MOBILE LEARNING AND DIGITAL LITERACY IN THE CONTEXT OF UNIVERSITY YOUNG ADULTS

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ABSTRACT

The present article is aimed at focusing on theoretical and practical efforts in promoting various aspects of digital literacy and mobile learning, as well as to explore its dimensions and projections in the university level.

The analysis is based on empirical information for the education process revealed specific aspects of the relationship between young people and ICT in digital society.

The basic conclusion is that the adapting of young adults to the challenges of the digitization and new training practices requires the determining of more effective ways to attract, encourage and motivate students towards the utilization of quality theoretical and applied knowledge and skills in ICT.

1. INTRODUCTION

Digital communication technologies at the start of the 21st century and their implications for a new type of involvement and advancement of people appeared the need for a mobile learning. The mobile learning goes beyond previously existing practices of education 2.0, in which new information and communication technologies are tools supporting or complementary educational content. Today we talk about education 3.0.(Frau-Meigs, 2016), where new communication technology innovations are crucial for the inclusion and participation in the mobile learning process, characterized by permanency, variation and opportunities for social creativity. Namely the decisive nature of digital technology for inclusion and participation of people in contemporary social processes give rise to the expansion of the framework of media literacy and articulation and a new type digital literacy.

The contemporary nature of the subject, as well as the importance of this new type of literacy in the modern knowledge society (European Commission. 1996; European Council.2000) is both fundamental and unprecedented in nature, because not only does it connect the success of the knowledge society with this new type of media literacy, but it also transforms the process of obtaining knowledge from a relatively passive to a more active and interactive, as well as being a phenomenon which determines the current and future social developments. Digital literacy and its permanent development is becoming a prerequisite for further digital improvements and development for people as well as of the knowledge society in a digital environment. Mobile learning as related to digital literacy is a key to successfully tackling of the challenges that the digital revolution poses to the knowledge society and its projections in the social spheres. The mobile learning, in which media and communication innovations are increasingly becoming essential tools of education and socio-cultural processes, are challenges with fundamental consequences for the prosperity of societies. In today's ubiquitous digital realia, knowledge society is faced with a new type of opportunities for participation of people with a flexible type of cooperation between them and opportunities to influence social innovations which are new in both nature and form.

The present article is focused on the following objectives related to mobile learning and digital literacy:
- To reveal significant theoretical efforts in promoting various aspects of the subject;
- To explore its dimensions and projections in society;
- To highlight its role in the transformation of society from a "collaborative" to a "knowing society";

The article develops the thesis that digital literacy development is a synthetic expression of the main knowledge resources of the social environment at both individual, group and institutional levels.

2. DIGITAL LITERACY

Digital literacy itself is examined as a concept which stands at the heart of mobile learning and its development is the result of a complex interplay between the effects of the broader social environment and the new specifics of education and training (Ferrari, 2012).

The analysis focuses on the enhanced role of people and their digital literacy in the changing complexity of the various professional landscapes. Individuals as social actors in the age of digitization interact with various social media on a daily basis (Genner & Suss, 2017). This interaction is achieved under the form of bilateral communication: on one hand the media socialize - inform, bring up, educate, advise; while on the other hand, individuals make their mark on social media via messages and images which they create, post and discuss. People increasingly acquire knowledge and information from the new mass media – the Internet, social media, e-formations of different nature (e-press, e-magazines, e-learning), etc., along with the traditional educational and media channels (Peicheva, Milenkova, 2017). This diversity of sources of knowledge brings new information, opportunities and potential for innovation, but requires a high level critical approach to both thinking and verification of understanding how to manage space and personal data, as well as awareness as to how to make informed choices, how to rationalize algorithms on digital platforms that adapt the world to our tastes and so on (Lemish, 2015).

The role of mobile learning is increasingly becoming a function of the efforts of many social actors facing different communities. Mobile learning as an approach and system of activities - is becoming more and more important in today's contexts, with the understanding that individuals need to develop their skills, to improve their knowledge and qualifications, to compete with the changing world and be able to participate actively in the labor market.

An important milestone in the studying and implementation of mobile learning is research projects. This is the project "YOUNG_ADULLLT – 'Policies Supporting Young Adulllts in their Life Course. A Comparative Perspective of Lifelong Learning and Inclusion in Education and Work in Europe', team coordinator Prof. Ph.D. Marcelo Parreira do Amaral from University of Munster, funded under the Horizon 2020 Program http://www.young-adulllt.eu/; conducts in 2016-2019. The project includes 15 partners from 9 European countries: Austria, Bulgaria, Germany, Spain, Italy, Portugal, Scotland, Finland, Croatia.

