communication. In this paper I illustrate the case of an academic course on communication for teacher candidates and computer- or service science master students. The course aims at providing experiential learning and besides the facilitator's competences heavily relies on the inclusion of online media to enrich the active learning process. Students' feedback will be provided to let readers grasp the kind of learning happening in the course. The paper is intended to inspire educators by good practice examples and to motivate the inclusion of a course on communication in curricula such as those for teacher education or computer science.

Keywords:

Person-centered learning, technology-enhanced learning, communication, Carl Rogers.

1. INTRODUCTION

Educational strategies tend to move away from the pure accumulation of factual and intellectual knowledge and increasingly acknowledge the importance of the acquisition of competences (Baker et al., 2005). The purely teacher-centered paradigm of teaching based on the teacher's role as undisputed expert giving primarily frontal lectures is gradually and slowly giving way to more learner-centered, democratic classrooms with a larger degree of students' self-organization (Cornelius-White et al., 2013b; McCombs, 2011). What holds true for all subjects applies, in particular, to the field of communication (Motschnig and Nykl, 2011) that typically is taught to teacher candidates and knowledge engineers in curricula like teacher education or service science.

But are we ready for this major shift in the goals of education, given most of us were educated in the "traditional" way and we know that teachers tend to replicate the didactics with which they had been "raised" and they know they worked (more or less). In the author's view most of us – as was definitely the proper path and choice for the author – would benefit from a stepwise approach to gradually assimilate the demands that the new educational style poses. It is necessary, for example to shift away from the *sole* focus of giving frontal lectures that prove teachers as the expert in the field and require students to memorize and understand what they are taught

(Jonassen, 2004). To allow for significant learning and the acquisition of competences, the teacher's repertoire needs to be complemented by interactive elements that allow for intensive students' participation and collaboration. For example, David Aspy found that student-centered teachers talk by far less than teacher-centered ones such that there is more space to hear the students' voice (Aspy, 1972). Since web 2.0 technologies provide several occasions for students to be active, e.g. elaborating documents, searching for information, preparing presentations, they come in handy to enhance learning in and between face-to-face sessions (Motschnig-Pitrik, 2006; 2013).

In this contribution the author is going to provide a case example of a blended learning course that aims to go far beyond the "knowing about" communication. The course is inspired by Carl Rogers' Person-Centered Approach and the course's aspired learning outcomes include "loosening of rigid mental models", "better capacity to listen actively", "better understanding of self and others". In the contribution particular emphasis will be given to the employment of web 2.0 services supporting online reaction sheets, submission and peer review on seminar theses, and online self-evaluation reports. In the spirit of a truly collaborative or co-created course experience, the author's view of the course will be complemented by the students' perspectives.

2. PERSON-CENTERED TECHNOLOGY ENHANCED LEARNING

At the research group CSLEARN at the University of Vienna, the approach to technology enhanced learning, i.e. combined face-to-face and online learning, builds upon humanistic educational principles as realized in the Person-Centered Approach (PCA) by Carl Rogers (Rogers, 1961, 1983). Person-Centered learning is a personally significant kind of learning that integrates new elements, knowledge, or insights to the current repertoire of the learner's own resources such that he or she moves to an advanced constellation of meaning and resourcefulness (Barrett-Lennard, 1998). It can be characterized by active participation of students, a climate of trust provided by the facilitator, building upon authentic problems, and raising the awareness of meaningful ways of inquiry (Rogers, 1983). In Rogers's own words (Rogers, 1983, p. 20): "*Significant learning combines the logical and the intuitive, the intellect and the feelings, the concept and the experience, the idea and the meaning. When we learn in that way, we are whole...*"

Research in the PCA confirmed (Aspy, 1972; Cornelius-White, 2007; Cornelius-White et al., 2004; 2013; Cornelius-White and Harbaugh, 2010) that students achieve higher self-confidence, creativity, openness to experience, and respect, if they learn in a constructive, person-centered atmosphere. Furthermore, learning in a person-centered atmosphere tends to have a positive influence on students' interpersonal relationships (Motschnig-Pitrik and Standl, 2013). In a nutshell, this atmosphere is characterized by communicating the attitudes of the realness or congruence of the facilitator, his or her acceptance or respect towards the student, and their empathic understanding of students at all levels, including their feelings, meanings, ideas, borders, fears, wishes, etc. Specific expression of these attitudes in technology enhanced learning situations are presented in more detail in (Motschnig-Pitrik & Mallich, 2004; Bauer et al., 2006).

On the technological side, CEWebS (Cooperative Environment Web Services), an open-source, web service based framework developed at the University of Vienna, Faculty of Computer Science provides support for person-centered courses (Mangler & Derntl, 2004). CEWebS was designed for extensibility that is provided by customizable e-learning templates (Mangler & Derntl, 2004; Motschnig-Pitrik, 2004). Amongst others, CEWebS allows students to form teams online, to work cooperatively on projects, to upload project documents, and to communicate and share documents with colleagues and/or the instructor. Furthermore CEWebS provides functionalities like self-evaluation, online course evaluation, Wikis and more. Studies on students' evaluation of CEWebS showed that students appreciate its high degree of usability (Motschnig-Pitrik, Derntl & Mangler, 2005).

The following section gives an overview of the main functionality of CEWebS that supported the course on Person-Centered Communication.

- On the starting page of a course – basically a Wiki –, organizational information (e.g. important dates and deadlines) as well as further (elaborated, recent) inputs are provided.
- The "participants" page lists all students of a course. Students can build teams by simply clicking on the study colleagues they have decided to be in a team with. For allowing students to contact each other, all email addresses are listed.
- The team contribution web service was developed to support cooperative teamwork. As described in (Mangler, Motschnig-Pitrik & Derntl, 2005) it supports the following actions:
    - Course facilitators can specify which contributions by teams (or single students) are expected to be uploaded by a particular date
    - Each team member can add, delete and change files
    - Each course participant can see and download all contributions
    - Peer-reviews can be included such that students can evaluate contributions of others in the form of an online questionnaire, which can be adapted by the facilitator to meet specific requirements of the peer-reviewing task.
- In addition, CEWebS provides online reaction sheets, such that students can express their reflection and feedback on specific course units and read others' reaction sheets. Furthermore, the platform includes a service for students' self-evaluation and a forum, which is often used for questions from students to instructors or for exchange among students.

3. A PERSON-CENTERED COURSE ON COMMUNICATION

This course is an eligible lab course for teacher candidates as well as computer scientists in their studies for a master's degree at the University of Vienna. It is assigned 3 ECTS (European Credit Transfer System) and the maximum group size is 25 students. In the following some key features of the course are described.

For the sake of transparently specifying learning goals, we decompose person-centered learning into three layers (Nykl & Motschnig-Pitrik, 2005). The level of intellect or intellectual knowledge, the level of (social) skills, and the level of attitudes, dispositions, feelings, and intuitions. Once learning goals at each level were formulated, face-to-face and online learning activities were designed such that each level was addressed. The following illustrates the initial course goals assigned to each of the three levels, respectively:

General goals. Participants acquire personal experience, skills, and background knowledge in situations of professional and everyday communication (such as listening, articulating, speaking in a group, conflict resolution, decision making, etc.). Participants build a learning community around the concern for better communication and understanding in general and with a focus on teaching/learning situations and collaboration in groups and teams.

Level of knowledge and intellect. Students acquire knowledge about the basics of the Person Centered Approach, significant, person-centered learning and encounter groups.

Level of skills and capabilities. Students gain active listening, dialoguing, and feedback skills in face-to-face as well as online settings. They improve their abilities in spontaneous communication and decision making in a group setting.

Level of attitudes and awareness. Students gain self-experience while expressing own feelings, meanings, and intentions and perceiving those of others. They experience active listening and develop their own attitude towards it. Students become more sensitive and open to their own experience and loosen preconceived, rigidly held constructs. Students move towards acceptance and better understanding of themselves and others. Students move from more stereotyped behavior and facades to more personal expressiveness.

These goals were complemented by more specific personal expectations of individual participants as elaborated in the first workshop. These were for example: speaking spontaneously in front of a group of people, being better understood by others, being able to express myself spontaneously, losing the fear of speaking up, practicing my German, connecting with colleagues and getting to know them better, etc.

The overall strategy in the course design was to let students experience a rich selection of didactical scenarios that were consistent with the PCA given the proper climate was pertinent in the class. There are at least two reasons for including a variety of didactic elements. First, the course tends to be perceived as exciting rather than boring because students can experience different ways of learning. Second, in particular teacher candidates but also future managers get inspired in how to work with a group of pupils or people, how to involve them and how to create a constructive, collaborative atmosphere, an atmosphere for significantly learning together and from one another.

Since completely unstructured encounter group sessions are known to have a special potential unmet in other settings (Rogers, 1970), the author (as the facilitator) had the intention to conduct an encounter group at some point given participants were ready for it. Although groups tend to differ strongly in their readiness for

encounter, the appropriate time for the “pure” encounter session(s) often is the third or the forth workshop. This is because the participants start trusting others and the facilitator that it is safe to explore whatever in on someone’s mind without being judged or put down but instead being welcomed to participate actively in whatever way as long as it is honest and accepted by the group.

Whereas the sequence of workshops differs slightly from course to course, throughout a series of similar workshops conducted since 2003 at the University of Vienna a flexible ordering has unfolded itself. As depicted in Box 1, there are about 7 workshops in the course, each of which has a particular focus reflected by the name given to it and some typical activity allocated to it, while other features may differ from course to course. For example the “active listening workshop” focuses first on elaborating the attitudes underlying active listening and motivating one to practice it. Participants then continue with building skills for active listening, based on reflecting some useful techniques and through practicing it and reflecting upon their experience. An active listening exercise in triads, where each person acts as a speaker, an active listener and an observer watching the conversation – then the roles are switched such that each participant can experience each role – is one of the important and constant didactic elements of the course. Other activities, such as elaborating the features of well-functioning interpersonal relationships in teams differ across courses and provide spontaneous variations allowing to take into account the particular interests, situations, and needs of the group.

Besides the face-to-face workshops, the course has numerous online features and activities aimed at enhancing learning by a thoughtful alteration and complement between socially rich face-to-face and reflective online elements. Throughout the whole course, face-to-face workshops are reflected in online reaction sheets that are accessible to all participants and are briefly reviewed in the respective follow-up workshop. This is illustrated in the upper part of Figure 1. The remaining part of the Figure sketches the seminar thesis, its peer-evaluation and the self-evaluation that all are performed online and inform the final face-to-face feedback workshop.

1. Orientation Workshop

Introduction to the course; How do we learn? Learning on three levels
Participants introduce themselves and their expectations
Qualities of good communication – obstacles to good communication (team’s flipcharts)
Task: Read article on active listening until next unit

2. Active Listening Workshop

Derivation of Rogers’ core attitudes: congruence, acceptance and empathic understanding
Guidelines for active listening based and reflection of the article and students’ pervious experience
Active listening exercise in triads
Reflection on active listening experience
Outlook on the next unit – exploring attitudes and opinions regarding a fully unstructured unit

3. Encounter Workshop

“Feel free to explore anything that is on your mind and occupies you personally. It is up to us what we make out of this unit.”
”Flashlight” on who’s taking what home

4. Applying Person-Centered Communication (PCC) in the participants’ work context

Reflection on Encounter Workshop paired with the exercise that each person who talks is expected to first summarize the major meaning of what the previous speaker has expressed.
PCC in teaching and learning and or/ PCC in management, groups, and teams

5. Dialogue Workshop

Elaboration of 4 dialoguing practices (listening, respect, suspending, voicing)
Elaboration of differences between dialogue and discussion
Group dialogue, first in 2-3 subgroups, then in the whole group

6. Final Workshop – Group decision making

Participants can decide if they want a free encounter or a structured unit
If a structured unit is chosen, then suggest to share in teams about some theme that was present in the previous workshops and then to summarize findings on moderation cards (e.g. understanding between males and females or benefits and risks of openness or …)
Reflection on the decision making process
Participants give each other feedback, short reflection on the course.

7. Feedback Workshop

Participants briefly present the most important insights from their seminar theses and receive brief feedback from the group including the facilitator.
Brief reflection of the whole course experience and how it influenced participants

Box 1: Overview of the workshop units of the course on “communication”.

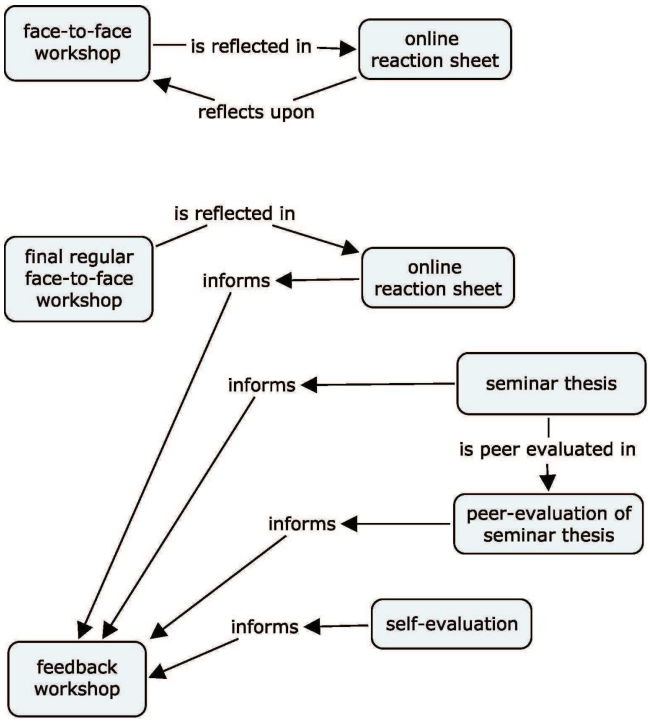

Figure 1: Structure of the person-centered technology enhanced learning course on communication

4. STUDENTS' REACTIONS

Orientation workshop. A female student reflected: *"I really liked the round in which we introduced ourselves since one could get to know the other participants, what they're studying and what they expect form the course. [..] Later, the exercise in which we shared in small teams about features of good communication – in my view contributed much to learning about the various perspectives regarding this topic. Of course, we also found out that our thinking overlaps in several issues. Producing a flipchart to summarize our ideas furthermore was fun and contributed to get closer to our colleagues and to collaboratively elaborate and find expression for their attitudes and thoughts. [..] The presentation of the other teams illuminated several common thoughts but also led to a lively discussion, whether being alike makes relationships easier or better. As a sort of a conclusion we agreed that being alike would make it easier to find or form a relationship but wouldn't automatically be a guarantee for good understanding."*

One of the international students reflected: *"I liked the first unit because I think that due to this course I will improve my communication and also my German will improve due to the contacts and conversations with several colleagues who have German as their mother tongue."*

Active listening workshop. A student wrote*: "The second unit was started by our facilitator very actively as we played a ball-game in which we tried to recall our names. I liked it very much and it was effective since afterwards I knew the first names of all of my colleagues – something that I had never experienced before in*

any course. Also, the common recollecting of what we remembered from the previous workshop in form of a listening ball-game was helpful to build the connection to the current workshop. The exercise on active listening in 3 phases and the reflection in the plenum was very interesting and revealing. Even though we as students had known each other only for a short time, we shared experiences and themes that occupy one' mind and that otherwise tend to be shared only with good friends. The experience of being listened to actively when sharing something personal is really very positive and motivates one to share even more and to fully subscribe to the conversation."

Another participant reflected on a particular insight he took with him from the workshop: *"To me the communication exercise showed how important timing is for the active listener: A question that is posed too early might influence the speaker too much, but a question that is spoken out too late might express disinterest. This is something that I'll surely attend to in the future."*

A student noted: *"The final collection of features of a good speaker was highly educational for aiding one's own reflection in future situations."*

Comment: These reactions show, in particular, that students value the inclusion of various and new didactical elements and get inspired to deepen and follow up their experience. At the end of the workshop the author briefly presented the concept of a person-centered encounter group (Rogers, 1970; Motschnig and Nykl, 2011) – basically an unstructured meeting where everybody can express himself or herself on whatever is on one's heart or mind. The primary goal of the facilitator is to provide a person-centered atmosphere. Surprisingly, all participants expressed themselves in the sense that they would like to try such a setting and while some where indifferent nobody objected the idea. This gave way to conducting an encounter group.

Encounter Workshop. A female student wrote: *"According to my taste, this unit was a bit too "open". Assigning some specific theme might have had the effect that every person would speak up once or more often and that it would not be the same people who got involved into a discussion and others could only take the roles of active listeners or observers. In my self-chosen role as an active listener I listened to all statements in an unprejudiced way and formed my own opinion. However, while I was in the process of deliberation the conversation often took another direction and therefore it was difficult for me to actively contribute my thought. [..] For the next time I'd prefer exercises in small groups because, personally, I can benefit more from the small groups than from the conversations in the plenum."*

A male student reflected*: "In my view today's unit was very interesting. We have witnessed how one single question concerning a particular topic can evoke several opinions and even lead to political thoughts. It was also intriguing to see how the opinions between teacher candidates and computer scientists differed. Moreover I appreciated to hear the view of someone who already had some real work experience."*

Another student shared: *"Although I was kind of skeptical in the beginning, already after a short time I joined the process as an active listener and also as a speaker. The only negative point was that the themes changed very fast so one didn't have much time to think or to contribute. I found the different views fascinating and many of them opened up a new view in me and lead to new ideas. In any case, this unit*

was a great enrichment. [..] But having just one 15 min break during 4 hours is a bit too little for staying concentrated."

