LIFELONG LEARNING PROCESS USING DIGITAL TECHNOLOGY

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Abstract

Over the last few decades, the education system has gone through significant changes. Formal education, as the basis of a complete education, was rebuilt over the centuries in order to meet the demands of time. In today's fast-growing world filled with constant changes, formal education appears to be insufficient and inappropriate for the needs of modern society. The amount of available knowledge is increasing, and the ways in which it is transmitted show some weaknesses. Today's society seeks to remove these shortcomings by introducing lifelong learning through formal, non-formal, and informal education. Lifelong learning should enable access of knowledge and competency development to people of all ages. This allows the acquisition of knowledge to persons whose age exceeds that of formal education and where informal knowledge is not close at hand. Digital technology is having a stronger and stronger influence on all aspects of education through mobile devices that make the world of knowledge accessible in places and times that suit students. The adaptation of existing knowledge for easier distribution through digital technology, and the presentation of knowledge and its easier adoption is affected. We should avoid the pitfalls that technology offers, and always keep in mind, in the first place, the students and the way that knowledge is most likely to be accepted. Lifelong learning, with the help of digital technology, has the ability to give each individual the knowledge that they need if andragogy principles and the needs of students have an advantage over the technology.

Keywords: *Lifelong learning, competence, digital technology, e-learning*

JEL Classification: D8, D83, L86

1. INTRODUCTION

Today's education system is based on the needs of a society from 250 years ago; a staple of knowledge that in such a way could have been sufficient for lifelong professional work. Today, the knowledge gained in formal education becomes insufficient for modern business needs, as well as for society as a whole. In order to bridge these challenges, the importance of lifelong learning is growing, and improved digital devices provide prerequisites for easy access, quality, and structured learning based on a multimedia approach. Thus, prepared tools allow people access to the content, which should be adopted at a time when it suits them, and the place where they currently are, without the need for additional resource organization.

1.1. Learning as a result of the knowledge, tools, activities and contexts

According to Engeström (1987), learning is a cultural-historical system of activities and tools for learning. These activities and tools are helping students, but also limit the transformation of their own knowledge and skills. As a part of learning, students interact among themselves and with teachers, creating a shared knowledge framed by cultural constraints and historical practices (Sharples et al., 2006).

Cole (1996) makes an important distinction between the context as "that which surrounds us" and context as "what we create together." The context is never static, because the common denominator of learning is constantly changing, as we move from one place to another, we gain new funds, or enter into new conversations (Lonsdale et al., 2003).

1.2. Adult education

Adult education is a highly developed sub-discipline of education within which adults go through a systematic and continuous activity of learning in order to change their "knowledge, attitudes, values, and skills" (Darkenwald & Merriam, 1982).

Despite the increased number of formal educational institutions, they can not cover the needs of all who wish to improve their knowledge or skills. In ad-

dition, these institutions are neither trained for certain types of education, nor are specific training needs even known to them. Therefore, adult education is organized in the workplace, mainly through the courses organized with the help of experts in adult education (Kumar).

Participants of adult education have great expectations from the convenience of the learning content, and 'practical' can have different meanings for different groups of students (Keskin & Metcalf, 2011). With regard to the requirement of practicality, it is good to organize education in the workplace, because people will be immediately able to examine the possibilities and limitations that a new tool or skill offers.

2. LIFELONG LEARNING

Lifelong learning is widely accepted as a process of continuous upgrading of knowledge, skills, and competencies of people around the world, used for promoting their social life (Koper & Tattersall, 2004).

In a broader sense, lifelong learning applies to all kinds of experiences that help people to become wiser, more enlightened, and full members of society. Lifelong learning is an educational philosophy that is changing rapidly and modernizes the entire society. It is an educational movement that says it is never too early nor too late to learn. Lifelong learning involves changing attitudes and beliefs, keeping in mind that anyone can and should be open to new ideas, decisions, skills and behaviors (Kumar).

2.1. DIFFERENT ASPECTS OF LIFELONG LEARNING

Education, not only a lifelong one, is present in different forms, so the working paper of the European Commission (CEC, 2010) reported the following:

- Formal learning takes place in education and training institutions, leading to recognized diplomas and qualifications.

- Non-formal learning takes place alongside the formal education system and does not typically lead to formalized certificates. It may be organized in the workplace and through the activities of civil society organizations, such as youth organizations, trade unions, or political parties. Education that someone can get through organizations that serve as a supplement to

the formal education system include music and sports classes, or private lessons, as preparation for examinations.