The focus of the project is European, national and regional LLL policy orientated towards young adults[1] who are active participants in mobile learning to form qualities suitable for the labor market. The project aims at gaining knowledge about the impact of LLL policies on life course, plans, strategies of young people and the ways in which these policies become more effective. Mobile learning and digital literacy have crucial role for educational process which is a subject of daily and systematic implementation and development in any particular training situation. Mobile learning is related to LLL, it acts as an incentive to develop different forms that are valued in formal and non-formal environment and its systematic impact depends on various conditions. Mobile learning has a key role for increasing personal chances in LLL process; it is necessary and important factor for taking advanced professional position, as a form of investment in better qualification and level of knowledge.

Digital media literacy, which as a concept has begun to increasingly play a major role nowadays, synthesizes in itself new resources resulting of the transition from analog to digital communication technologies and their penetration in the communications space (Verdegem, 2011). Digital literacy is actually new media literacy, as far as digitization is associated primarily with the media, with the change from analog to digital. Regardless of its digital character, however, and the subsequent on this basis interactivity, media have a strong tendency to endure not only did they not decrease, but rather expand and intensified their effects on power of all age groups and institutional formations. In both cases, digital literacy includes competencies that people should have for their social coping with communication technologies - not so much the technical aspects, but rather with their social applied aspects in the new digital environment.

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[1] The project is accepted understanding that these are young people aged 18-29 years

European strategy for lifelong learning has listed key competences in modern conditions. The following eight key competences (Key competences are analyzed in the "Young Adulllts" Glossary, http://www.young-adulllt.eu/glossary/listview.php?we_objectID=200) are relevant to mobile learning:

1) Communication in the mother tongue;
2) Communication in foreign languages;
3) Mathematical competence and basic competences in science and technology;
4) Digital competence;
5) Learning to learn;
6) Social and civic competences;
7) Sense of initiative and entrepreneurship;
8) Cultural awareness and expression.

Digital competence is part of the wider discussion regarding media literacy, but is not limited to knowledge of digital technologies In both cases the content aspect of literacy plays an important role, its social relevance, which makes use of the new resources that digitalization has to offer. In the most important document related to digital dimensions of media literacy called "European approach to media literacy in the digital environment" (http://eur-lex.europa.eu/legal-content/BG/TXT/?uri=CELEX:52007DC0833) both traditional and new elements and concepts regarding media literacy in digital conditions were listed:

- Knowledge of all existing media - from newspapers to virtual communities; actively using media, including the use of interactive TV on Internet search engines or participation in virtual communities, more effectively exploit the potential of media for entertainment, access to culture, dialogue between different cultures, training and applications from everyday life, such as libraries digital audiovisual formats distributed over the Internet (podcasts);

- Critical attitude towards media in both terms of quality and of the accuracy of the content (e.g., ability to assess information, dealing with advertising on various media, using search engines intelligently);

- Using media creatively, as the evolution of media technologies and the increasing presence of the Internet as a distribution channel allow an ever larger number of Europeans to create and disseminate images, information and content;

- Understanding the economy of media and the difference between pluralism and media ownership;

- Knowledge of copyright issues, which is the essential "culture of legality", especially for the younger generation in its double capacity of consumers and producers of content.

All these dimensions help understanding media literacy in the digital environment, as the concept synthesizes in itself the aspects of mobile learning. Digital media literacy is therefore an opportunity for both young and old to develop their knowledge and wide range of skills and competencies for critical thinking, communication and information management, to become reasonable citizens and consumers, artists in the modern digital reality. Therefore it is important and necessary, because it aims to educate thoughtful, engaged and informed citizen.

Digital media literacy requires more than obtaining factual knowledge of media, the goal is the acquiring of skills relating to mediated communications – both in print and digital, and the ability to both code and decode their meaning encoding. (Livingstone 2004; Livingstone, 2009; Snyder, 1998). As stated by Sonja Livingston (2004) each element supports the others as part of a non-linear, dynamic process of learning: learning to create content helps people analyze what is professionally created by others; skills in analyzing and evaluating open the door to new uses for the Internet, expanding access, etc. In this sense, mobile learning assumes digital competencies and knowledge of all media and when we talk about Internet literacy, computer literacy, information literacy, we imply access and abilities for the analysis of the contents, evaluation and creation of new content in different types of media.

Digital literacy is therefore positioned as a more relevant concept of mobile learning, since it includes the skills and competencies required for effective use of new interactive media (Henriksen, 2011). It is therefore the understanding of digital literacy as increasingly focusing on the need to shift from basic skills to the use of digital tools and information resources in order to build strategies for critical and effective use of these funds.