Comment: The open and partly critical reactions indicate that participants feel free to express whatever they feel which leads to the desired direction (as long as criticism is voiced respectfully).

Workshop Applying Person-Centered Communication (PCC) in the work context. A male student shared: *"It is interesting to see how participants perceived the encounter group unit. Such a reflection about the discussions and dialogues is very revealing and in my view it nicely expresses how each participant felt or perceived themselves during the encounter. During the conversation itself it is not possible to recognize why some people don't participate or just observe. Then, the retrospective explanations are even more exciting!"*

A teacher candidate wrote: "I liked today's unit very much. For me it was highly interesting to talk to a young graduate, who already started to teach, about teacher education and to close up this topic."

An international student wrote*: "Each person is unique and I think it is interesting to see how individual characters differ. One can try to loosen one's patterns and perceive whether one feels well. In our small group we mainly shared about cultures."*

Another student noted: *"I felt very well in my small group sharing about patterns and how to loosen them. We addressed various issues about patterns that came up in this course and tried to generalize a few. I felt understood by both colleagues and we even managed to collaboratively find a conclusion."*

Dialogue Workshop. A teacher candidate reflected: *"This time I didn't talk so much to give more space to my colleagues. This is also why I missed to express how important a constructive atmosphere is. So let me say that this is the first time at the University that I have the feeling to be able to address issues during a course that occupy me or are of concern to me. Furthermore I experienced how nice it feels to be in an environment where all respect one another and collaborate. You know, in other courses I keep back a lot more in order to say something that doesn't fit in and would be evaluated negatively by the professors. [..] In particular, in my view the ability to create a trustful atmosphere is essential in the context of school education, because otherwise one can't trust to be oneself in the group and to try something new."*

Another student wrote: *"What I liked best was the exercise in small groups to have a dialogue about how men and women could understand each other better. Also the subsequent dialogue in the large group was revealing and showed several overlapping issues between the insights reached in the small groups. [..] But also the clarification of the terms "dialogue" and "discussion" and the elaboration of concrete differences between these two forms of conversation extended my current knowledge about these issues."*

"For me the final dialoguing exercise was particularly interesting and entertaining. It was evident that the theme: "How can men and women better understand one another?" would evoke an exciting dialogue – but it also could lead into a discussion. The final sharing between the two small teams showed that both managed to stay in a dialoguing mode."

A student shared a personal learning: *“A highlight of today – and my expectations of this course were fulfilled – was that I learned something about myself and I am prepared to change it or at least deal with it more consciously. I would like to clearly express when I don’t like something and not communicate it through hidden, subliminal messages. Simply create more transparency.”*

Final workshop. Here are some excerpts from this workshop: *“There are some reasons why the last unit was so exciting. The beginning of the session was different. Unlike the last time, the facilitator did not propose a “warming up” exercise – the group was left on itsformátování a formální úpravy textů pro Sborník konference Disco own - and therefore the decision making was quite laborious and effortful.”*

“One a good decision was found by the group the unit was refreshing. It was pleasant we could prepare the moderation cards for the moderation unit on achieving better understanding outside in the sun.”

“I found our dialogue about ”study and work“ highly interesting and realized, again, how strongly we grew together as a group during the whole course. Participants indeed shared personal experiences and let us participate in parts of their private lives. This is something very nice for me and I hope that all of us will stay in contact somehow even if this course is coming more or less to an end now.”

“Our feeling of community, the growing together of so different people is gigantic! I have never experienced something like this so far. I liked it very much that, on the whole, we understand one another so well.”

“It was fun to have had sufficient space for free expression. I’m going to take with me from the course how many exciting things one can elaborate together and take home if only a group of interesting personalities is given some free space for sharing, discussing, having dialogue and developing arguments.”

“Personally I hope that the Person-Centered Approach will influence and accompany me also in my being a teacher and that I’ll find the time and energy to meet my pupils individually in the hectic and stressful everyday life. I’m also going to internalize the multiple building blocks of good communication and hope they will remain part of my personal communication culture or I can even strengthen them through frequent application.”

While the 6 workshops took place each consecutive week and each of them lasted for 4 hours, the feedback workshop was scheduled 4 weeks after the final workshop such that students had some time to write their seminar theses. The attendance was optional and students received individual feedback and responses to questions their formulated as part of their writing.

Reaction sheets. In one of the seminar theses a student shared the following about the function reaction sheets had for her during the course*: “I truly appreciate this opportunity, since, personally, I like this totally free way of reflecting and giving feedback on the previous course-unit. Had I been asked to reflect immediately after the course unit, I probably wouldn’t know what to say exactly because I wouldn’t have had the time to think and reflect about my experience in peace. However, the reaction sheets provide this opportunity and I can fully concentrate on this task. Furthermore, I consider it helpful to have online access to the colleagues’ reactions*

and thus be able to respond to them in the follow-up unit if one wants to ask a question or add something to a statement. Moreover, I really appreciate that the reaction sheets are being addressed at the beginning of a course unit. In my view, in this way a very attractive, seamless transition between the last and the coming unit is accomplished and the contents are bridged."

5. CONCLUSION AND FURTHER WORK

This paper aimed to provide a case study on a course on communication that was conducted in a person-centered way and included effective support by new media. The integration of web 2.0 technology was definitely found helpful and meaningful by all participants such that the course can be seen as a further confirmation of the fact that a humanistic educational paradigm can very well be enriched by online elements (Bauer et al., 2006; Cornelius-White, 2013b; Motschnig-Pitrik, 2005).

Furthermore, it became evident that if interpersonal communication and community building are to be developed in academic environments, then structured workshops and person-centered encounter groups have their place in higher education. Whereas not all students felt immediately comfortable in the absolutely unstructured setting of the encounter, the majority of students considered it highly educational and the follow-up reflection provided rich insight on phenomena that otherwise would not be experienced in structured settings. This appears to confirm Rogers's view on encounter groups as highly potent social inventions of the 20th century.

Interestingly, from several course instances so far we have gained the impression/hypothesis that online reaction sheets, submitted and shared after each workshop have the potential to accelerate the group process. Students tend to become better interconnected and known to each other. As a consequence, early phases of the group can be passed through more quickly and later phases with more trust, deeper expression and more understanding can start earlier. However, the particular effects and potentialities of integrating (ever new and intertwined) online elements into person-centered learning/development remains a question for further research.

Thanks to the particular constellation of the group of participants – the group was characterized by a high diversity (scientific discipline, gender, cultural origin, study progress) – the specific course instance described in the article appeared particularly successful and hence motivated the author to "catch" and pass on a part of the experience in this article. Interestingly, students were very well aware of the fact that the success of the course would also be attributable to their collective contribution. Consequently, thanks were addressed to group, like*: "Thanks for the great opportunity to develop further and be part of such a motivated and energized group!"*

Summarizing, person-centered workshops enriched by online sharing and small projects proved to be highly educational as well as exciting settings for significant learning for a vast majority of students. Thoughtful course designs, skilled facilitators, and understanding plus support from administration are needed to employ this potent, spontaneous setting for learning/development at the levels of knowledge, skills and (inter)personal attitudes.

Further work will proceed with empirical and action research on interweaving the rich presence typically found in person-centered courses with online elements for reflection and cooperation in order to confirm or modify the initial findings and hypotheses reported in this paper. It is also intended to transfer the course concept developed at the University of Vienna to organizations and other institutions for higher-, adult-, and teacher education. This work is aimed at contributing to a thoughtful blending of face-to-face and online elements for facilitating improved interpersonal understanding and development of community.

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READINESS OF UNIVERSITY LECTURERS FOR MULTIMEDIA (MM) TECHNOLOGIES APPLICATION AS A RESOURCE OF PROFESSIONAL-PEDAGOGICAL ACTIVITY

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Abstract:

Problem of lecturers' training to MM using consists in mismatch between intensification of distance education in higher school and necessity of increasing personal contacts between students and teachers in the process of scientific knowledge retranslation.

Applied significance of research devoted to formation of MM-competence lies in scientific justification of recommendations towards positive perceiving of changes in content, form and procedure of teaching by teachers and students.
Lecturer's MM competence designates his ability to solve different professional communicational tasks efficiently in his virtual interaction with students. This commitment can be considered as personality feature which is acquired during professional training and professional-educational activity; an indicator of professional awareness; a criterion of readiness to changes in the educational process.
Logic of lecturer's training to MM causes forming his ability to: act appropriately in simple situations of teaching tested earlier, commitment to exploring of new teaching experience; implement MM in typical situations, initiating MM implementation in unexpected situations which require departure from the established algorithms; implement expressed initiative and perform complex specialized industrial MM-tasks; solve complex specialized tasks and practical problems in the field of MM through integrated application of theories and methods in relevant science; design and conduct research on issues of innovation in MM; understand deeply existing and creation of new integrated knowledge and/or professional MM practice; identify socially significant systemic problems in MM; solve socially significant systemic problems in MM that requires creation, examination, implementation and dissemination of new educational technologies.
Readiness for MM professional using is an individual resource of lecturer's professional educational activity. This resource becomes a basis of a lecturer's professional growth in a case he is not perceived by students as being only one reliable source of knowledge. It is important to stimulate constant sharing with best teaching practices and forming of professional community in MM-learning.

1. INTRODUCTION

Problem of lecturers' training to using consists in mismatch between intensification of distance education in higher school and necessity of increasing personal contacts between students and teachers in the process of scientific knowledge retranslation. (Tremblay, E., 2010).

It is believed that aim of multimedia application in training is not only to make education more attractive, but also, or above all to make education more effective (Kellerman; Junaidu).

Applied significance of research devoted to formation of MM-competence lies in scientific justification of recommendations towards positive perceiving of changes in content, form and procedure of teaching by teachers and students.

Lecturer's MM-competence designates his ability to solve different professional communicational tasks efficiently in his virtual interaction with students. This commitment can be considered as personality feature which is acquired during

professional training and professional-educational activity; an indicator of professional awareness; a criterion of readiness to changes in the educational process.

Logic of lecturer's training to MM causes forming his ability to: act appropriately in simple situations of teaching tested earlier, commitment to exploring of new teaching experience; implement MM in typical situations, initiating MM implementation in unexpected situations which require departure from the established algorithms; implement expressed initiative and perform complex specialized industrial MM-tasks; solve complex specialized tasks and practical problems in the field of MM through integrated application of theories and methods in relevant science; design and conduct research on issues of innovation in MM; understand deeply existing and creation of new integrated knowledge and/or professional MM practice; identify socially significant systemic problems in MM; solve socially significant systemic problems in MM that requires creation, examination, implementation and dissemination of new educational technologies.

2. READINESS OF UNIVERSITY LECTURERS FOR MULTIMEDIA (MM)

Readiness for MM professional using is an individual resource of lecturer's professional educational activity. This resource becomes a basis of a lecturer's professional growth in a case he is not perceived by students as being only one reliable source of knowledge. It is important to stimulate constant sharing with best teaching practices and forming of professional community in MM-learning.

The term describing the MM information technology, software and hardware. MM provide playback on screen display information as a syncretic Message: graphic, audio, and video, etc.

We found the main aspects of university teachers in the pedagogical process MM:

- Instrumental and operational;
- Information and meaning;
- Organizational and communicative.

Their content is presented in the table.

Table 1:

Key aspects of MM in the pedagogical process

Aspect	Efforts teacher	Example of teacher action
Instrumental and operational	Maintenance equipment at the consumer, improving technical training	Work on a PC
Information and meaning	Broadcast scientific information	Separation of basic scientific knowledge and supporting information, the design of educational material
Organizational and communicative	Formation of content for interaction	Comments are online, offline, link exchange

On this basis, we define the basic meaning of MM and their implementation in the educational process.

Table 2:

MM in the pedagogical process

Top MM	Sense implementation of MM	Application	
Electronic textbook	Improving visual presentation of information	Out of class	
Tutorials	Simulation processes and phenomena, using both electronic simulator	Practical classes, laboratory classes	
Three-dimensional animation	Recreating a dynamic phenomenon that can be observed only as a 3D model	Lecture, seminar, practical class	*Note: you can use within the MM presentation*
Video	Show videos with sound, subtitles and other effects		

The teacher should have a clear focus in all the diversity of MM and make appropriate decisions about the use of any of them. It is proved that there is the effect of e-coaching attendance on alternatively certified teachers' sense of self-efficacy (Anthony, Gimbert, & Fultz, 2013).

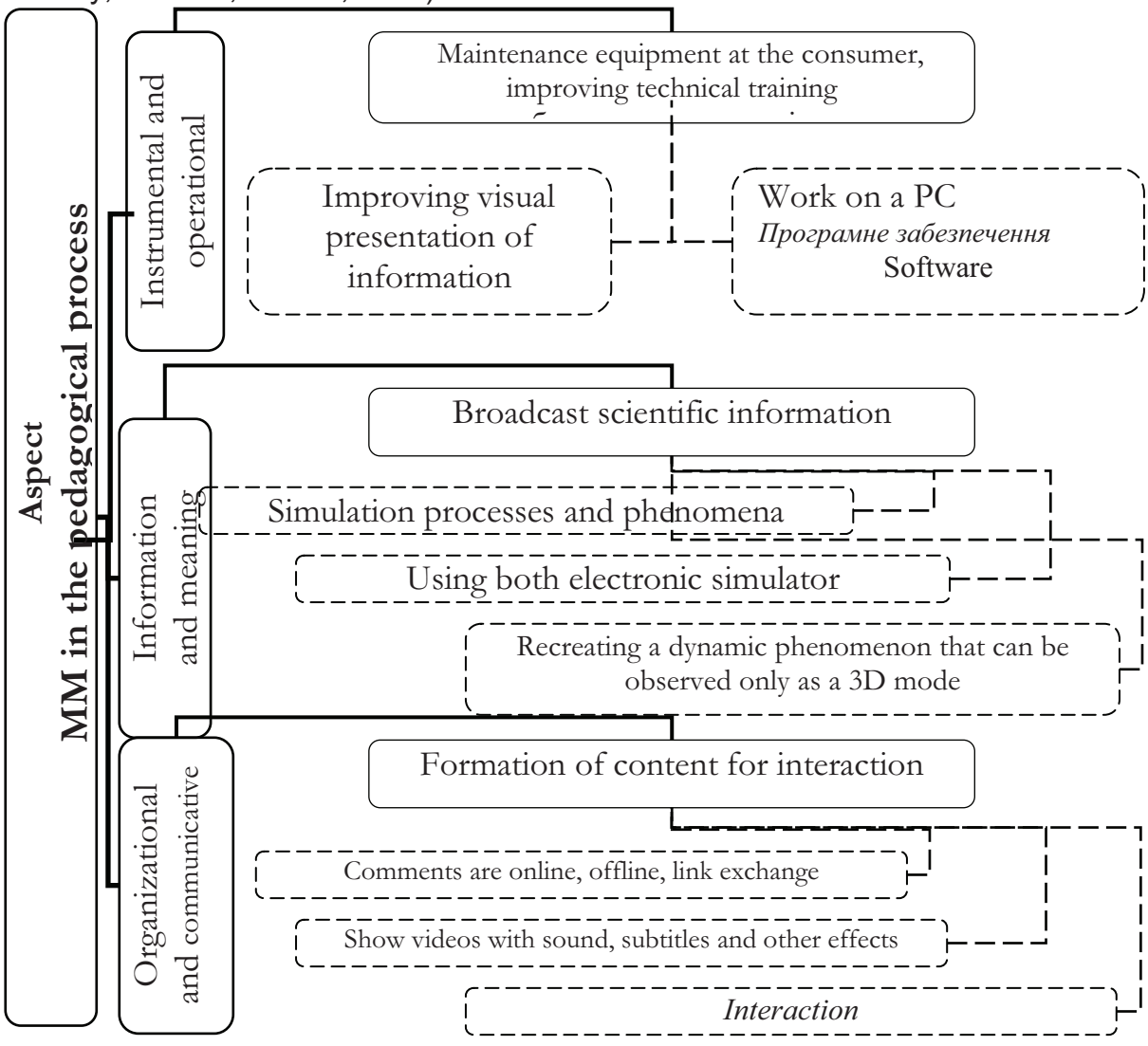

Figure 1: General model used MM in the pedagogical process

Using MM in the pedagogical process provides additional quantitative and qualitative features:

– information retrieval and analytical activities with them;
– text processing with open structure;
– processing of heterogeneous data, including graphics, text, audio and video;
– storage and media playback.

The main contradiction formation MM faculty competence in Ukraine related to:

– fragmented or no experience with special software and necessary practice to use MM in the pedagogical process;
– time-consuming to improve experience with MM and lack of free time;
– attempts to use MM resources and lack of expert assessment of the use of MM in the pedagogical process.

