Chapter 13

Innovative Learning Approach in the 21st Century: Personal Learning Environments

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ABSTRACT

The ease of access to information, which has become evident with the development of communication technologies such as the internet, has brought about revolutionary changes in education. With the development of Web 2.0 technologies, the strengthening of social networks and the process of the learners taking responsibility for their own learning, personal learning environments (PLEs) have emerged. PLE is a connectivism and network-based learning environment where the learning process is more flexible and the management of learning is in charge of the learner instead of the teacher or other person. It is regarded to be the learning environment for the future generations consisting of components that keep the learner active at all times as open, flexible, social network-based and cooperative Web 2.0 environments. In this section, definition of PLE, its ways of use, its advantages over the other learning systems, limitations and recommendations for use, are listed.

INTRODUCTION

In today’s modern societies, individuals need to be able to access, customize and personalize information that is constantly growing, changing and renewed. This leads to a change in the learning styles of learners. In this context, it is observed that individuals are affected by innovations especially in Information and Communication Technologies (ICTs) and they are trying to create their own learning environments and networks. In this age that changes and shapes rapidly, “learning” needs a new approach.

Chatti, Agustiawan, Jarke and Specht (2010) emphasizes that learning is basically a personal, social, distributed, ubiquitous, flexible, dynamic and complex nature. It is observed that the learning styles of the societies affected by the developing technologies are changing as well. Today’s learners are undergoing a
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process of transformation by the Internet. This transformation observed in learner profiles causes shifts in educational paradigms. There is an approach in which the teacher starts to gain a facilitator role in a guide and learning process and the responsibility for learning is given to the learner. Informal learning processes have become more important than ever before. Gillet and Bogdanov (2013) also supports this view and emphasizes that informal learning will become increasingly necessary as learning is basically an informal process. Similar to these views, Selwyn (2007) draws attention to the relationship between informal learning and social media and predicts that social media increasingly supports informal learning at home, at work and in communities, and becomes an indispensable element in education for people of all ages.

The disruptive changes caused by the new social, political, economic and educational driving forces reinforce and shape industries by increasing uncertainty. These forces include technological advances such as cyber-physical systems, advanced types of machine learning and artificial intelligence; social factors such as changes in user values, platform business model, sharing economy; massive open online courses in education, relative declines in government support and others. As the digital transformation and the size of digital data with more impact than ever will increase, these driving forces will create significant challenges for the new generations entering the workforce in the near future. For this reason, students need to be guided in different disciplines to be able to work not only in their own disciplines, but also in rapidly changing digital environments. Only higher education will not be sufficient for these individuals. Knowledge workers should have the skills necessary to continuously change the environment, to think about data, to explore trends in their environment, to produce ideas and to adapt (Tsui & Dragicic, 2018).

Today, education systems have experienced a change and transformation, learning management systems (LMS) have remained closed and insufficient and social networks have gained power, leading to a great need for innovative learning systems that give students the responsibility of learning. In this section, definitions of personal learning environments (PLEs) available in the literature are set forth first. In the next section; their ways of use, their advantages over other learning systems and their limitations are set forth. In the last section, suggestions on how to use these environments are listed.

BACKGROUND

Definitions and Characteristics of Personal Learning Environments

Hard disks, which are the data storage tools of computers, are not used too much today. As the use of Internet has become widespread, people now store their data online, they shop online, they communicate instantly through their mobile phones or personal computers and they access movies and music online, instead of downloading them. Researchers access the academic publications through the Internet instead of going to the library and they conduct the editing and screening of these publications through the internet. Strengthening and development of the Internet have changed learning models as well as communication methods. In furtherance of this, Hargreaves (2003) claims that today’s learners must learn deep cognitive skills such as problem solving and cooperation which are necessary to cope with the changing and new situations.

The development of web technologies has become a breaking point in open and distance learning applications. After the simple, non-privatized, passive and stable state of Web 1.0 technologies, Web 2.0