Digital literacy has is increasingly provided significant foundation required for the adequate functioning of modern society, which, thanks to digitization, developed in compressed space and time in highly mobile environment thanks to the interchangeability of many tools and resources, as well as due to the supersaturation of informational sources and ability to influence. The mobile learning is increasingly permeated by these processes and it becomes a condition for problem-solving and prosperity in the new

realms of knowledge. Very often media and mainly Internet are the basic source of information for preparing the classes and for the carrying out research tasks that are undertaken during different subjects at university; so the study processes which take place in the institutions of both formal and non-formal education are closely linked with the media. The process itself of cooperation between media and mobile learning and the strengthening role of media literacy as complementary educational processes is a subject of daily and systematic implementation and development in any particular educational situation.

Mobile learning is one of the factors for fundamental social transformations and effects in education 3.0 (Frau-Meigs, 2016), in which the foreground stand out:
- "Creativity and innovation";
- "Pedagogy for participation" and "co-design" joint problem solving;
- Interlinking of decision-makers and actors, including people from different age groups.
- Attracting potential of the creative economy in teaching and learning;
- Engagement of all ages to participate in online realities;
- Shared development of indicators and accountability mechanisms aimed at policies for the next generations;
- Data Management, including "big data" including contexts, combining opinion and facts, interpretation mechanisms and so on.

Mobile learning is crucial to deal with the modern aspects, types and forms of education typical of Education 3.0. It is defined as an evolutionary moment in the knowledge society with fundamental reflections on all aspects of life. Its absence or limited availability led to exclusion or exposure to future economic and social risk. Directing and managing mobile learning involves reviewing all existing aspects of education - from kindergarten to university, from student learning to teacher training, from some learning skills to other methods and training techniques, from formally organized to informal and open education and so on throughout people's life. Therefore mobile learning, which is implanted in modern education, builds the foundations of study content. Rapidly evolving information environment poses new challenges to teaching methods and practices to improve and adapt to it, to become the mobile learning the main focus of educational activities across all levels. Educational institutions are traditionally called up to introduce young people to the world of knowledge and experience. Today education faces a variety of digital media, but it also faces the challenge of an increasingly rapid aging of information, as well as with its different personal and social value and significance.

Some of the skills which encompass modern media literacy skills include the proficiency in the usage of digital technologies that enable students to work with computers, software applications and databases, these skills are the foundation of obtaining information and its understanding. An important aspect of education 3.0 is that students need to have the ability to search, collect and process, an ability to be able for critical and systematic use of the found information and use of Internet-based services. ICT in their full use underlie the development of creativity and innovation as important part of modern education as well as the development of basic computer skills such as spreadsheets, databases, storage and information management, understanding of the opportunities and potential risks of the Internet and computer-mediated communication to work, cooperation network. All this raises some important questions: To what extent students have access to computers? How ICTs are part of the learning process? Does this process continue to evolve over time?

2.1 Empirical Framework

This article is based in empirical plan on three surveys, used quantitative and qualitative methods, and covers the period 2003 - 2015 year.

- The survey "Integration of social- psychological sciences in a globalized world" conducted in 2013 in South-West University (SWU) with team leader prof.Valentina Milenkova. There are used two methods: structured interviews and focus groups. The sample was unrepresentative included 290 students from various faculties of the university; following "experimental design scheme". The questionnaire included questions about the learning process, digitization of education and digital culture of students. The other method used was a focus group. There were three focus groups carried out with students from Sociology and Political Science specialties of SWU. In the focus groups the discussion revealed on media literacy, forms of communication with teachers, based on digital processes.

- A survey „Cultural universals in academic environment" was carried out in 2015 at SWU with students from Social study specialties: Sociology, Political Sciences, Psychology; team leader prof. Valentina Milenkova. Topic discussed in focus groups connected with: the values that students share, communication, media literacy, digitization, significance of media environment as element of university system.

- A case study under the project "Young Adulllts", where the "Student Practices" program conducted at SWU was studied as part of the introduction to practical training and acquiring labour market skills, one of them is digital literacy. The Bulgarian team leader of the survey carried out in 2017 is prof. Georgi Apostolov. "Student practices" program is based on the understanding that during the course of their studies at the university as well as during their participation in the program, young adults actively use different digital technologies, which are a compulsory element of the academic university environment. There are carried out four in-depth interviews with young adults participated in this program.