Leading in forming MM-kompetetnosti readership:

1. Increasing the level of theoretical and practical training to use MM in the pedagogical process.
2. The constant introduction of advanced pedagogical experience with MM in universities.
3. Acquisition of own experience of MM-innovation in the teaching process.
4. Discussion of the use of MM in teacher porlotsesi in international scientific events.

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VIRTUAL MOBILITY OF UNIVERSITY TEACHING STAFF

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Abstract:

Globalization through the mediation of information and communication technologies influences greatly higher education (appearing transnational education, great amount of alternative providers of higher education and runaway staff mobility in virtual space).

Virtual mobility attracts attention of politicians and experts in the field of education ("The Bologna Process and the European Higher Education Area" – Salamanca Convention, 2001, includes an idea of joint European approach to virtual mobility and transnational education; "Mobility for Better Learning" – Mobility strategy 2020 for the European Higher Education Area, 2011) and scientists (National Academy of Sciences of Ukraine project "International Education on the Basis of Flexible Centers of Distance Technologies and Computer-Tele-Communicational Networks"). Problem of mobility is one of the most disputable among higher education researchers in Europe.

Development of virtual academic mobility transforms modern education into a social institution which could provide different educational services to humans for their lifelong learning. Modern situation demands attention to distance education development through creation of specialized informational-educational courses and areas of e-learning, development of e-libraries and databases, support of "network lecturers" and e-courses developers. It should stimulate university staff media-educational training they could project educational environment using modern information technologies.

Our task was to investigate Ukrainian academicians' experience and e-competences necessary for participation in virtual mobility processes (sample – 710). The instruments of measurement and diagnostics were a specially constructed questionnaire and a method of self-evaluation of e-competences necessary for effective participation in virtual academic mobility.

Keywords:

Virtual mobility, academicians, higher education, information technologies, virtual education area

1. INTRODUCTION

Academic mobility is a criterion of quality and modernity of each national higher education system. Researchers define mobility as an extraordinary important thing for global education area development which is enriched by contributions of different national education schools and cultures (Kyvik, 2012). Prague Communiqué (2001) mentioned that mobility allows both students and lecturers to use all the wealth of European higher education area including democratic values, diversity of cultures, languages and systems of higher education. Academic mobility is perceived as an ability of university students, academicians and administrative staff to move from one higher educational establishment to another. Joint educational and research programs could not develop beyond lecturers' and students' mobility (Byram and Dervin, 2008: 13).

Psychologists view mobility as a characteristic of personality which has complex multi-component structure (openness, activity, plasticity, flexibility, goal-orientation, self-actualization etc) (Danyliuk and Paschenko, 2012). It allows personality of a

professional to change both himself and reality on the basis of his own aims consciously without destructive tumors in life and professional activity.

Mobility on the one hand is a professionally important quality of a teacher's personality, but on the other hand – an important dynamic characteristic of his scientific-educational activity.

Among the objectives of staff academic mobility are: providing university staff with opportunities for professional and personal development through the possibility of doing practical training, research or teaching assignments in a partner institution; encouraging universities to broaden and enrich the range and content of courses they offer; allowing students to benefit from the knowledge and expertise of academic staff from partner universities; consolidating cooperation between institutions in different countries; promoting exchange of teaching methods; strengthening capacity for international cooperation etc

During the last few years, mobility is perceived not only as a characteristic of personality and a feature of higher school teaching staff activity but also as an innovative competence of university lecturers (Silvio, 2003).

In spite of given arguments situation with academic mobility development of university teaching staff in Ukraine is far from ideal. There are a lot of reasons creating background for such a situation, among them imperfection of legislation which regulates staff mobility, absence of academic mobility strategy at the universities and poor financial support for mobile staff, lack of special training for future university pedagogues, poor knowledge of foreign languages, absence of motivation for lecturers to participate in academic mobility, poor level of their e-competences and so on.

In order to overcome this gap between new demands and standards of Bologna in higher education and existing situation with academic mobility in Ukrainian higher school it is necessary to provide intensive development of virtual mobility which is based on modern distance and computer technologies (DisCo), promotes education quality increasing and gives additional stimuli for lifelong learning development.

2. THEORETICAL FRAMEWORK

Virtual mobility occurs in specially constructed virtual educational area – a new environment of technologies, information and communication existence. At the same time habitual educational terms like "process of education", "educational content, forms and methods" go on to work and make sense here. It gives an opportunity to view virtual mobility as a teachers' possibility of virtual relocation in virtual education area for knowledge retranslation and exchange experience, overcoming national reticence and whole European perspective acquisition.

Since 2003 European Association of Distance Teaching Universities (EADTU) began to implement eBologna strategy. This association is formed by the universities of distance education which aim is to conduct electronic and mobility environment for Bologna principles realization (Bang, 2003).

That's why virtual environment creation for eBologna project realization is impossible without university teaching staff participation. They become responsible not only for their own professional development and increasing competence in their activity area but also for direct realization of e-learning programs in virtual education environment

(Silvio, 2003). As a result university teaching staff virtual mobility can be defined as a skill for study and teach in virtual environment using e-technologies of distance education and modern information-communication technologies (ICT).

According to European Union Resolution (2012) a common European approach toward dissemination of virtual mobility and transnational education should include next measures:

- using Internet, multimedia and virtual resources for more successful and dynamic realization of lifelong learning as a main educational principle especially for those people whose access to educational opportunities is reduced because of different social, economic, geographic, health and other reasons,
- conducting basic training of university lecturers and ICT instructors in order to develop their digital culture as one of the main elements of their teaching competence and to motivate them for more active ICT using in teaching process,
- using communicative possibilities of ICT for increasing level of knowledge, exchange and cooperation, introduction of European experience into education programs and implementation of virtual mobility which develops habits and skills necessary for life and work in multicultural and multilingual society.

3. PREVIOUS RESEARCHES ON THE SIMILAR TOPICS AND THEIR RESULTS

Necessity to investigate and then develop mentioned above competences in virtually mobile lecturers germinated many researches in the fields of education and European studies (A. Barblan, Z. Baumann, V. Baydenko, R. Bhandary & S. Laughlin, M. Byram & F. Dervin, O. Bracht, Y. Kalinovsky, S. Kyvik, L. Larry, N. Luhmann, I. McMay & A. I. Morry, S. Paschenko, O. Rodny, S. Sheila, A. Smith, M. Stavruk, S. Tyrtyj, J. Urry, F. Webster and others).

They consented that using of ICT and distance education technologies (DET) for realization of virtual mobility at the universities and forming of virtual education area is obviously necessary (Y. Kalinovsky, 2000; V. Baydenko, 2005; M. Byram & F. Dervin, 2008). S Tyrtyj (2008) ensures that a model of DET application includes a key figure who is a lecturer – an author of the e-course (e-module) and e-technologies which can help to realize teaching process in a virtual education area. Scientists (A. I. Morry, 2000; A. Barblan, 2002; I. Danyliuk and S. Paschenko, 2012) outworked some “PROs” and “CONTRAs” of lecturers’ virtual academic mobility for the universities involved. They mentioned that a university which organizes e-mobility, invites e-lecturers and implements their courses can solve such tasks as outworking and developing joint education programs with other universities; overcoming lack of courses and disciplines for the local educational programs; attracting the most skillful lecturers and researchers for creation high quality educational programs; extension amount of optional disciplines and other educational services for students; promotion flexibility and technological perfection of education process; including additional education programs which raise a level of lecturers’ skills. Analysis of lecturers’ academic mobility (R. Bhandary & S. Laughlin, 2009) showed that application of DET could be profitable for decision of the next problems with academicians’ mobility:

- teachers’ preparation for the programs of mobility
- "brain drain"
- home and host universities’ educational programs equivalence

- comparableness of educational processes at home and host universities
- asymmetry of academic mobility
- organization of academic mobility development in the institutions of higher education
- design of joint education programs.

Great amount of “bonuses” staff virtual mobility could give to the students and universities is opposed by “human factor”: reduced e-competences in academicians, their psychological barriers and lack of readiness to participate in e-mobility, conservative viewpoints to the field of higher education and so on. We also discovered some environmental problems of higher school staff virtual mobility and divided them into 4 groups: absence of legal basis; shortage of lecturers’ training for work in virtual education area; lack of support of both beginners and experienced lecturers – developers of e-courses; universities’ unavailability to participate in virtual forms of mobility.

It stimulated us to investigate a situation with university teaching staff virtual academic mobility in Ukraine.

4. METHODOLOGY

Our task was to study Ukrainian academicians’ experience of academic mobility and reveal a level of development of their e-competences necessary for participation in virtual mobility processes. Sample was stratified according to age and sex, teaching experience and academic degree (N=710). The instruments of measurement and diagnostics were a specially constructed questionnaire and a self-evaluation method for assessment of competences necessary for effective participation in virtual academic mobility. We also used math statistics for quantitative analysis of received data.

5. RESULTS

Frequency analysis of empirical data discovered that 97,9% were convinced in necessity of academic mobility and 95,6% expressed desire to take part in international staff exchange. At the same time an experience of physical and virtual academic mobility and level of necessary competence in staff under experiment were rather low. It is clearly detected in Figure 1. Less than 5% of the lecturers have an e-mobility experience and skills necessary for its development.

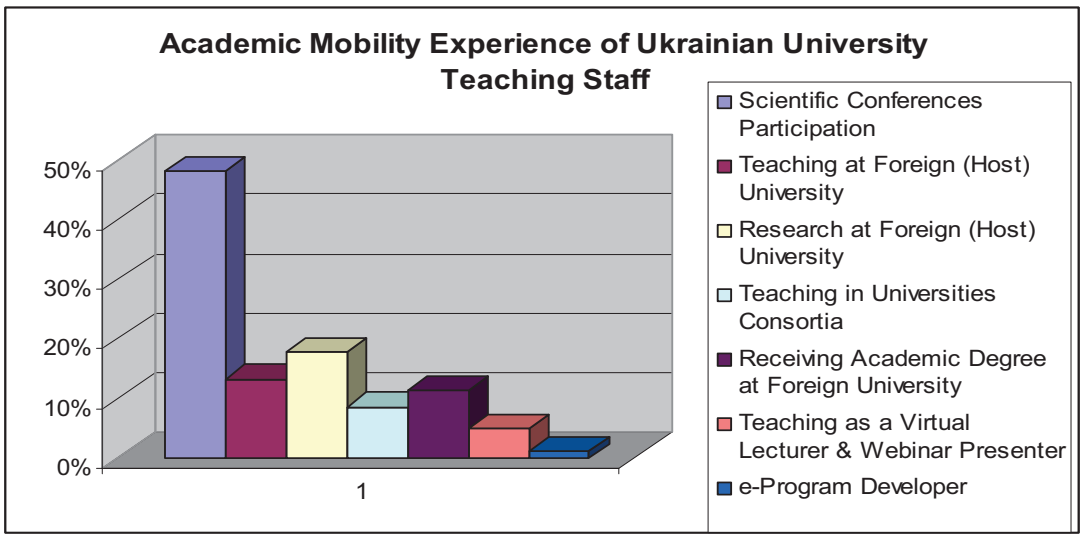

Figure 1: Academic Mobility Experience of Ukrainian University Teaching Staff

Our research results are supported by data of different academic mobility programs reviews (Bracht, 2006) which show a reduced amount of Ukrainian university lecturers who received grants for their teaching or research mobility. In this context virtual mobility can become a productive approach toward their participation in the world education process and joining to the world famous scientific and teaching university schools. Bhandari and Laughlin (2009: 137) don't view virtual mobility as a substitute of physical mobility but as a comfortable addition and sometimes even only one opportunity for university lecturers to be mobile.

In order to develop virtual mobility of Ukrainian teaching staff it is necessary to understand what is the basic level of their e-competences which considered being a basis for participation in the processes of virtual mobility. As a principal theoretical background was taken a postulate of S. Kyvik that each lecturer should have well-developed literacy in at least four areas which are of utmost importance in any virtual education environment (Kyvik, 2012: 531):

1) technological literacy – an ability to use ICT,

2) informational literacy – an ability to find, analyze and use information,

3) educational literacy – an ability to work in cross-cultural environment and to use new methods of teaching fruitful in distance group work,

4) innovative literacy – introduction of new methodologies in virtual scenarios.

In order to investigate it we set a scale with 7 scores and asked university lecturers to evaluate level of their e-competences in each of 4 types of literacy. The range of scores included "master" (7), "very good" (6), "good enough" (5), "satisfactory" (4), "beginner level" (3), "poor" (2), "absent" (1).

The results of self-evaluation are given in Table 1.

Literacy (competence)	***High level (6-7)***	***Middle level (4-5)***	***Low level (3-1)***
Technological	35,0%	42,3%	22,7%
Informational	76,0%	14,8%	9,2%
Educational	12,7%	48,3%	39,0%
Innovative	13,0%	56,0%	31,0%
Virtual Mobility e-Competence	***34,3%***	***40,3%***	***25,4%***

Table 1: Virtual Mobility E-Competence of Ukrainian University Teaching Staff

We could summarize that majority of university lecturers evaluate their technological and informational competences as well-developed. At the same time educational and innovative literacy of staff which includes competences in ICT-technologies creative using for e-teaching in distance education and necessary for their virtual mobility was evaluated by them as much less developed. About one-fourth of respondents (25,4%) evaluated their e-competences important for virtual mobility as poorly developed.

Presented figures illustrate necessity of organizing special conditions for developing competences mentioned above in university teaching staff and creating wide opportunity to their participation in virtual mobility processes. It can be achieved by both staff additional learning and internship and their direct inclusion in the processes of virtual mobility. The defined problems could be also solved through universities and lecturers activity in international consortia and network education communities.

6. CONCLUSIONS

1. Virtual mobility is based on DicCo culture and e-competences that's why university teaching staff has to develop them in the process of their additional training, internship and lifelong learning.

2. Barriers which prevent from staff academic mobility development can be removed or smoothed with an assistance of modern ICT and DET.

3. In order to develop virtual mobility it is necessary to provide system of support for teachers using DETs both in the native and host universities; normative possibility of choice and suggestion of distance courses at both universities; cooperation of universities in the field of distance education.

4. Virtual mobility of university teaching staff is detected in their on-line lectures and webinars in video-format which are provided by new technologies and supporting resources. It leads to transformation of static resources into dynamic ones – free courses which are supported by teachers and presented by Khan-Academy, Udacity, Coursera, Ted Ed, UoPeople, The Faculty Project, EDx and so on. These projects

stimulate academicians' on-line participation in e-teaching and as a result – their virtual academic mobility.

5. As a whole, technologies become more and more meaningful in university staff virtual mobility and create a background for international educational cooperation development and constructing common European higher education area.

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UNIVERSITY TEACHING STAFF TRAINING FOR APPLICATION OF INFORMATIONAL-COMMUNICATION TECHNOLOGY (ICT)

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Abstract:

Professional training of students is impossible without planned using of innovations which provide productive work with information and effective notification exchange – ICT. (Campbell,Cook, Kusch & Moulton 2009).
Methods of teachers' training for ICT implementation foresee their competence in creation and/or implementation of ICT-objects in educational process and ability in discovering advantages and disadvantages of their application.
The human factors which brake introduction of ICT are personality and professional features of learning subjects, first of all, a) insufficient efficiency of teacher and student to mastering new experience, b) absence powerful stimuli for this purpose.
The main effect of ICT introduction in teaching is increasing quality of teaching in combination with reduction of staff labor intensiveness; freeing of lifetime, material and health resources; improvement of cooperation with students etc The consequences of ICT introduction in teaching activity should be at least positive dynamic changes in teacher's professional experience. It is also desirable that changes in teaching influence university staff personality development. Staff ICT competence leads to adjusted successive work with multi- and hypermedia, hypertexts, virtual reality based on the synthesis of verbal and non-verbal notifications, and also synchronization time-spatial informational sources with visual-spatial ones.
Basic methods teachers use in their activity: doing expertise of present ICT; approbation of newly-created ICT; an exchange of pedagogical experience of ICT using in educational process; measures planning for an increase of personal ICT competence; organization of work for examining new ICT-resources and giving recommendations for their further usage. Methods of teacher's training for ICT introduction include his ability to analyze results of ICT implementation, interpret them in a quality of professional training and outline further perspectives of ICT introduction.
A single, fragmentary appeal to ICT using is not able to overcome organizational difficulties of their introduction, which constrained with individual execution of tasks by students and different rate of their work.

1. INTRODUCTION

Professional training of students is impossible without planned using of innovations which provide productive work with information and effective notification exchange – ICT (Campbell,Cook, Kusch & Moulton, 2009).
The human factors which brake introduction of ICT are personality and professional features of learning subjects, first of all, a) insufficient efficiency of teacher and student to mastering new experience, b) absence powerful stimuli for this purpose. It is argued that challenges related to experiences and motivation of instructors to use e-learning technologies must be considered in deciding what IT to use (Nihuka & Voogtm, 2011).

2. UNIVERSITY TEACHING STAFF TRAINING FOR APPLICATION OF ICT

This article continues our studies (2010; 2011; 2012; 2013) on the problems of higher education in Ukraine.