- Informal learning is a natural accompaniment to everyday life. Unlike formal and non-formal education, informal learning does not have to be done consciously. Even individuals themselves do not necessarily need to identify it as a contribution to the improvement of their knowledge and skills.

The continuum of lifelong learning brings more non-formal and informal learning. Non-formal learning, by definition, stands outside schools, colleges, or official training centers. It is not usually seen as 'real' learning, nor do its outcomes have much value in the labor market. Non-formal learning is therefore typically undervalued.

However, it seems that informal learning is the most neglected, even though it is the oldest form of learning, and is still one of the main ways of learning in early childhood.

2.2 Lifelong learning as a supplement to formal schooling

As an inseparable part of daily life, lifelong learning helps us to solve immediate problems, gain an understanding, or practice some specific skills wherever the need arises (Fischer & Konomi, 2007). So, to make use of the natural benefits of lifelong learning, it is important to devise a practical content that is easily applied in practice. The fastest growth in demand for education has modern, ambitious business people who are looking for education that will help advance their career, accelerate their personal development, and/or increase their profits (Wall, 2012).

Necessary knowledge is not always in the curriculum of professions and disciplines that are adopted through a formal system of education. The purpose of lifelong learning is to complement existing formal system failures, and until societies come up with a better learning system, it is very important for further professional development of almost all professions.

Wall (2012) also believes that educational institutions are in a better position than most others to systematically respond to these requests. These answers should come through formal quality assurance systems that are in place in edu-

cation systems and in its individual institutions. Higher education institutions can achieve this through already developed graduate programs that can meet the criteria of various professional bodies, and thus meet the needs of modern industry.

2.3. Lifelong learning as a key factor for economic development and progress

Education is the key factor in maintaining and further improving competitiveness and growth. It is the basic capital of modern society and a key for economic development. Numerous changes in the economy and technology, such as the increased involvement of all participants in the global economy, demands that individuals and organizations have to fulfill demands in order to survive in a market that is constantly changing. The individual is expected to participate in the creation and development of new values in the organization where they work, and in society where they belong, and also to have a positive attitude towards ethnic, cultural, and religious diversity with which they encounter in everyday life and work.

For these new, unpredictable, and demanding changes, the best possible answer for challenges and opportunities is widespread and intense education for people directly involved in the economy and its development, but also for those on which economic growth depends.

A corollary of such a situation is that the existing and future workforce must be engaged, either independently or with the help of organizations in which they work, on continuous expansion and deepening of their own knowledge. This leads to the necessity of creating the preconditions for learning throughout life, even after the termination of a work contract and the acceptance of the concept of learning, which we know as lifelong learning.

2.4. Lifelong learning for a higher quality of life

In a recent study conducted from 2011 to 2014 (Bell Project, 2014) on a sample of nine countries of the European Union and Serbia on the benefits that adults have from organized, but non-formal education, interesting results have been observed. Research has focused on proving the existence of the benefits of lifelong learning in the perception of respondents, rather than through objective

indicators that could be seen in the behavior change. The data shows that adults pointed out numerous benefits of non-formal education. They felt healthier, and to them, they seemed to live more active lives, they established new friend-ships, and increased life satisfaction. They were also more motivated for further involvement in lifelong learning and viewed it as an opportunity to improve their quality of life. These benefits were observed in all the countries that par-ticipated in the survey and was unrelated to the type of learning in which they took part: learning foreign languages, art, sports activities, or activities related to civil society.

3. DIGITAL TECHNOLOGY IN THE SERVICE OF EDUCATION

Digital technology can be seen as a challenge to formal schooling, the au-tonomy of the classroom and the curriculum as a means of teaching the knowl-edge and skills needed for adulthood. But, it can also be an opportunity, be-cause technology can bridge the gap between formal and experiential education (Sharples, Taylor & Vavoula, 2006).

Because technology allows us to be mobile, irrespective of place, time, and context (Vavoula & Sharples, 2009), mobile technologies have the potential to give people access to education anytime and anywhere in a world of rapid change (Waycott, Jones & Scanlon, 2005).

Mobile education, at least for now, does not replace formal education: it of-fers support in learning outside the classroom, in conversations and interactions that characterize daily life (Sharples, Taylor & Vavoula, 2006).