2.1.1 Access to Computers and Internet – Condition for Mobile Learning

The implementation of digital technologies is condition for mobile learning, that's why computer literacy is one of the basic skills for competency. The students are the most appropriate age group being mobile and able to respond to environmental changes, a part of which are computers. Digital literacy has become an important part of qualification requirements and is connected with successful professional realization. It is necessity to note that the University curricula offers education for the most informational' specialties and computer technologies. At the same time the access to Internet is a basic condition required to improve the quality of education and to sustain active communication – between students and professors (through e-mails, chats, blogs, face book etc.). One of the main reasons for fast growth of the importance of computers in educational communication is the fact that this is the cheapest and the most effective way to contact with students, colleagues, friends, and peers.

The access to Internet is for all students and it's due to the increase of computers as a part of the university policy to acquire and enhance computers' meaning in university space and guarantee full access to them. The university library, with the readings' halls, computers halls, and laboratories becomes a part of the university interior and there is a constant access to computers and Internet for students. In addition, the most of students have personal laptops. The access to computers and Internet for several years has become a compulsory prerequisite for quality study process and in this direction university guarantees to students appropriate environment and conditions. The computers and access to Internet have real significance only if they support the study process as an improvement in conditions. The basic concept in this aspect is: giving and discussing homework and essays, requiring additional students' deliverances, and supporting lecturer-student networks. An important part of the whole process of new forms of modern communication is for students familiarize themselves with Internet publications and materials.

The interest of young people towards education is increasing because the sources of information are enhanced, and the real education process is being modernized. That's why it is important to expand requirements for teaching qualification through including new methods in education. The education policy reforms are oriented towards guaranteeing flexible and new technology environment. In this direction it is important to note that the syllabuses of all taught courses are uploaded on the Internet. The lectures are taught through multimedia and new technology facilities. An important part of university communication is the electronic networks, lecturers' blogs, Internet forums and active contacts supported by the university in order to facilitate dialogue between the educational actors and to improve mobile learning. The students can express their opinions for the study process and particular details of their experience as well as to discuss aspects of student preparation for seminars and exams. In the process of education the development of students' writing skills is key because it is the base for quality papers, essays, and all written assignments during the study process.

The access to any sort of required materials which may prove necessary for tasks assigned during particular courses can be viewed as a proof of conditions available for lectures and the studying process during the last few years in the university space. At the same time it is necessary to note that the advantages of Internet are not used efficiently enough in the educational and training process and there is more potential that can be utilized in the university communication and networks in order to perfect teaching and learning methods, benefiting both sides of higher education society (students and lecturers).

The students note that they have access to Internet and computers, that the education is influenced by all elements of new informational technologies. Creating conditions appropriate to interactive education, an important part of which are technologies and all traits of effective pedagogy milieu are connected with basic reforms and advanced aspects of European higher education space.

The access to computers and Internet reveals various aspects of digital literacy as the following:

- Computer literacy related to: the use of computer programs for word processing, for generating spreadsheets, presentations, photos, images, graphics; use of databases;

- Internet literacy connected to: internet access, which search engines are used, what information is extracted, using your email, social networks, blogs and websites related to the preparation during individual disciplines;

- Information literacy associated with: knowledge and use of separate library information resources on the Web;

- Independent thinking regarding: how to analyze, interpret and critically evaluate information; create of new knowledge; understanding of the ethical aspects of networking and the Internet;

It can be said that, in terms of computer literacy, students from are highly knowledgeable. In all subjects studied, the preparation of presentations using the resources of the various computer programs for the generation of tables, pictures and images is widely included; the students know and use computer tools for word processing and are able to create and format documents.

- Internet literacy is also high. Students daily access the Internet; use e-mail, participate in social networks, mainly Facebook, have profiles; read websites and blogs, in many cases, however, these activities are not related to training and academic preparation but are connected to personal pursuits and personal contacts, communicating with friends, entertainment, download movies and more.

- Information literacy of students is underdeveloped; mainly this refers to the knowing of the capabilities for the use of electronic publications - books, encyclopedias, magazines; but they are not always used. Students do not know the library information resources in the network, and do not know the electronic library of the University.

- Independent and critical thinking - this is the least developed part of literacy of students. A very minor part of respondents critically analyze what they read; they are nearly lacking in the ability to compare different sources; they find it difficult to summarize and digest what they have read; they do not think about the ethical aspect of things and copyright infringement on the Internet.