1. The basis of the definition of "university teaching staff training for application of ICT" is the concept:

– ICT – Information and Communication Technology, which means computers, mobile phones, digital cameras, satellite navigations systems, electronic instruments and data recorders, radio, television, computer networks, satellite systems almost anything which handles and communicates information electronically. ICT includes both the hardware (the equipment) and the software (the computer programs in the equipment) (UNESCO ICT);

– competency – the skills, knowledge and understanding needed to do something successfully (UNESCO ICT).

University teaching staff training for application of ICT – this teaching experience needed to do something successfully which handles and communicates information electronically.

Part of trained ICT correlated with the requirements of a specialist, which are described in the National Qualifications Framework (Національна рамка кваліфікацій).

In Ukraine National Qualifications Framework - a tool for classification of qualifications to a set of criteria that describe the specific level of education. NLC is designed to:

- Increasing transparency setting skills;
- Increasing access to qualification;
- Increasing the possibilities of transition from one skill level to another;
- Quality assurance qualification.

Implementation NCC promotes labor market and civil society.

Components of competence shown in Fig. 1.

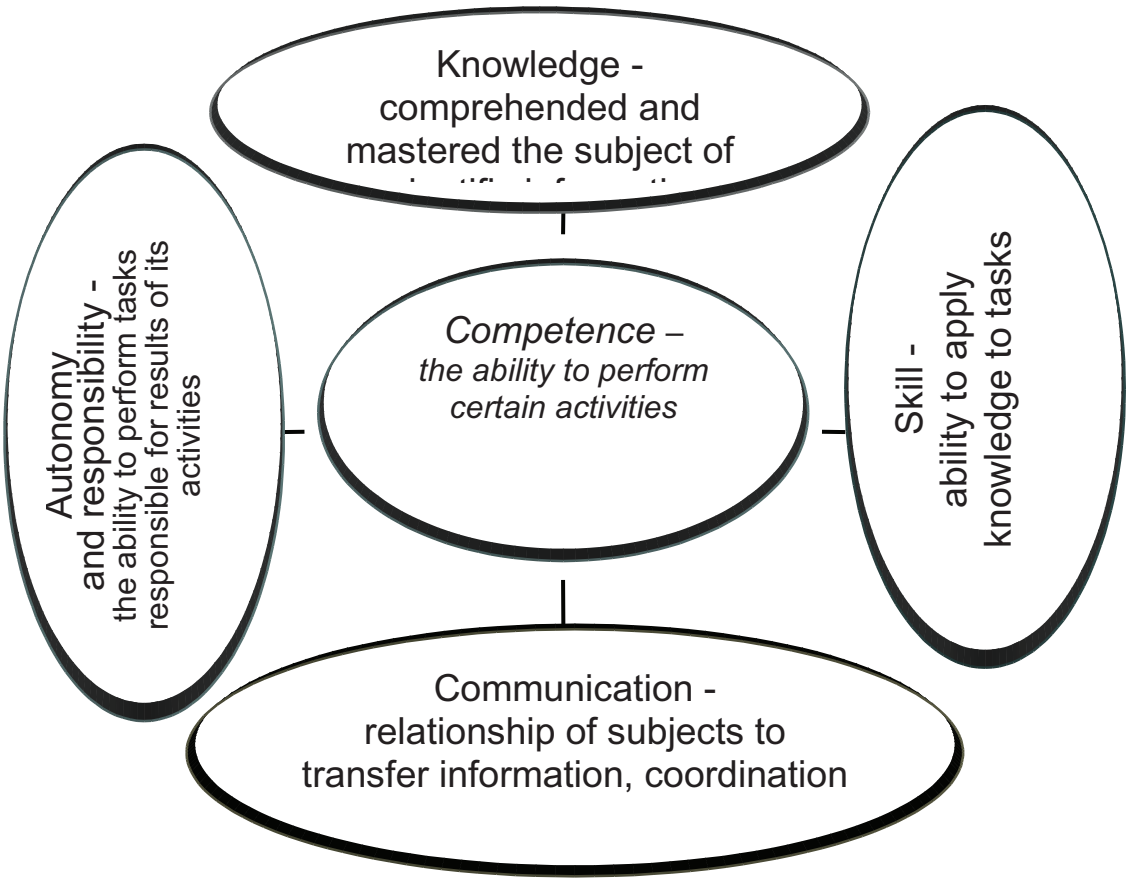

Figure 1: Part of competent professionals

Methods university teaching staff training for application of ICT foresee their competence in creation and/or implementation of ICT-objects in educational process and ability in discovering advantages and disadvantages of their application.

University teaching staff training for application of ICT includes:

- Empirical and theoretical knowledge about ICT and its ability to ensure the quality of higher education and enhance their qualifications.
- Cognitive and practical skills using ICT in the learning process;
- Providing communication training subjects with ICT;
- An independent decision on the introduction of ICT jobs and responsibility for the results of their actions.

Levels of university teaching staff training for application of ICT readiness: low, medium, high.

Level	Name	Main characteristics
Low	Amateur	Fragmentary experience of ICT
Average	Expert	Sufficient experience of ICT
High	Master	Thorough experience of ICT-enabled

Table 1: Levels of university teaching staff training for application of ICT

The main effect of ICT introduction in teaching is increasing quality of teaching in combination with reduction of staff labor intensiveness;

- freeing of lifetime, material and health resources;
- improvement of cooperation with students etc.

The consequences of ICT introduction in teaching activity should be at least positive dynamic changes in teacher's professional experience. It is also desirable that changes in teaching influence university staff personality development. Staff ICT competence leads to adjusted successive work with multi- and hypermedia, hypertexts, virtual reality based on the synthesis of verbal and non-verbal notifications, and also synchronization time-spatial informational sources with visual-spatial ones.

Basic methods teachers use in their activity:

- doing expertise of present ICT;
- approbation of newly-created ICT;
- an exchange of pedagogical experience of ICT using in educational process;
- measures planning for an increase of personal ICT competence;
- organization of work for examining new ICT-resources and giving recommendations for their further usage.

Methods of teacher's training for ICT introduction include his ability to analyze results of ICT implementation, interpret them in a quality of professional training and outline further perspectives of ICT introduction.

Monitoring of the university teaching staff training for application of ICT (Zhornova, O. and Zhornova L., 2013) revealed a number of gaps. This applies in particular difficulties:

- carry out assessment using ICT;
- achieving students accounted for by ICT;
- implement multimedia resources;
- develop modern ICT-objects;
- create educational content via ICT;
- provide open access to educational content;
- acquire new teaching experience with the help of ICT.

A single, fragmentary appeal to ICT using is not able to overcome organizational difficulties of their introduction, which constrained with individual execution of tasks by students and different rate of their work.

In Ukraine, the growing interest in the study of university teaching staff training for application of ICTI. This is confirmed by the number of scientific, educational and methodological literature in the National Library of Ukraine named after V.I. Vernadsky in 2010 - 2013 years (The National Library). Dynamics shown in Fig. 2.

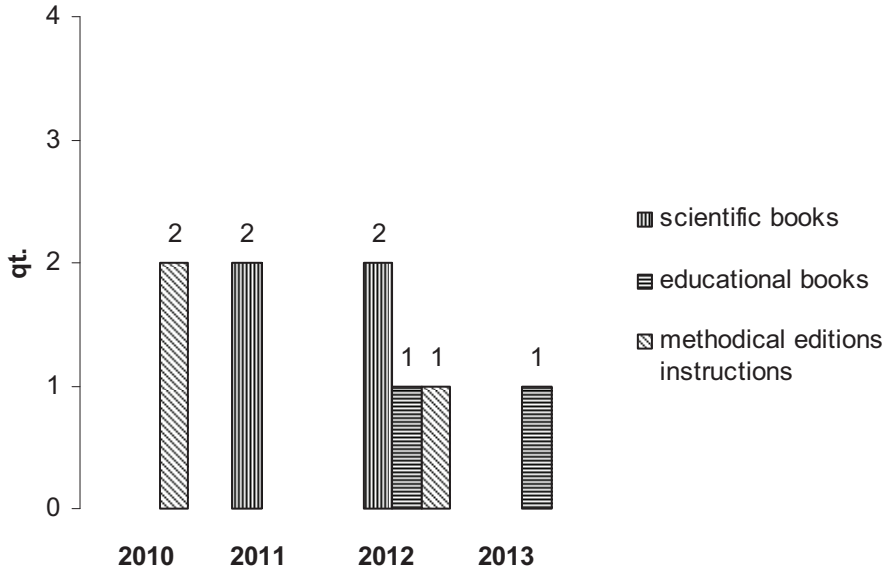

Figure 2: Ukrainian publications on the university teaching staff training for application of ICT, which are found in the catalogs of

Further improvement is impossible without ICT urgent the following tasks:

a) Streamlining requirements for ICT teacher training and monitor their compliance.

b) Harmonization of Creative Commons licenses in force in Ukraine legislative documents of the intellectual property, copyright on ICT and more.

c) Standardization of access to new ICTs simultaneously with the removal of restrictions on the use of other materials.

d) Making information and reference service for the use of ICT in the educational process of the university.

e) Implementation of the University of cultural work for ICT in primary and secondary levels of education.

f) Improving electronic resources.

The main directions of technical work teacher:

- examination of existing ICT resources;
- testing of emerging ICT resources;
- exchange of teaching experience with the use of ICT;
- support active functioning network communities and forums where they discuss ICT;
- appropriate separation of materials that are in the public domain and network access university or STORE Account;
- planning measures to improve their ICT preparedness;
- work with testing of newly created resources and recommendations for future operations;
- create personal websites and / or personal pages online universities, units of accommodation they own scientific, methodological and training materials on ICT.

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HOW DOES INTEGRATING TECHNOLOGIES STIMULATE AND ACTIVATE LEARNERS IN LARGE UNDERGRADUATE MATHEMATIC CLASSES?

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Abstract:

Teaching is changing and, in many ways, becoming a more difficult job because of increasingly numerous contradictory expectations. Math teachers are expected to teach students to solve complex problems that require necessary knowledge. Moreover, they are expected to meet the needs of all students and move them toward fulfillment of their individual potential even as they are pressured to prepare students for maximum performance on high-stakes assessment tests that are the primary measure of student and university success. These issues have become much more challenging with large number of students in Math classes. The unavoidable success of technology in many fields encourages us to strongly integrate technologies in learning and university class management. A real life example was taken contained a sample of size 200 students from Elementary Algebra course in Foundation Program at Qatar University. We concluded that integrating technologies in Math class can help students by encouraging them and teachers by supporting them a variety of examples.

Keywords:

E-learning, Active learners, Learning Management System

1. INTRODUCTION

The role of technology in higher education has increased in the last 15 years. Some Universities strongly believe that integrating technologies has become one of the top important strategic priorities. (Resta, Laferrière, 2007) The big challenge is how much we successfully implement this in a way that leads to achieve the objectives and makes students more active learners. Educational technologies show high input results when applied in many University subjects. For example, Mathematics is one of the most important subjects in all science and engineering colleges.

In 1989, the organization for Economic Cooperation and Development (OECD) began to investigate how science, mathematics, and technology education were changing of the thirteen countries participating in the study; no country was satisfied with its existing program in science or mathematics education. (Souter, 2001) Many researchers expressed high expectations for the computer and new technologies in improving teaching and learning of mathematics. On the other hand, many teachers still find the traditional teaching way is the most effective and much secure for learning management system.

There are many debates concerning the effects of using and integrating technologies in math classroom. Qatar University is one of some universities which started since 2006 using Blackboard system to integrate technologies in education and teaching classrooms. Today, new and much more effective technologies are activated and taking place very seriously in different subjects. Foundation Program was started

using Blackboard from the beginning and it always shows pioneer results. These results published in many researches and workshops held by Foundation Program instructors.

Math Department in Foundation Program, started use *MyLabsPlus* the online software system since summer 2012. This step was very important to help the department to integrate technologies in math courses and to accommodate the large number of students in every semester. Positive effects were very positively reflected on both teachers and students. Moreover, we still count a lot on implementing all available technology resources to hold on a powerful learning management.

This paper is organized as follows: Section 2 describes the relation between active learning and technologies, section 3 introduces the collaborative learning and technology, the issue of inquiry-based learning with technology presents in section 4, section 5 shows challenging in managing large mathematics groups, section 6 mentions a case-study from Qatar University experiences, disadvantages of integrating technology list in section 7, finally, section 8 presents results and conclusions.

2. ACTIVE LEARNING AND TECHNOLOGY

Active learning requires students to do meaningful learning activities and think about what they are doing. Active learning is generally defined as any instructional method that encourage students in the learning process (Prince, 2004). Form the daily teaching experiences of different students' ages, we can figure that integrating technology in learning system can fit with the strategies of active learning because of the following reasons:

- Adult learners prefer to be engaged in their learning rather than just listening.
- Adults want to be able to apply new information and skills immediately.
- Many of active learning strategies can be effectively adapted when developing self-study material and courses.

Integrating technology is effective because it can assess participant's mastery of the material either by observing and providing feedback or by using an online test or quiz.

It is very powerful when there are auto corrections and step-by-step problem solving.

It is very helpful to participate by using blogs, discussion boards and e-mail sharing.

3. COLLABORATIVE LEARNING AND TECHNOLOGY

Collaborative learning can refer to any instructional method in which students work together in small groups toward a common goal. The closed classroom represents a physically outdated teaching model which does not match the inter-connected virtual world we now live in. Students are learning collaboratively through a vast array of informal learning spaces both on and off campus, yet are still crammed into outdated traditional models.

In collaborative learning there are three effective strategies: (Fisher, 2010)

- Develop resources that empower learners by encouraging them to work with every other learner in classrooms.

- Make complex ideas accessible by breaking ideas down and re-present them with lots of same examples.
- Encourage students to share all learners with what they have learned to fill any missed gapes.

Some researchers think that technologies in education standoff collaborative learning, they support their ideas by the fact that involving in technologies makes students much more individual learners.

Technologies can help as an engine between the last three collaborative learning strategies. Moreover, when a student masters specific computer skill there is pride and enjoyment derived from helping other peer students. (Motamedi)

4. INQUIRY-BASED LEARNING AND TECHNOLOGY

We can generally understand the inquiry based-Learning as a type of learning providing the skills which a student needs to solve problems and make good decisions. (Jarett, 1979), (Furtak et.al., 2012)

Inquiry-based approach is one that provides and supports learning environments where learners observe events, ask questions, construct explanations, test those explanations, use critical and logical thinking, generalize observed patterns, and consider alternative explanations. (Dogan-Dunlap, 2003)

The inquiry cycle matches with the integration of technology in classrooms, especially for math classes. Figure (1)

Most educational scientists like Denise Jarret, Kitt Peixotto and others associated the inquiry learning with teaching science and math. (Jarett, 1979) We think the most important positive point in inquiry-based learning is that it can work with different age groups.

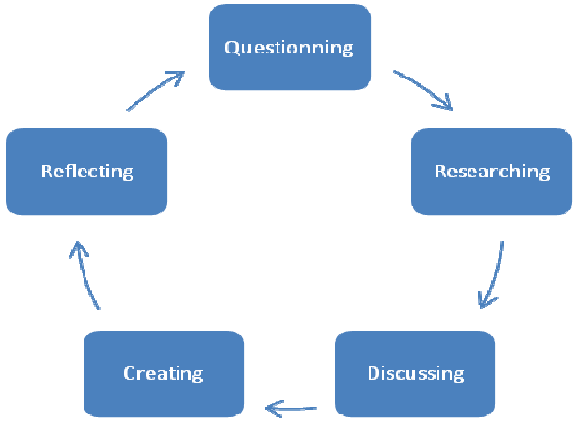

Figure 1 (Inquiry-Based Learning Cycle)

In Qatar University, Foundation Program encourages students to use offered technology system, it is evaluable for all students 24 hours 7dayes a week. The strategy of this is to know and know more to build the knowledge base learning cycle to become a mastery.

The system we are using is working parallel with different kinds of assessments, study plans and tests. Each of that has a specific role and all work together to master students in their courses (figure 2).

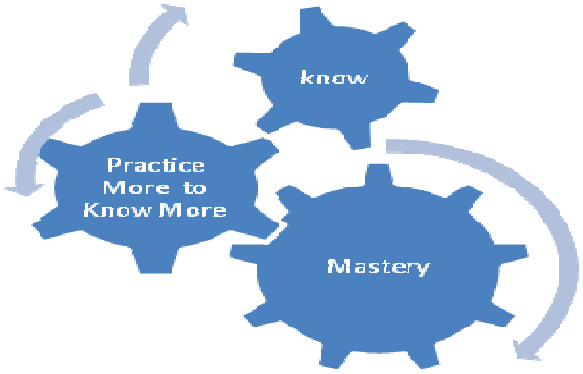

Figure 2(Knowledge Base Growing)

5. CHALLENGES IN MANAGING LARGE UNDERGRADUATE MATH CLASSES:

An instructor teaching a first-year university course has seemingly contradictory tasks to balance. On the one hand, the instructor has a responsibility to teach foundational material in an aim to prepare students for future courses; on the other hand, the instructor plays the role in welcoming, encouraging, supporting students during the most important transition in their lives. (Jungic, V. et al., 2006) There is no unique solution to the problem of managing a large class. One specific benefits of managing a large class is to use technology very effectively. After we used new technologies for large number of groups in Math Foundation class, we can say that this action solved many problems:

- Flowing up all students, especially students at risk.
- Balancing students' levels in the course.
- Directing and continuing to assist students.
- Using many different and creative ways to solve problems.
- Encouraging students to do homework and different assessments on time.