3.1. THE CHALLENGES THAT DIGITAL TECHNOLOGY HAS IN THE LEARNING PROCESS

Berge (1998) suggests that teachers have been increasingly sought to use technology to support existing educational programs, so they should be given the possibility to acquire appropriate skills or support in preparation of the program based on the more complex technology (Wall, 2012).

Bearing in mind the ever-increasing variety of digital technology that can be used in the learning process, awareness is growing stronger and stronger that it

is necessary to find the optimal combination of supplies to ensure that their use is well-designed and adapted in order to attract, retain, and motivate students, as well as lecturers.

Factors to be taken into account when using technology for the development of learning materials are: (i) the attitude of students towards learning a specific topic, (ii) the advantages and disadvantages of existing technologies, (iii) the skills of instructors in the use of technology, (iv) the structure of content that needs to be adopted, (v) the quality of existing learning materials, and (vi) the interaction that occurs between students and teachers, as well as among students (Martinez et al., 2007). In order to promote the use of e-learning, emphasis should be less on technology and more on "experience while using," "inclusion," and other general important factors for the successful acquisition of knowledge (Hamid, 2002).

3.2. E-learning and its benefits

Learning with the help of electronic aids or e-learning concepts, which is most commonly used to describe learning by systems based on computers, and is occasionally associated with the use of advanced technologies for distance learning. It can be seen as a virtual act or process used to collect data, information, or create knowledge (Bennett & Bennett, 2008).

A world where students of all ages, including those outside the formal institutions of education, have strong multimedia communicators, file sharing, and text communication skills that significantly shatters the traditional classroom education. (Sharples et al., 2006).

3.3. Mobile learning

In recent years, a new form of learning has appeared as a result of constant development of technological infrastructure. This form of learning is completely away from the classroom or other preset and stationary space for teaching, and learning only takes place virtually.

In order for this tool to be successful, the content must be useful, interesting, and adapted to everyday needs for new information, as well as the needs for the sake of the learning and communication. The conclusion has been made that it

is important to divide the contents into very small units that the user can easily insert in her own busy schedule. Thus, conceived content is easier to adopt even in situations where users are exposed to the interference in their daily operational work (York, 2004).

In a Vavoula (2005) study about the daily adult education for the MOBIlearn project, which is based on personal diaries of students, it was found that almost half (49 percent) reported learning situations occurred away from the home or office, or the student's usual surroundings. Mobile networked technology allows people to acquire and share information in all the places where they have this need, which is more often than just when they are at fixed locations, such as classrooms (Sharples et al., 2006).

Therefore, the technology can display ideas or offer advice on the descriptive level, as does the Internet, online help system, or special tools that are offered as an aid for the finishing of contracts, which are based on conceptual maps and systems for visualization. In addition, technology enables an environment in which classic learning is used. Also, the technology provides the tools for data collection and for the construction and testing of various response models. It can through games and simulations extend the range of activities that help in easier adoption of content and can significantly increase the scope of discussion of participants from various fields, as well as from different parts of our world via cell phone or e-mail. The technology enables a common interactive learning space, which can be used for individual students and the entire group (Sharples et al., 2006).

4.   DISCUSSION

Given the availability of mobile devices and the development of digital technology, it is reasonable to assume that mobile learning can be a key solution for lifelong learning. Mobile devices are very widespread, and already more readily available, and their ability to connect and interact with the users offer great potential to support lifelong learning outside formal learning contexts (Ultralab, 2003; Fischer & Konomi, 2007; Clough et al., 2008). Mobile devices can appear in different forms and shapes and are therefore acceptable to a wide range of users, as they can easily adapt them to their own habits and daily rhythm. Supporters of lifelong learning, thanks to technology, can easily access content that allows them to learn new knowledge on the theoretical and increasingly,

on a practical level. With content directly related to their particular interests, because of their connectivity with various data sources (e.g. Wikipedia.org, YouTube.com, or Academia.edu), their knowledge can easily be extended beyond the scope of the selected program of lifelong learning. The fact that mobile devices are constantly with users enables the users to choose the place, time, and even specific pieces of knowledge that they want to adopt. Therefore, mobile learning has all the prerequisites to become one of the fundamental platforms for enabling lifelong learning as an essential need of each individual, which allows them to successfully live and work in a modern society, which is increasingly and rapidly changing.

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