From all this we can conclude that computer and Internet literacy of students from the studied university is very high, but at the same time, it does not find a serious enough space in the formation of independent thinking and both critical and analytical skills. Often students take for granted the information Internet sources without making additional inquiries; also, we can note as part of their behavior on the Internet, is that the way they conduct themselves stands out as one devoid of an ethical approach, which is rather disappointing, given their character and values. Moreover, it is not enough to have a high-level ICT environment, access to the Internet, it is important to reflect on how digital media literacy can be actively used in school work and how students can become more team oriented.

There is a shortage of educational programs which prepare students for competences required by the contemporary labor market. In the recent decade there is a mismatch between supply and demand of working force with certain qualifications into the labor market, e.g. the Chamber of commerce revealed that 64% of employers demand engineering specialists against 27% supply of certificated engineers from the higher education institutions. According to employers, there is a discrepancy between the declared degree of knowledge and the real skills manifested during working practice. "Otherwise, there are many students, but they are not the ones the labor market needs". According to an international survey more and more employers have a problem in recruiting new employees in national conditions. Over 45% of candidates do not have the necessary qualifications and skills. Survey among employers demonstrated their belief that in the next five years the need for specialists in Biotechnology, Food and Chemical technologies will increase, as well as the need for experts in Psychology, Communication and Computer equipment and Medicine. Less demand will be for specialists in Education, History and Sports. Overall, the structure and profile of higher education does not match the needs of the market. There are deformations related to the dominant development of individual learning disciplines, such as training in, for example, economics and law. According to information from the National Industrial Association, the most wanted are the skilled workers, the engineers, the drivers, and the people working in the field of nutrition, the doctors and the managers.

One of the serious problems of skills retention is the fact that only 23% of employers have targeted policies and programs and systematically invest in training and development of human resources. This leads to the problem that people who are well qualified are gradually losing it.

Challenges to education in view of providing mobile learning students are connected with:

- Curricula and study programmes, which have to stimulate more creativity and individual approach, and to correspond to person-centred pedagogy.

- Curricula have to show higher mobility and to include more elective disciplines.

- The opening of universities towards older generations, which might turn the universities into real "life-long learning institutions". It is necessary in connection with that distance training forms to be developed further on.

- The activation of project work at universities level as well as an accent on assigning of different creative tasks to students in the process of training.

In that sense the formation appropriate students' skills is an important element under the conditions of globalisation. It depends on the specific structure, organisation and purposefulness, based on running models of training and education, the participation of students in research activities is a prerequisite for their leadership ability and individual prosperity and at the same time it is an indicator of the development of university education and its perspectives.

3. CONCLUSION

The adapting of young adults to the challenges of the digital society and new training practices necessitates the determining of more effective ways to attract, encourage and motivate towards the utilization of quality theoretical and applied knowledge and skills in ICT. Access to computers and Internet, the opportunity to work with some basic computer programs and tools in no ways guarantees the acquisition of digital media competence amongst students. Especially when taking into account that many of the young people who study at the university, do not possess the necessary skills to use digital technology due to the fragmented and superficial use of information. The need to contemplate the introduction and study of such subjects as "Digital media literacy", "Computer Literacy and Information Technology", "Ethical aspects of digital media literacy" amongst others. The ability to access online tutorials, e-books and other forms of enhancing the digital competency of trainees through which the development of a wide range of skills for search, identification, critical assessment and use of information for a more self creative and ethical behavior in the digital environment is evident. Quality of education and mobile learning, including university environment and lecturers' professionalism is connected with the modernization of higher education. In this context emerge the basic elements in the Strategy of the European Commission for supporting European higher education, connected with: improving information quality, enhancing attractiveness and competitiveness of universities, sustaining partnerships, enforcing the dialog and improving mechanisms for mobility. So, the opportunities for individuals are influenced by the specific institutional and structural settings, which have determined student's perception as supporting or discouraging a person's desire for learning.

Conceptualization of digital literacy and mobile learning, which are analyzed in the university training processes are among the most important factors for social inclusion and realization of people's formation outlining the foundations of modern knowledge society in his statics and dynamics. Awareness of the digital media skills as a factor in the full development of the knowledge society has not yet found adequacy among the cognitions of the authorized formal and non-formal social actors as well as their immediate educational practices. Digital literacy includes mobilization of resources on a personal level, which coincide with institutional values and requires a combination of successful institutional strategies and behavioral role models relating to persons of different social status.

In our country there are serious research, applied and regulatory deficits which justify the need for digital media literacy, which corresponds to modern education 3.0, as well as the challenges to opportunities for different types of interpretations, forms of participation and creativity that put constantly innovate digital communication products in all spheres of society. There are deficits in the description of existing resources in our country, in the ongoing and necessary policies, existing and future practices necessary in both the national and international comparative framework.

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