From our experience, technologies can also be very helpful to cover course syllabus on time. This inference was very clear when we applied a short term-semester last academic year. The short academic semester is for only 8 weeks with three lecture peer week. It was big challenge to cover the course syllabus every part of the semester, if the online study plan and homework not effectively done on the right way.

6. CASE- STUDY: INTEGRATING TECHNOLOGY IN ELEMENTARY ALGEBRA COURSE IN QATAR UNIVERSITY, FOUNDATION PROGRAM:

Elementary Algebra is a course for foundation students in Qatar University. About

two thousands students in every academic year have to take this course. This course is one of requirements courses for science and engineer students. We always seek for the best way to give this course for large number of basic students with high quality teaching. Encourage all students, especially weak students is much recommended.

Table 1 shows a summary statistics of a sample contains two hundred students in Elementary Algebra course.

We can figure from the table that the number of students who got less than 60% was decreased in both quiz 2 and mid-term exam. The table also shows that students' score average was also increased through quiz 2 and mid-term exam.

	No. of STD less than 60%	**Average**	**Min**	**Max**
Quiz1	**120**	**42%**	**6.4%**	**60%**
Quiz2	**96**	**56.2%**	**5%**	**55%**
Mid-Term	**67**	**64.4%**	**17.5%**	**85.8%**

Table 1: Students' Statistics for Quiz1, Quiz2 and Mid-Term

In Table 2 we compared and flowed up students that have got less than 60% in quiz1, the statistics shows that 24 students out of 120 students which mean about 20% of students that not passed in quiz1 have passed in quiz 2.

At the same time, more than 50% of weak students had the chance to pass in mid-term exam when they involved through *MathLabsPlus* tools. *MathLabsPlus* system procedure encourage students to do hard work to reach the required score by doing more exercises in study plan, homework and other tools, that gave students enough knowledge base growing to encourage and raise students' level in the course.

	Students' Number	**Average**	**Min**	**Max**
Quiz1 <60	**120**	**42%**	**6.4%**	**60%**
And Quiz2>60	**23**	**75.2%**	**65%**	**100%**
And Quiz2<60	**83**	**37%**	**5%**	**55%**
Mid-Term>60	**67**	**64.4%**	**17.5%**	**85.8%**

Table 2: Students' comparison in Quiz1, Quiz2 and Mid-Term

7. INTEGRATING TECHNOLOGY DISADVANTAGES:

Technology is playing the engine role in our daily life, many educational experts insist to use technology into schools subjects, classrooms and high education (Rana, 2008). While others still don't fully trust with technology, especially for some critical subjects for example mathematics.

After long time using technology in many courses, we can general conclude the following disadvantages:

- Using technologies needs more labs to activate the system.
- Some software and hardware are very expensive.
- Integrating technologies in learning system needs full qualified stuff.
- Incomputable issue: When the organization has much different educational software.
- Tiredness: Some students use computers for long hours in a day.
- Various degrees of comfort with technology for both teachers and students.
- Using technologies, especially in math classes, for long time may lose the direction of how students think. In some cases, we are not sure enough if all students really have understood the class objectives.
- Some teachers involve tailoring teaching class in a way that fits the technology system.
- Time managements and cheating: Not all students have enough skills to manage their times in quizzes and exams.

8. CONCLUSIONS

We can conclude that integrating technologies in Math class can help both students and teachers. On first hand, it is encouraging students to build their Knowledge learning base system, and on the other hand, technologies can support teacher when this technology has a verity of examples and step by step solving problems. It can play the tutorial teacher role, especially for beginners and for students need more help and support in math subject. The challenges now are how much can we reduce the disadvantages of using technologies in math classrooms to meet standard higher educational visions.

The promising results are much recommended; the future plan in Foundation Program is to continue integrating technology in different Math and English courses as well. Today; many departments in Qatar University are planning seriously to follow up with same procedure.

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INTERGENERATIONAL RELATIONS IN TECHING AND LEARNING COMPARED TO MODERN DIGITAL TECHNOLOGIES

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Abstract:

The aim of this paper is to make an attempt in understanding intergenerational differences and relations resulting from civilisation transformations, in particular in terms of expansion of modern digital technologies. The paper indicates characteristics of young generation driven by personal and mobile technologies in learning. The author, according to the investigated literature and own conclusions, indicates the need for intergenerational dialogue in the perspective of media society.

Keywords:

young adult, teacher, digital technologies, education theory

1. INTRODUCTION

We notice that civilisation transformations do result in increasing intergenerational diversity in a society (cf. Bauman, 2011: 75-81). Globalisation of economy, post-modernism, consumerism, young people off the labour market and in the state of prolonged youth are characteristics of a modern world the young generation faces nowadays (after: Szafraniec, 2011). Modern digital technologies, currently easily available, have overpowered children's and youth's lives and redefined irretrievably. Contemporary young man experiences his/her childhood and youth in a completely different way. They search for freedom in a virtual world where almost all his/her friends are and operate. The young man goes into the depths on the Internet not to be socially excluded, as well as to search for satisfaction of human needs such as: freedom, acceptance, membership, closeness simultaneously having an option of a choice and to experiment.

Nowadays teachers and pupils share the same classes in the same buildings but do live in two opposite worlds (after: Michel, Nimz, 2012: 12). How to create better quality relations between a contemporary pupil and a teacher? How to convey knowledge, as well as wisdom of older generation to a young man? Those are the crucial questions for the undertaken investigation in hereof paper. It seems that what differs generations is youth growing up in context of current digital technologies and quality of skills for evaluation and verification of information, but mostly in terms of thinking (after: Johnson, Adams, Haywood, 2011: 4).

2. YOUNG ADULTS IN THE "CYBERSPACE COCOON"

Technology for a student is like a scriber and a tablet for first scribes. They spend time in front of their PCs, mobile phones, tablets or other mobile devices creating, transferring and receiving information. The report "Młodzi 2011" (after: Szafraniec, 2011) shows that worldwide Internet expansion is mainly participated by young people. 93% of youth aged 16-24 uses the Internet regularly. They spend 17 to 20 hours in the Internet per week. Things they could not go without are the Internet and a mobile phone. Friends, movies, music, books, etc. are within a click of a

mouse. Even while learning, own work at home, young people often have a laptop on knees, are available on Facebook, have their mobile phones signalising new massages within reach. It is curious how can one learn in conditions saturated with so numerous interfering distractors? Larry D. Rosen (2010: 2) remarks that people born after 1980 and older teenagers, and young adults referred to as NetGeneration differ considerably from their parents mainly in terms of access to technology. They have watched Disney cartoons on DVD from their births, whereas television served as their babysitter when parents were out. Children and youth born in 90s and in the new era are even more entangled in technology than their predecessors. L. D. Rosen utilizes the term „iGeneration" stating that the next generation represents love to all technical devices. They were born surrounded by technology and enrich their repertoire by subsequent releases of digital novelties. Vibrating mobile phones with signalizing new massage make them happy - they prefer to chat or listen to music without going out. Numerous drafts of web generation indicate, inter alia, preferred image in learning by students, activity, expectation of immediate gratification and prize (Prensky 2001), narcissism, cynicism and self-concern (Twenge 2006), the dumbest generation (Bauerlain 2008), as well as capability of choice (freedom), adaptation to own needs (customisation, transparency, credibility, cooperation, good fun, quick pace and innovation (Tapscott 2010). This is only a part of a prototype for characteristics of digital generation driven by personal and mobile technologies in learning. Youth are now not only consumers of information, but also its mass creators and distributors of own thoughts, insights, issues, creations of popular culture via blogs, e-mail communication or participation in social networks. Some alarming symptoms of influence of digital media can be observed in modern generation of young people. They cannot concentrate longer on one task, express their thoughts briefly and more deficient, they find memorising a longer text difficult. Wiliam Deresiewicz (2010) referring to the research conducted by researchers from Stanford explains that multitasking (simultaneous execution of several tasks), which unfortunately impairs contemporary young people's ability to think, is characteristic of them. As it turned out, multitasking students are worse in distinguishing relevant from irrelevant information ignoring the latter. In other words, their minds turned out to be more chaotic. Thinking requires adequate focus for sufficient time in order to explore a subject. One cannot do it properly if being constantly interrupted by interfering factors such as text massages or Facebook, music from an iPod or other YouTube movies. Older, as well as younger men are bombarded by streams of thoughts of other people. It is hard to hear own thoughts. Or perhaps my thoughts are not mine any more but someone's else.

3. MODERN DIGITAL TECHNOLOGIES AS A CHALLENGE FOR A TEACHER

Adults find understanding the world of youth difficult as they did not grow up in the "cyberspace cocoon". A teacher has to face modern educational and cultural challenges defining new learning styles and selecting adequate methods, as well as teaching strategies for education purposes. He/She has to change mentality of own thinking and learn to share and create, along with students, their own vision for efficient learning. Since all learn most efficiently if believe in what they do. It seems that teachers should not only accept existence of the cyberspace, but also find an opportunity to interact a life of digital student with goals of didactics. "Students therefore should be prepared for lifelong learning in an environment of changes via education of own capabilities awareness, critical and creative thinking, learning how to learn, education of IT skills, communication, cooperation and collaboration, as well

as use of IT tools" (Skibińska, 2012: 248). Development of an agreement, cooperation and acceptance between a teacher and a student is of the highest importance. A global teenager finds it easy to communicate, is sceptical towards any initiative which requires involvement and devotion from him/her, which on the other hand is characteristic of older generations. Lifestyle and learning preferences of young men's generation force a contemporary teacher to search for other, better adapted to their needs, education solutions including new form of intergeneration communication and experience interchange. Undoubtedly, technologies and social media and recent research in the filed of neurodidactics would play a considerable role in this matter. Creation of mutual trust via cultivation of positive relations might be worth trying, as well as efforts to find opportunities for a dialogue. Contemporary students, as well as their predecessors, have to learn how to solve problems, work in groups, think critically and make intentional choices (after: Michel, Nimz 2012, s. 15).

Research in the filed of neurology indicate the most appropriate environments for learning in terms of emotions, cognition and social awareness, as well as efficient methods, and teachers can benefit from this knowledge creating and orienting relevant strategies, curriculum, choice of targets and their selection for individual students (after: Willis 2010). Teachers should prepare the tasks for students to challenge and develop thinking of all of them. The tasks should involve hands, hearts and minds. Carrol S. Dweck suggests creating an adequate culture for development of thinking. One of the methods to create such culture is to provide an adequate type of prises and encouragement. It is worth challenging students with tasks which force them to use their knowledge, imagination, hands and minds in practice, but also to utilize digital technologies which they are accustomed to. Students should not be afraid or embarrassed of the fact that they do not understand something straight away or are not immediately good at something - for it requires some time and effort. Teachers have to change their attitude and understand that their role undergoes changes as well. They have to become advisers, guides and tutors who would know how to design an environment in which a student gains knowledge and skills.

3. SUMMARY

The world of liquid modernity has considerably changed the way of thinking of students and how they process information, which on the contrary are different for older generation. Despite generation difference, mutual understanding is possible via consideration of interests, learning the needs, expectations and fears. Don Tapscott (2010: 258-259) provides few guidelines to a contemporary teacher who came to teach and train in the digital era. The author claims that it is worth designing environment of learners with the use of technologies, encourage students to ask questions, develop interaction and listen their answers carefully. One has to focus on teaching them how to learn for a lifetime rather than short-term preparation for a test of knowledge. Moreover, initiatives to get to know each other with the use of modern technologies are more than welcome. A teacher can motivate students to actions allowing them to use IT tools, e.g.: to create a school newsletter, school performances, art works, music works, school events, etc. It is a perfect opportunity for cooperation with a student and to share insights. A teacher can also learn something interesting or even round out own knowledge and develop skills. He or she can inspire and support own students by encouraging them to go beyond own capabilities (after: Skibińska 2012: 263). Contemporary digital technologies have

opened new opportunities for constructive discourse before teachers and students which can strengthen bonds between them.

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IMAGES AND THE IMPLEMENTATION OF E-PORTFOLIOS IN TEACHER TRAINING

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Abstract:

This article reflects on a project at the University of Leipzig in teacher training education. The aim is to discuss the possibility of E-Portfolios in Higher Education and especially in teacher training education. At first the article provides a general overview about the changing processes of knowledge and information and more detailed the consequences for Higher Education. The main object or media for the project are images and the relevance in everyday life. Referring to that a solution would be discussed to address the consequences and the important role of images, particularly for aspiring teachers. Further the importance of evaluation will be present, related to the inherent evaluation aspect of E-Portfolio.

Keywords:

E-Portfolio, process assessments, E-Assessment, Mahara, media literacy

Preliminary

Like a big flood, like a tsunami, pictures in every kind of way are defining or characterizing our daily routine. Everywhere you are, there is no hiding. Equal if you are walking, driving by car, train or something else: pictures are everywhere.

And it's not just the pictures you see when you are. Live is a motion picture, for sure. It is important to talk about the second, third and fourth area or level of pictures. Pictures in printed, digital/online flyer, newspapers, newsletters, commercials. Those from and out of mobile devices. Augmented Reality. And these your mind and brain is starting to generate if you see or hear information, commercials: our own imagination.

Especially through our digital Internet life[1], the most of us are living in, there is a gap between the usage of photos, graphics etc. and a critical mind-set to work with that flood of images. The importance results out of paradoxes: the mass media sharing, distribution and production of pictures is not only an aspect to be concerned about. It captures the solution: this mass needs to be discussed and worked on. Because they are out there and surrounding all of us.

1 INTRODUCTION

The mediation of knowledge is a fact (Hepp & Krotz, 2012, 10). The impact that not only the technical transformation of our communication, knowledge management and competences, but also the theoretical thoughts for a society of knowledge competences, for communication, for the knowledge by itself, have are massive and irreversible (Knoblauch, 2013, 14f; UNESCO, 2002b, 14).

[1] Do be clear, there is more and more no difference between online and offline reality or daily routine. The reality today is digital.

Important to realise are these changes in “how we recognize our world”, “how we are thinking” and “what can we think”. Maybe the (r)evolution of the digital society of knowledge and the digital literacy are as important as the invention of the printing press from Gutenberg in the 16th century (Hofmann, 2001, 4f; Pscheida, 2013, 17).

In relation to these processes, especially for the younger generation, there is a new knowledge in how to get, handle, use and communicate or share information and personal things (BITKOM, 2011, 6f, 31f; Ridder & Turecek, 2011, 570).

But also the society, and the different institutions and actors related to them, and the political actors react on these major changes. The slogan of media literacy, or more often in Germany “media competences”, is virable[2].

The biggest effect is, beside the everyday life routine (Arnold, 2011), in the field of education. Not only did those processes influence or establish concepts of “lifelong learning” or “society of knowledge” (BmBF, 2010, 5f). They have had, still and also will have, a massive impact on how we teach, we learn and we think about that thing of education.

Our focus is the ramification through these processes for Higher Education system[3]. E-Learning is more or less standard and established (Mayadas, Bourne & Bacsich, 2009, 85; Seel & Ifenthaler, 2009, 108ff). These shifts infect the two main actors in these system(s): students (Grosch & Gidion, 2011, 4-9, 27; Middendorff, 2002, 52f) and teachers in Higher Education (Magenheim& Meister, 2011, 19f; UNESCO, 2002a, 43f). The role model for teachers isn’t, and also can’t be, the same as 20 years ago. (Aspiring) Teachers are faced with a special challenge: They act not only as experts in teaching and learning, as appraisers of student performance, as educators, etc. Instead they have to show a high level of media, research and diagnostic skills and have to demonstrate, in order to respond appropriately on that altered and constantly changing situation (KMK, 2004a, section 1; KMK, 2012, 7; Schulmeister, 2005, 216ff; UNESCO, 2002b, 34).

For that, these aspects and processes resulted in two main targets:

One of the most challenging aspects is including one of our oldest and mostly used medias: pictures. With upcoming Web 2.0 technologies and tools and including such tools like fotostreaming and -sharing there is a huge amount in pictures, which surround our daily life and us. Especially social network based applications (flickr, facebook, instagram, tumblr to only name a few of them)[4], the mass media commercial communication (von Gottberg & Rosenstock, 2009, 8) and furthermore with the development of mobile devices (the biggest platforms for that are Android and Apple)

[2] There are a large number of literatures. A first actual introduction through the topic is Aufenhanger, S. (1997). Medienpädagogik und Medienkompetenz. EineBestandsaufnahme. Enquete-KommissionZukunft der Medien in Wirtschaft und Gesellschaft. DeutschlandsWeg in die Informationsgesellschaft.In: Deutscher Bundestag (Hrsg.). MedienkompetenzimInformationszeitalter. Bonn. 15-22.

[3] But the following theses can be seen as identic for the education system in general. See Albers, Magenheim& Meister, 2010, 10-11.

[4] For example, facebook is the world largest and still growing photoplatform.

there is one question remaining: How can people handle these information, how can they work with them in a critical, reflected and informal way. Such questions are nothing new, they have their way back in the beginning of the early 1950es. During and after World War 2 American science researchers analyse the manipulative, suggestive and success of mass media through and for the Third Reich.[5] A new field of science was born: Content Analysis (Berelson, B. 1952).

The second one is, that (simultaneously) the pedagogic mind-set shifted from an "input to an outcome guidance" in teaching (Hornung-Prähauser & Wieden-Bischof, 2010, 247). But also, it is not like that these pedagogic theory and thinking is something upcoming new from the digital age. These approaches based on older pedagogic theories and -developments.

There are a variety of different learn-teaching concepts and theories, trying to match these (new) claims and aspirations from lifelong learning approach and an outcome oriented pedagogy: Constructivism, Connectivism, Self organized Learning, Blended Learning (Seel&Ifenthaler, 2009, 111f), to name a few. Also, there are thoughts and expectations, that learning concepts must be revisited, in context of education: informal and formal learning (Rohs, 2013, 39).

These processes and changes also must impact the teacher training in Higher Education (Schulmeister, 2005). And that doesn't mean only the situation *inside* the Universities: open online education is the keyword, the best known are MOOCs *Massive Open Online Courses* (Horizon Report, 2013, 4, 11-14;Yuan & Powell, 2013, 4f).

In Germany there is a difference between the expectations and demands for teachers and the reality in teacher training and education (Schulmeister, 2005, 215). That doesn't mean that E-Learning in Higher Education isn't relevant. The contrary is the fact: Most of the time, equal if you're student, teacher or employee, you have to work on and with internet, digital based resources, software and processes (Kleimann, Özkilic & Göcks, 2008, 9-12; Seel & Ifenthaler, 2009, 17). The University of Leipzig uses the open source software Moodle as their LMS, more then 20.000 students are involved to participate on that (E-Learning-Service, 2012, 1). Also the University is working on an implementation of a university-wide CMS (ProjektAlmaWeb, 2012).

At the University of Leipzig an implementation of media education is missing in the teacher education curriculum. From 1999 until 2006 there was an online seminar for media education with the name "Leipziger Online-Seminar". Teacher trainees have had the possibility to join it (Frank, 2007, 197). There is a peer-to-peer education/blended-

[5]There is the fact, that in previous centuries pictures have had a not unimportant function in daily life and routines. For example caricatures in the 17th and 18th century, portraits in monarchical and stately tradition. For a first overview see Faulstich, W. (2005). Geschichte der BildkulturbiszumVisualisierungsschubim 19. Jahrhundert. Online: http://www.bpb.de/gesellschaft/medien/bilder-in-geschichte-und-politik/73132/geschichte-der-bildkultur?p=all (01.06.2013) and for the 20th century Faulstich, W. (2005). Die Entfaltung der Bildkultur in den Medien des 20. Jahrhunderts. Online: http://www.bpb.de/gesellschaft/medien/bilder-in-geschichte-und-politik/73142/bildkultur-und-medien (01.06.2013).

learning tutorial for students in communication and media literacy, too (Glade & Hübner, 2013, 64-68). In general, there is only a decision by the "Kultusministerkonferenz" about competences and duties of teachers. Media education or media competences is only a small part of that decision (KMK, 2004a, 5f).[6]

This also implies, that a lot of people, especially the students, have resources in working with digital content and hardware (Herzig&Grafe, 2006, 95f). And also, the students are very confident in using Web 2.0 tools and studying in E-Learning settings (Middendorf, 2002). But their learn-teaching-arrangements don't fit this expertise.

And, furthermore, this leads to results, that most of the time, teachers in school still uses most of the time classical tools like the book, the blackboard etc. (Lindau, Kübler&Spada, 2013, 21f; Aust, 2010; Feierabend&Klingler, 2003).

This gap between the usage of E-Learning as part of Higher Education, the expectations, demands on teachers and the teacher training is crucial and leads to the fact, that there has to be a strong push for a development in teacher training education.

Because the importance of cultural media competences, and especially for those related to deconstruct pictures or a reality made of pictures, is one of the main areas in teacher trainee studies and the society expectations (Schorb, 2007; KMK, 2004a).

2 THE PROJECT

At the institute for pedagogy of arts and with the professorship for school pedagogy and school development research we discussed and established a seminar which aims to compete with some of these new challenges the teacher and teacher trainees are confronted.

The concept is based on two main areas and ideas: 1) picture competences, as the content area and 2) Mahara as the didactic-process method to a) document, b) elaborate and evaluate and c) share and discuss the work process and their results in relation to the trias of production, reflexion and reception (cf. KMK, 2004b, 2).

2.1 Picture Competences

Following Billmayer (2003; 2008), who aims, that it is more important to (de)construct the pictures surrounding us everyday in any different situations then to understand the importance and genius of Rafael or Michelangelo (2008, 27). And he also admits, that especially the focus of the curricula for pedagogy of arts excludes the every day life aspects of pictures (Billmayer, 2008, 9). But the confrontation and discussion with pictures, not only in art, is evident for everyday life media education (Billmayer, 2008, 28). Because, most of the pictures are not art. But their impact is much higher as the pictures that are assigned to be art (Billmayer, 2003, 1). In conclusion to these aspects it is evident, that aspiring teachers are able to use and work with pictures in the right way in learn-teaching-scenarios.

[6] The only general curriculum for teacher education that implements concrete aspects of media competences or media education for (aspiring) teachers is the one for the pedagogy of arts. See KMK, 2004b, 2, 5.

2.2. E-Portfolios

Currently the everyday mediainformation are managed and organized by the people themselves. Usually we process unstructured and chaotic countless amounts of (digital) media images, be it billboards, print media, video / film / TV animation or the data flows from the application of smartphones and tablets. The increase of users for like evernote should not suggest that this is common use. The fact is, that there is a variety of different (online) tools to manage informations like also *citavi*, *zotero* or *refman* (literature), or a pendant to pocket *instapaper*. Even picture applications/software like *flickr*, *picassa*or *tumblr* can't manage such massive information for educational success.

Right here a portfolio can schedule and help this flood of information to organize and prepare (Hornung-Prähauser, Geser, Hilzensauer&Schaffert, 2007, 14). It also tend to support the reorientation of learning objectives in the context of higher education: the content-oriented towards competence-based learning (Hornung-Prähauser, 2010, 247f).

Portfolio, or learning diaries, is no current development but for the first time found a wider attention in the 20th Century of progressive education (Hornung-Prähauser et al., 2007, 16f). This instrument, simultaneously a didactic method of a process-based monitoring of teaching and learning settings and other customized configurable learning outcomes, offers the possibility to respond closely at the individual and community structures (here meant classes, study groups etc.) and still, with prior determination of certain criteria and characteristics for a portfolio, ensure comparability (Hornung-Prähauser et al., 2007, 13f).

Portfolios may therefore show three levels: portfolio as a learning process, a learning product and documentation as learning (cf. Hornung-Prähauser, 2010, 249; Hornung-Prähauser et al., 2007, 14f). Therefore, the portfolio method, depending on the question and aim of the teaching-learning setting, can be used in four different areas: 1) To study plan and an accompanying instrument, 2) for a project-oriented portfolio work, 3) for scientific work and problem solving, and 4) as a competence and application portfolio (cf. Hornung-Prähauser & Wieden-Bischof, 256).

The didactic-pedagogical considerations and the technical portfolio of media properties arise in the practical implementations following conceptual approaches and solutions:

- Blended Learning Concept
- Evidence of feedback and reflection (self and external).
- Assessments and evaluation that focus on the students and the process (related to blended learning and feedback, as part of the curricula, and also informal learning)

Related to the situation of knowledge behaviours and everyday life, Blended Learning arrangements are mandatory.[7]

[7] Also, the divide between Learning and Learning with "'2's" is something discussable Prof. Steve Wheeler from the University of Plymouth/UK named his Blog with the subtitle "Learning with 'e's". www.steeve-wheeler.blogspot.de (15th June 2013).

That means, that a parallel and separate setting of learning and teaching will define the formal structure of the project. As we developed the main theses of challenges for (aspiring) teachers there are three phases of the project:

The *first* is to establish knowledge and a mind set of the students related to their future employment ships and people they are working with. And the fact, that they are a big part of that shift in knowledge distribution. That must include, that these students are more or less competent in using and sharing information and knowledge through web 2.0 technologies, as we said before. So, the content would be more about the relations between all off these competences and the interrelation between these and their future workplace in schools. Questions must be how they can integrate their already established knowledge with the school curricular and the pupils they are working with.

The *second* is to extract from these first discussions and thoughts own research questions and fields of interests, in context of media education and picture competences. In what kind of way the students will work on their problems is an important aspect of the project: groups (Lave & Wenger, 2007, 33-34). These kind of learn-setting implements so called soft-skills like: empathy, criticism, discussion skills, to listen to each other, team working, self-reflexion, feedback etc.

The *third* is the part when the students work on their group fields of research interests. In that phase the part of feedback, sharing and discussion becomes evident. In several timeframes the groups have to present their current status of their research. And the audience are not only the “teachers”, it’s the whole project group.

If we go back to the trias of production-reflexion-reception, provided by the KMK for art teachers, these three timeframes respond on those concepts. And the complete timetable also must be seen in comparison to the different role teachers are going to have. That impacts that the content by itself is not important. Even Mahara would be introduced “on the fly”. It is important, that students could work and share, discuss and focus, contribute and reflect on their own way of “walking through the massive picture invasion”. Examples could be taken from everywhere.

In comparison to Hornung-Prähauser et al. (2007) the integration of E-Portfolios in any teach-learning-scenario implements a spiral formed process of learning (15f). These processes also match with the predicted ones from production-reflexion-reception, only to extract more detailed the different steps in comparison. Important in that model is, that Hornung-Prähauser et al. implements a process of evaluation and assessment as an inherent for E-Portfolios (16, fig. 1).

3 EVALUATION

One of the main topics if it comes to E-Learning-scenarios is the evaluation of such concepts and arrangements (Meister, Tergan & Zentel, 2004, 9). Following the CIPP evaluation model from Daniel L. Stufflebeam (Tan, Lee & Hall, 2010) it is important to compare summative and formative assessments for the evaluation. With that said, the instruments to gather these aspects of evaluation are a mixture of qualitative and quantitative ones.

One of the main aspects of this project is the acceptance of E-Learning, the transfer of such knowledge into other teacher education settings, in correlation to sustainability (Stockmann, 2004, 23). That must includes an evaluation as the achievement of the main goals of the project: media education, Mahara, media literacy etc. For these reasons it is mandatory to set up a time schedule that includes these summative and formative aspects (Stockmann, 2004, 35f).

The formative has to be a work-in-progress evaluation where we need to develop the instruments and the items in response to further summative and formative results and improvements. But also the summative evaluation has to be improved over the span of the project, in relation to results. Also it is clear, that in summative evaluation the main aspects and items are more related to the topics of the project and the goals and aims of it.

For formative instrument we see that Interviews would be the best choice to challenge the goals of the evaluation. A qualitative research approach could gather personal and individual informations from the students. That's important to recognize. It makes no sense to evaluate the usage, acceptance and the attitude of students related to E-Portfolios or web 2.0 tools without knowledge about their personal feeling, meanings and suggestions and even without their individual learning improvements and situations. A standardized questionnaire can't match these needs. But such questionnaire could frame the interviews. A Problem-Centered Interview (Witzel, 2000) have the characteristic of open-items in form of a narrative impulse given to the interviews person and a (semi) structured, related to the narrative impulse, dialog with a kind of interview-guideline (Witzel, 2000, 9-18)Also this type of interview includes a prequestionaire to prepare the interviews (Witzel, 2000, [5-6]).

Summative Instruments would be quantitative ones: logfiledata and online questionnaires.[8] In dependence to the timeframe of the project three dates are included, each after the three different project phases.

The results from the evaluation during the project gives all involved persons, teachers and students, a feedback about processes and actual situations and also opportunities to improve and modify the project settings. Also, these results will act as a starting point for the following phase.

For the whole project and also for each individual related to the project the main instrument is: the E-Portfolio. The possibility to document in different kind of ways the working process, to give individual and group feedbacks and to share, present and discuss these E-Portfolios. That means, such assessments have an inherent evaluation function, neither if it is for summative (results at the end of learning processes) or for formative aspects (during the process) (Hornung-Prähauser et al., 2007, 17f).

[8] For a quickoverview for the use of different instruments (qualitative and quantitative) see Meister, Tergan&Zentel (2004). 11, figure 2.

4 CONCLUSIONS:

In the context of media education and image of competence portfolios encourage the linking of the two points of a) the everyday media, and b) the didactic approach to learning in the context of lifelong learning (LLL): the self-organized learning (European Commission, 2009). Its concept (a generally provide broader definition Friedrich &Mandl, 1997, 219) implies the following core aspects of it: maturity, competence (in terms of knowledge management and critical and reflective ability), learning skills and social skills. Within the self-organized learning model this learn-teaching-setting would support well for most of these aspects.

Also, the use of everyday life pictures could also close the gap for pupils between the daily routine and daily "picturisation" and school settings.

Futureteachersreceive and elaboratemethods and tools to analyze, understand andbe able to classify images. They shouldbe strengthenedin their individualcompetence for imagesand associatedto that areableto communicate throughimagescritically, categorize them intoseveral contexts, but alsoto assessthe real orfictionalsubstance of theircontents. The particularfocus ison theuse of imagesof everyday life.

The projecthas set itself thegoal of generatingan elementalimage understandingamong studentsand to enablefast navigation, a classification of theflood of images. That doesn't means to developany clearinterpretationmodels, but rather emergegeneralcriticalanalytical skills,as part ofmediaeducation.
By usingMaharastudentsshould be ableto gainknowledgeinhandlingandusingof the software.Toolsfrom the softwareenable a directlyandimmediately(independently of the teacher) providing of feedback andthusenter intoa discussionand workin the context ofself-directed learningindependently andin groupstoresearchquestionsand objectivesand to documentthem. In addition,Maharaserves asdocumentationtoolby and for thestudy.

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COMPREHENSIVE EDUCATIONAL ENVIRONMENT AS A RESULT OF AN EXTENSIVE SOLUTION FOR E-LEARNING NEEDS

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Abstract:

The paper describes the project which uses the most advanced IT technologies to improve the quality of education at the Technical University of Liberec. The result of the project is a comprehensive e-learning system which includes an automated recording of the lectures. The system provides students with new educational opportunities, that are more user-friendly and of higher quality of service. More detailed results can be found at http://als.tul.cz

Keywords:

e-learning, lectures recording, rich media format, Mediasite

1. INTRODUCTION:

In the new conditions of competitive labor market, only significantly better prepared graduates can succeed. How could we contribute to the situation where our students would count among the most successful? From the conducted analysis of the current state we concluded that the solution could lie in the maximal utilization of new technologies and a positive and creative atmosphere in our campus. We gave the project a working name “Advanced Learning Space” (ALS) and defined the following objectives:

- to build an e-learning portal that students and teachers will find user-friendly and helpful,
- to provide students with lectures recordings on the new portal. Our aim was to implement the technology for recording of the lectures in such a way that the teachers would not refuse it, on the contrary they would use it on a regular basis. Thanks to the activity that we called “Live on the Web” teachers can now record their lectures in an automated mode, without need of a special technical support or a cameraman in the lecture room,
- to equipped classrooms and lecture rooms with interactive and presentation technologies in order to enhance understandability and attractiveness of the education,
- to increase the feedback and create positive and creative atmosphere where a fruitful dialogue between teachers and students is an integral part.

The foundation for our project was the faith in young people and the faith in the power of the new opportunities that we will create for students in order to increase the quality of the educational process. At the same time we wanted to affirm and even impose the idea that real fair success can be based on everyone's gained knowledge and experience.

2. ALS PORTAL

E-learning ALS portal is intended to serve as a work space where students and teachers meet within selected courses that students should or want to complete. The portal not only enables the teacher to publish many types of educational materials related to the course, it is also a place for professional discussion and communication. Furthermore, the portal facilitates testing of gained knowledge by means of self-tests as well as regular graded assessments. It is a space where students can get a whole lot of proven information. These functions are themselves nothing revolutionary, they are already known under the term "e-learning". What we wanted to add in our solution is the "kindness" of the portal and the integrated recorded lectures.

Despite a considerable expansion of information technologies into the e-learning systems, the students and teachers of our university had to deal with various separated and not interconnected systems and services. Over time we managed to integrate most of them, at least under the uniform system of user accounts. An exceptions is the study agenda STAG, where the users are still forced to use and remember the specific authentication information to access it. The university e-learning system was a "patchwork" of independent systems implemented by individual faculties or even departments often mutually incompatible, without the possibility of sharing data or materials. A similar problem arose also in the simultaneously developed technology of lectures recording. For the purpose of the lectures recording we chose the Mediasite technology from the company Sonic Foundry, including integrated storage on the EX Server. This solution makes use of its own system of user accounts and access rights to access individual streams or collections of course lectures. For example, a student enrolled in seven courses streamed the original way (before we started the ALS portal) would have had to remember another seven unrelated authentication data. This situation was unsustainable and led to the creation of the ALS portal, which among other things integrates all the above mentioned services under one user account. In addition, the ALS portal offers a direct enclosure of lectures recordings into individual courses; links data between the study agenda STAG and the portal enabling automated assignment of roles student/teacher to the user and automated enrollment for courses based on the information in the study agenda.

Our solution gave teachers the power to make decision about the publication of each individual lecture. The teacher can decide to publish the recording only after he had watched it, or had otherwise controlled or edited its content. A beneficial function is the possibility to publish the entire collection of lectures at once. At the same time, the teacher can of course include traditional e-learning materials.

2.1. The selected technology and the evaluation of the results

From the very beginning we rejected the idea of developing a new product from scratch. A modern e-learning is not any more a simple Web catalog of lectures in a

form of presentations or pdf files. It is a complex system. The complete development of such a system would cost us too much time, money and manpower. We also did not intend to repeat the mistakes from the past years when we had bought closed commercial systems without any possibility to customize it using our own extensions. After considering all of the criteria we chose the environment Moodle 2.0.x for its high popularity among academia, an open source code and its time-tested reliability. The main requirement on our extensions providing new functions was to preserve the possibility of regular Moodle updates. Having this in mind, we strictly avoided the changes to the Moodle code itself and started to develop custom modules. The portal was launched in pilot operation at the beginning of the spring semester in 2011, i.e. at end of February. At the beginning of May 2013 we had in the portal over 2,600 students, 200 teachers and 552 courses registered.

3. THE PROBLEM OF AUTOMATED RECORDING OF LECTURES

This activity had the working title "Live on the Web". We were not seeking to obtain a professional record; rather we wanted an authentic capture of what was being discussed in the lecture. Our goal was to find a suitable method of automated recording of lectures and their subsequent publication on the Web in a way that the student would get by means of the ALS portal as many as possible relevant information for the understanding of the studied topic. This means, the quality of the sound recording should be very high; a teacher should be visible, but just illustratively. On the contrary, the lecture complemented with a presentation should be clearly seen. The written text, formulas, diagrams, and charts should be very well distinguishable in the record. This was not possible without the presence of a cameraman at that time. At the time of the project proposal writing, we already had an experience with a device that could make high quality shoots and then convert them into a Web presentation for a simple but typical lecture – a TP, talk and presentation lecture type. The resulting Web format presented three synchronous data streams referred to as a rich media format. It was more than a classic streaming, but for academia, this method was applicable only marginally. Additionally, the fact, that the teacher's explanation written on the blackboard was not considered in TP type and therefore was not clearly seen in the final recording, was one of the strongest arguments why our colleagues would not participate in the filming of their lectures. The resistance of our colleagues was strong and their faith in the positive result was weak. Nevertheless, we wanted to bring the idea to life so we fought for its existence. In endless discussions with colleagues, we investigated the reasons why they were against the recording and we were continuously eliminating these reasons by means of new technical and software solutions.

We identified four lecture-types and for each one we proposed a technical solution, which we later implemented. The four lecture types are:

- Talk with presentation (TP): the lecture is complemented with an electronic presentation with key points (usually PowerPoint or other presentation commonly used today).
- Talk with the explanation written on the blackboard (PB) suitable for the courses of mathematics, physics and engineering - graphs, images, sketches etc.
- Lectures of IT courses (LIT): the lecture is complemented with demonstrations of programming, development environments, case systems, database servers, etc.

- Lectures with video presentations (LV): the lecture is complemented with video records of experiments, surgeries in medicine, technological and art animations etc.

For each lecture type, we proposed necessary hardware and a control system in order to meet the demands placed on the quality of the university lectures recording. In the original Mediasite technology, the data stream in the Web presentation had to be always the recording of the presentation. In our solution we could replace the presentation with any other output such as the recording of the written explanation from the blackboard or an animation. The negative impact of this extended functionality was the fact that the navigation coupled with the presentation slides was violated and had no meaning anymore. We applied special algorithms, which firstly analyze and reduce overabundant slides and then automatically adjust the HTML page. The entire process of post-processing is quite complicated. In the future, it will be necessary to automate at least some parts of the post-processing or to seek financial resources to pay its technical support. On the post-processing side we solved other important issues as well. For example, in the last version of the control system, when the teacher does not specify otherwise, the lecture recording is given automatically a name based on the study agenda information. The name does not have to be looked up manually. In addition, in case of a scheduled lecture, the recording is automatically exported to the EX-Server. If the teacher does not require any further processing, the recording can be almost instantly published on the ALS portal. By solving the technical difficulties we managed to convince another part of our colleagues, even though some objections remained. Common were concerns about how the teacher will look like in the record, will not the recording negatively affect students participation in the lectures, what if the recording will disturb the teacher, how will react students, colleagues, the boss, what about copyright etc. Many similar objections must have been repeatedly explained. We had to prove that the result is worth the effort, the uncertainty and the nervosity that teachers were inevitably feeling. We are now intensively working with our courageous colleagues, providing them with technical and professional support.

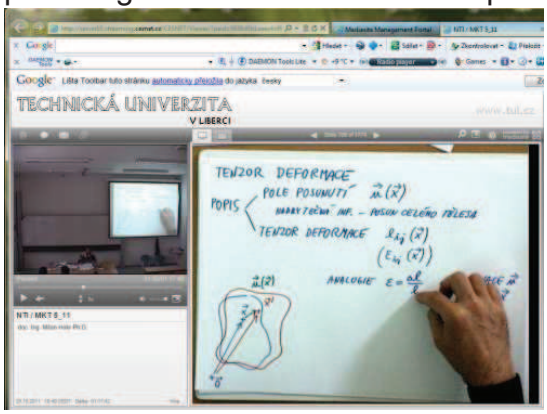

Figure 1: The resulting Web presentation presentation a classic look

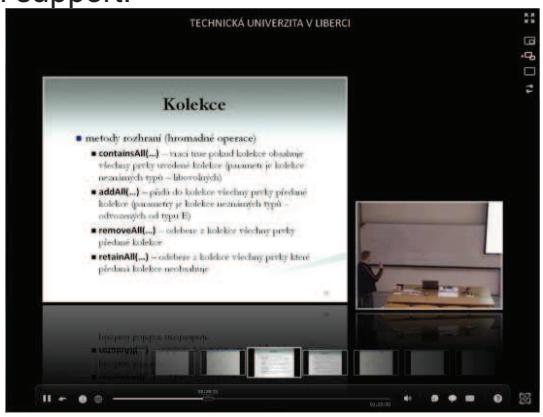

Figure 2: The resulting Web a more modern look

At the beginning of each semester, we organize seminars and meetings where we introduce updates and novelties. Eventually, we remind how to manipulate the control system.

3.1. Technical solutions for lectures recordings

The Mediasite technology from the company Sonic Foundry is an evolving platform with a successful history. In the lecture rooms are installed recording devices

Mediasite RL Recorder. An important element of the recording device is the interface (API) that eases the integration. The API allows controlling the recording device from another device via a serial line. The basic data streams for the lectures recording are video and audio. In the lecture rooms are situated moving analog cameras, from which a data stream is fed to the video input of the recording device. The camera motion is controlled by infrared sensors that track the movement of people at the front in the lecture room. Based on the information from the sensors are the cameras set to predefined positions and optical zoom. The cameras can be adjusted remotely via a Web interface. The source of the audio signal is a clip microphone with a receiving station, or an external source such as a computer. All audio signals are routed through the audio mix to the input of the recording device. VGA signal is another data stream that can be connected to the recording device. The most important source is a computer, usually a laptop of the teacher, integrated ceiling visualizer and various types of interactive whiteboards. Several lecture rooms are equipped with electronic SmartBoard or ActiveBoard or hybrid eBeam whiteboard. All the devices are operated via a touchscreen that we designed and implemented. The central control unit is connected with all mentioned audio-video elements, recording device, projectors, card reader and a switching unit controlling the lights, the blinds and the projection screens in the room.

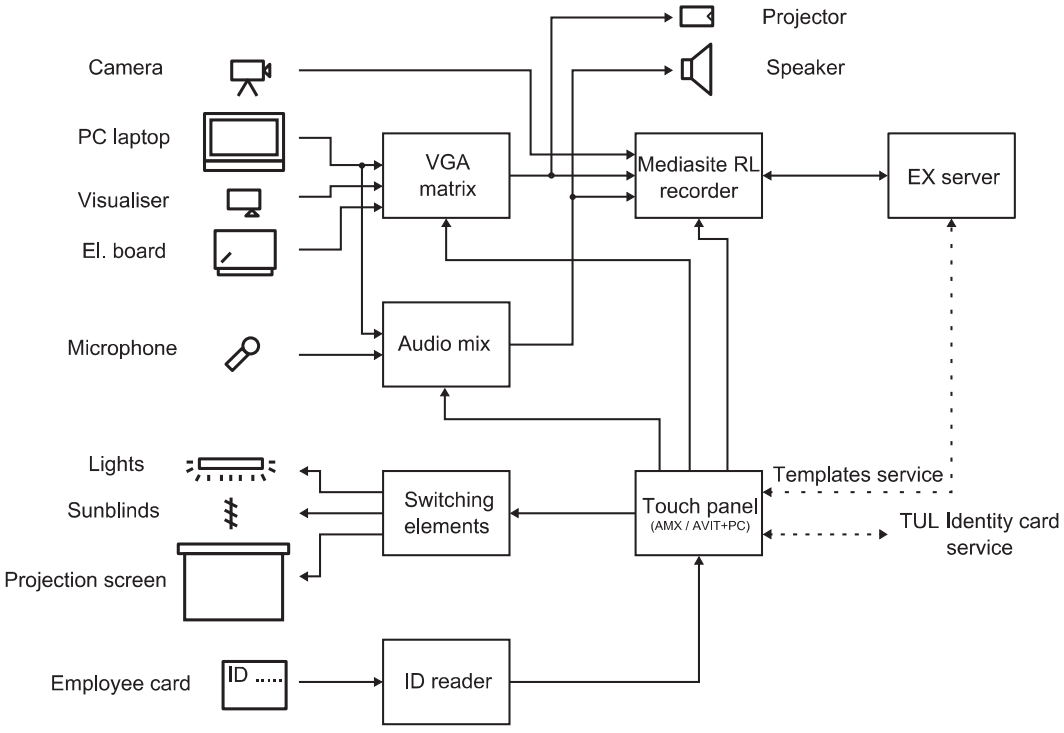

Figure 3: Schematic solution for automated lectures recording

4. CONCLUSION

The number of teachers willing to record and publish their performance on the ALS portal is increasing. What is more, the number of students consuming these services is increasing as well. Currently we have on the EX Server 323 registered authors, 2909 recordings of lectures and special VIP events attended by 87103 people (05/05/2013). Surveys organized by the contributors of this project as well as by

students' representatives confirmed that the results of the project are positively accepted by the academic community. Details can be found at http://als.tul.cz.

In the next stage, we plan to extend the portal to support mobile devices; special adjustments are being prepared for disabled users. We would like to gradually enforce the EPUB format for electronic textbooks, for which we could build a special virtual library. In the near future we plan to evaluate the services of the ALS portal, especially collections of lectures within the combined study programs.

DIGITAL COMPETENCES OF TEACHERS AND STUDENTS IN LIFE-LONG LEARNING

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Abstract:

The contribution deals with the issues of life-long education of pedagogues and students at higher education institutions. The core of the contribution is represented by the graphically depicted comparisons of differences in opinions of teachers and students concerning the assessment of the levels of digital competences and education supported by information and communication technologies. The paper also brings forward the assessment of students concerning the quality of e-learning educational modules. Statements of teachers and students represent adequate fundament for the orientation of educational activities of university teachers focusing on the support of improving digital competences and strengthening activation and innovation processes in the life-long education.

Keywords: life-long education, quality of education, self-assessment.

1 INTRODUCTION

Continual development of personal competences, mainly in the area of ICT, is the consequence of the dynamic growth of new technologies. Although this development has caused reduction of the share of manual work during the last decades, it increases the demands on people´s psychic. Parallely, it initiated the necessity of self-education of each rationally and practically thinking person for the fulfilment of the internal feeling of usefulness and self-realization nowadays.

2 MICROLEARNING FOR M-LEARNING AND E-LEARNING FOR E-LEARNING

Hardly any generation can imagine its existence without mobile technologies, although the largest share is obviously attributed to young generation of current and future students. It is referred to as the **Z generation**, for which online community is the second home. Based on prognoses the above mentioned technologies begin to gain grounds also in the sphere of education. But the wide opportunities of their utilization neither guarantee whether this irreversible trend shall influence understanding of importance of their implementation into the educational process. It is a matter of question what percentage of teachers is able to innovate methods and forms of education with the support of ICT.

The current market with mobile communication technologies is on a high level and constantly offers mobile educational contents as a complement of classical ones. Minimum and intuitively controlled touch display surface is the characteristic feature of m-learning or m-education (unsteady terms). Micro-educational contents and the feedback contribute to the increase in the motivation to learn without barriers. However, the pending question is the fact that providers of m-technologies make use of their own operating system and own platforms for the distribution of other applications. Therefore, till now there is not any guaranteed compatibility of individual platforms (Elearningeuropa.info, 2012).

In spite of the fact that we are dealing with m-learning, e-learning and the provision of

educational contents through customer distributed educational environs, the so-called LM systems, are still not fully obvious. As stated by Beisetzer (2012), for the application of such virtual educational environs, in which its creator reaches the level of active element of the educational system, it is possible to expect that it can contribute to the:

- creation of a certain standard of study at higher educational institution,
- increase in effectiveness and attractiveness of the managed self-study,
- realization of the cognitive process with comprehension.

Demandingness of creation of one´s own educational modules, their regular updating, with the focus on feedback from participants of education, is one of the key requisites at their creation and it obviously contributes to the increase in their quality.

3 QUALITY OF EDUCATION IN E-LEARNING

It is possible to only agree with Burgerova (2012) that assessing the quality of education with the support of e-learning is based on the performance of several interlocked activities, on the building of infrastructure, through designing and creation of pilot educational combined programmes, up to the designing of the system of direct measurement of quality of university education. This system should include the following levels of assessment:

- *reaction*: How do students react to teaching? (questionnaire of the level of satisfaction of the student with the presented contents and its form, methods of education, the teacher, support from the side of the teacher, organization and study group)
- *teaching*: How much have the students learnt? (electronic tests)
- *behaviour*: How has the students´ behaviour changed? (the impact of teaching methods, observation of the student´s method of work, feedback for the assessment of problems at task solving and other problematic issues
- *results*: What effect has education had on the organization? (practical exam, observation of accuracy and time necessary for the elaboration of the task).

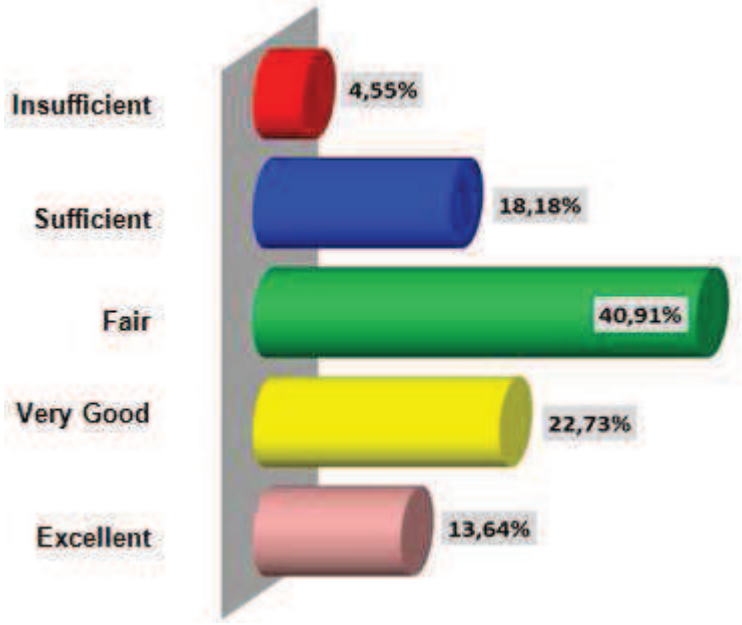
Methods of education used at the Department of Informatics do not differ much from the standard ones. Presentation form of education has not changed its basic and traditional form. Lectures alternate with practical exercises and seminars, but in each of the above mentioned activities the face-to-face mode intermingles with the online or offline modes. Interest of students in innovation methods, however, would remain unnoticed without an adequate motivation. Phases, utilized from the wide range of methods of educational process proceed by the exposition method, while the fixation method is related to the repetition and fixation of the contents of education and that is why it is used during exercises and seminars. Diagnostic and classification methods form the peak or termination of the above mentioned cycle.

Upon optimum solution of the structure and contents of the module, E-learning support of education strongly approximates to the presentation form of education by applying the given methods and as the added value it motivates the student to deepen his skills. As emphasised by Cuchet (2013), reaching the skills represents only a tool, but what we have to learn is creativity, which, however, would be useless without thinking.

4 ASSESSMENT AND SELF-ASSESSMENT OF TEACHERS AND STUDENTS

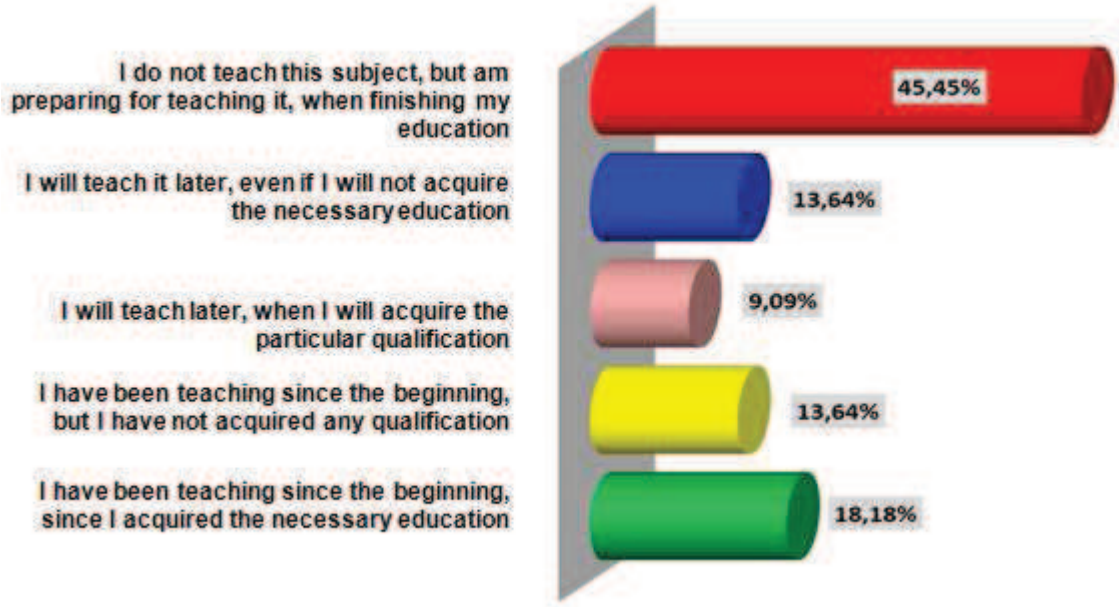
Assessment of educational e-learning modules is permanently in the progress. On one side, there are opinions of students, which represent the feedback. Their fair value provides tutors with the necessary information for the application of the continuous evaluation of the educational module. On the other side, such feedback can serve as the mirror for the teacher´s self-reflection. Questionnaire, which was presented to the students of extension studies of Informatics (teachers at elementary or secondary schools), besides other items, contained also self-assessing questions. The questionnaire for teachers contained totally 16 items. We bring forward 3 items.

Item 1 (teachers): How would you assess your previous knowledge and skills from the area of informatics*, in consideration of the requirements, which are put on you now, when studying at the university?*

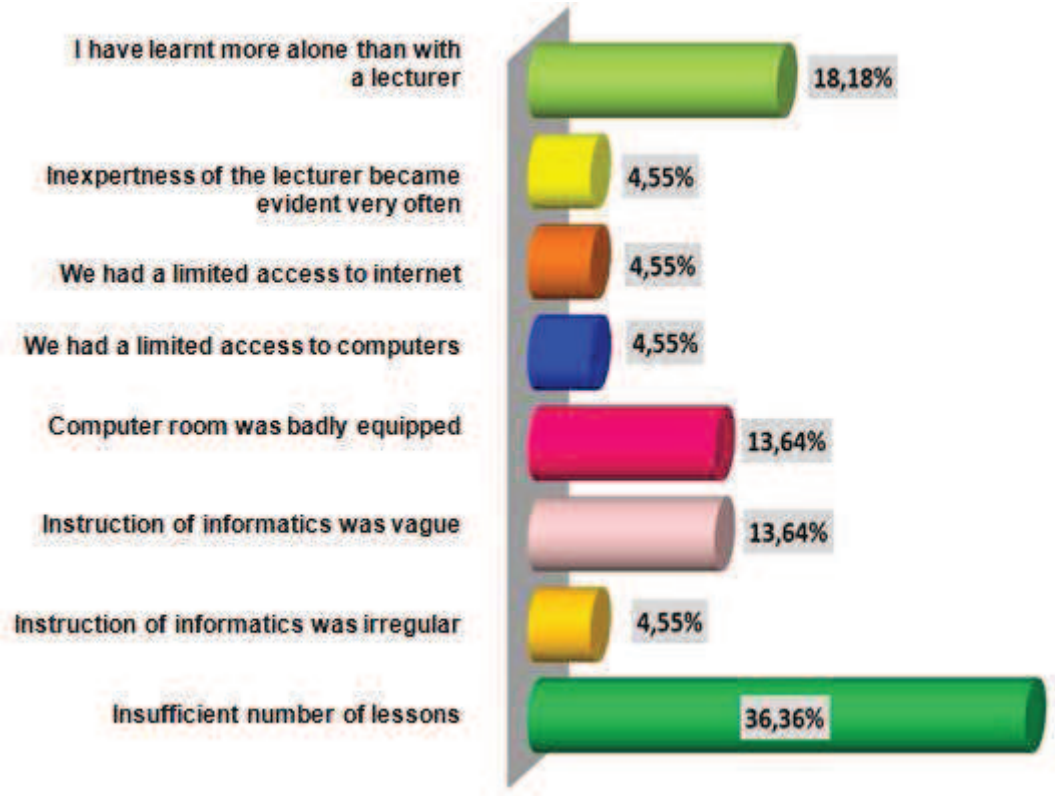


Besides the above stated item, in the section of the questionnaire titled *Acquisition of knowledge and skills in the area of ICT* there were also other questions, by which we monitored the place, where instruction was carried out, how would the students assess the methods of lecturers of education at the courses, how does the LMS Moodle environs suits them, how frequently and in which subjects they use ICT, what hampered them in improving competences in other educational institutions, etc.

Item 2 (teachers): *You lecture the subject Informatics/Information education at your school:*



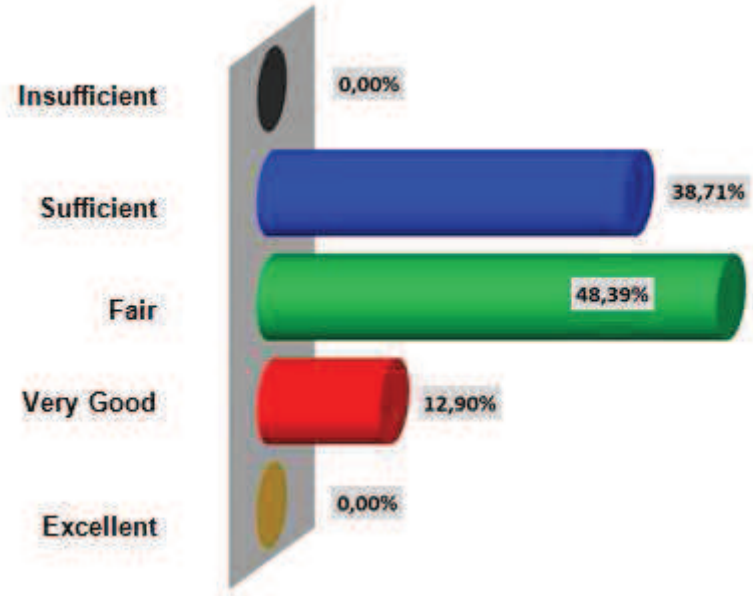
Item 3 (teachers): *Assess, which of the given choices did not suit you most when being educated.*



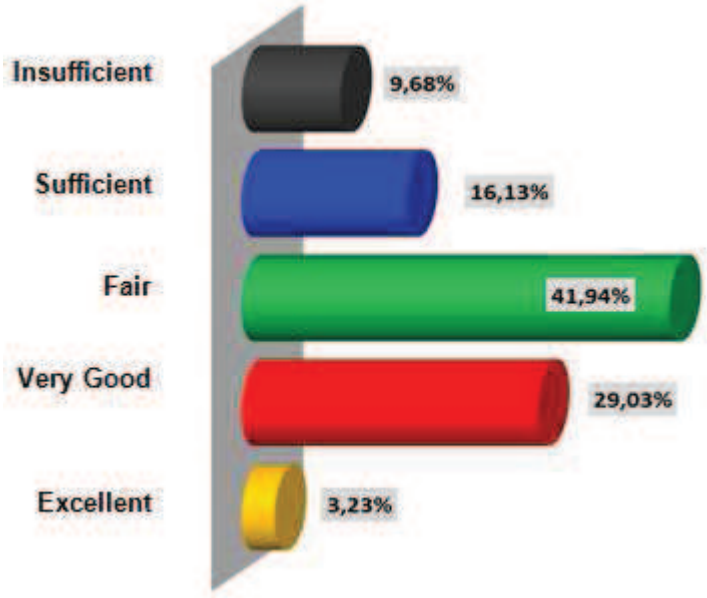
In the following part of the contribution we submit a reduced selection of answers of students of 2nd year of the Faculty of Natural Sciences, CPU in Nitra, Slovakia. We were interested in their opinions on the competences of their teachers at secondary school and at the university, on didactic means, which were used or use their

teachers in the presentation form of education, on the way of acquisition of digital competences, etc. The overall number of items in the questionnaire reached 16.

Item 4 (students): *How would you assess your digital competences, which you acquired at secondary school:*

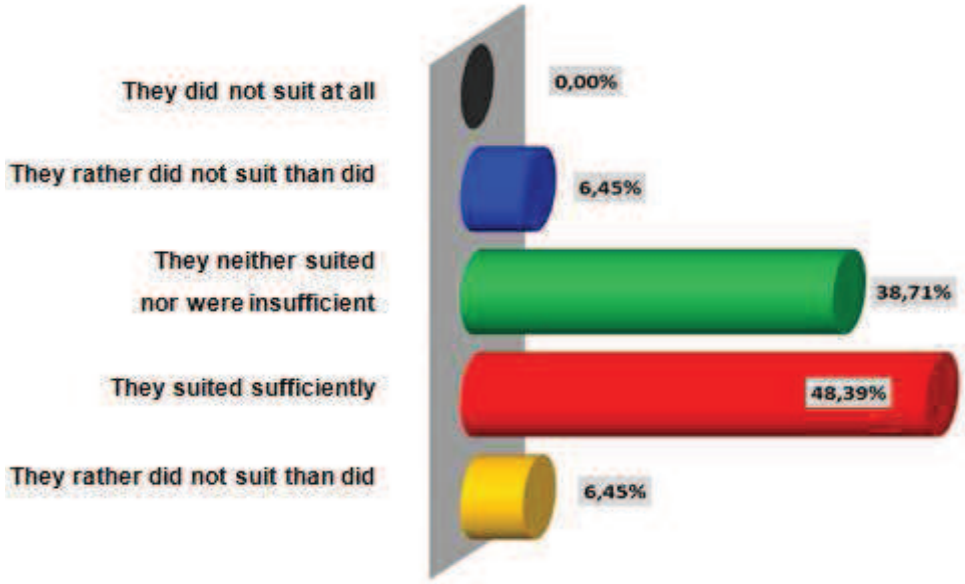


Item 5 (students): *How would you assess digital competences of your teachers of informatics at secondary school:*



It is obvious from the results that up to 25.81 % students evaluated the level of digital competences of teachers at secondary school as sufficient or insufficient, in contrary to the evaluation of their own level, where none student assessed himself as insufficient. On the contrary, none student assessed his level as excellent. The highest percentage was reached by the level *fair – 41.94 %.* Only 3.23% teachers evaluated themselves as excellent.

Item 6 (students): *Did qualitative (structure, contents) educational modules in the LMS Moodle environs suit you?*



It is accruing from the students´ answers that 87.1 % of them assessed the qualitative level of educational modules as fair and very good. Excellent level was recorded only in case of 6.45 % students, while rather insufficient level was recorded in the same portion of students – 6.45 %.

5 CONCLUSION

„*The best weapon against ignorance is the knowledge*“, wise men say. All attempts to increase the quality of forms and methods of education including implementation of new approaches using ICT will remain only in the declarative level, until teachers themselves become aware of the inevitability of increasing the level of their own digital competences, acquire them and begin to use them in practice.

It is obvious from the results of partial surveys that students currently dispose of a higher level of digital competences than their teachers. Several digital components have manifested by their implementation into traditional forms and methods of education enhancement of students motivation. It is thus inevitable from the side of teachers to strictly consider the importance of life-long education.

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PROPOSED ELEARNING MODEL BASED ON BLOOM TAXONOMY: COGNITIVE THEORY WITH WEB 2.0 SUPPORT THE LEARNING IN HIGHER EDUCATION

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Abstract:

This paper aims to discover the developments accomplished by learners to their thought improvements due critical perspective with web 2.0, more particular blog services. The use of second generation of social network i.e. web 2.0 (or read/write web) has raised in the last years, specifically in higher education fields (Meyer 2010). It believes that integrating blog within learning are capable to be adapt to provide different schools' environment and strategies e.g. supporting exchanging experiences and sharing information (Wang et al. 2008), and acquiring knowledge (Alhojailan 2012; Williams and Jacobs 2004; Lin et al. 2006) and developing the critical thinking for learners (Chan 2007). To recent days, it appears to be a lack of experiential work that investigated the effectiveness of web 2.0 usage in higher education, especially in middle east zones (Sim and Hew 2010). Therefore, social-culture impact of web 2,0 usage need to be more butter understanding, this lack would be taking place by directing into empirical work, that are focus on the impact of web 2.0 'theoretically' within learning environments in different culture including higher (Sim and Hew 2010; Al-Othman 2009; Al-Shehri 2010)

In this investigation, Bloom's Taxonomy Model claim to be apply to endorse learning goals and achievement via online activities when utilized web 2.0 (Bloom et al. 1984; Churches 2009). The purposes for Bloom's Taxonomy could be done through analysing learners' thoughts due their behaviours and actions with their responses when they used technology such as web 2.0. This model could be used to help and assist the educators to recognize the dissimilar stages of cognitive skills of learners when they utilized web 2.0 with learning environments. In order to achieve the understanding of the beneficial of Bloom's Taxonomy Model with the integrating web 2.0 within learning activities, this paper will proposed a theoretical framework model can be used in the educational process based on Bloom's Taxonomy Model. It will end with provide suggestions of how/where and manage the model with analysing the learners' behaviour and action thus developing learner critical thinking.

Keywords: web 2.0, Bloom's taxonomy, Critical thinking, eLearning, Exchanging experiences

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Posters

STAFF DEVELOPMENT MODULAR SYSTEM OF UNIVERSITY OF WEST BOHEMIA IN PILSEN

This project is based on the long-term needs of the University of West Bohemia in Pilsen to develop a comprehensive system of education for the development of professional competencies of staff. The existing educational activities of UWB in the area of staff training were conducted on a small scale and without a connection. The aim of the project is to develop plans and study materials for 30 training programs in line with the strategic intent of UWB and recommendations of the Lifelong Learning Institute. Individual educational programs are pilot tested and implemented in full-time or part-time for 750 participants. The project is designed for the full spectrum of UWB employees. The target groups are beginning workers, office workers, academics and managers of UWB. The modular structure of the system allows employees to build personal learning plan according to individual needs. The project is implemented by the Lifelong Learning Institute of University of West Bohemia.

Registration number:

CZ.1.07/2.2.00/15.0398

Project duration:

Sep 2010 – Aug 2013

Project implementer:

Lifelong Learning Institute

University of West Bohemia in Pilsen

Univerzitni 8

306 14, Pilsen

ROZECTI. SE

Rozecti.se offers a complex online based speed-reading training course. The online app teaches you to read both faster and more effectively while the average improvement achieved exceeds 100 %.
The full package tailored in close cooperation with speed reading experts provides an ebook covering essential theory, 20 interactive lessons packed with various exercises for eyes and mind, hundreds of test articles to measure reading speed, explanatory videos and some more.
Rozecti.se is currently not a competition to the personal trainers but rather an additional service they can offer as well since the team is open to partnerships with them.
Besides individuals, the project has recently acquired first enterprise and school customers. On top of that, three new language-versions are also on the agenda for 2013.

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The CEI is an intergovernmental forum promoting political, economic, cultural and scientific cooperation among its Member States. Its core mission is: Regional Cooperation for European Integration.

In this context, the aim of the political cooperation is to supply the countries and their institutions with a flexible, pragmatic platform for regional cooperation, while focusing on their preparation to a future accession to the European Union (EU). In doing so, special attention is given to capacity building of the non-EU CEI Member States which, thanks to its ideal location, is pursued through know-how transfer and exchange of experience among those countries which are members of the EU and those which are not. The CEI is actively engaged in supporting projects in various areas of cooperation, also through the mobilisation of financial resources providing greater possibilities for studying, financing and executing national and international projects.

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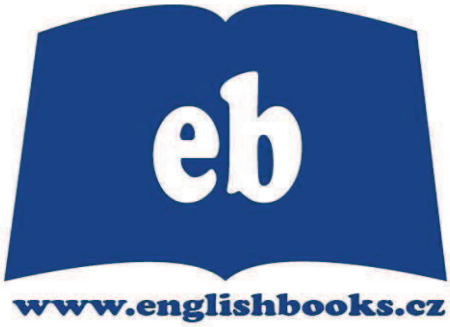

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