

Chapter 3

Personal Learning Environments: Research Environments and Lifelong Informal Learning

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ABSTRACT

Over the past 10 years there has been a great evolution of technology and the way the teaching and learning process is developed, as well as how research and publication are carried out. The Web 2.0, a term coined by O'Reilly in 2004, has introduced a new concept to the use of the Internet, in particular as it relates to the educational framework. The web 2.0 tools allow the creation of emerging ubiquitous environments that enable the development and management of a real Personal Learning Environment (PLE). This chapter is a proposal for the “Handbook of Applied Research on E-Learning in Engineering and Architecture Education” and represents a literature review on the topic of Personal Learning Environments (PLE). It explores the definition around the concept of PLE, its history, the advantages for its use in a lifelong learning process and its importance in the scope of the present research.

INTRODUCTION

This chapter is a literature review on the topic of Personal Learning Environments (PLE), where we will explore the definition of PLE, its history, advantages for its use in a lifelong learning process and its importance to the field of research in this area of knowledge.

This chapter of the “Handbook of Applied Research on E-Learning in Engineering and Architecture Education” demonstrates the technological advancement relating to the educational framework and the prospect of modernised countries and education based on Information and Communication Technologies.

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The technological advances in the field of education as well as the interaction among students, teachers and researchers with different types of devices have been increasing and changing the shape and way of interacting with digital content, particularly with regard to educational content. Thus, the perception and understanding of a PLE is fundamental for teachers/researchers/students / professionals to promote a greater motivation, satisfaction and academic and professional development, as it enables the use of different technologies and strategies for lifelong learning and a better ubiquitous learning.

Over the past ten years there has been a great evolution in technology, in the way the teaching and learning process is developed, and also in how research and publication are carried out. The Web 2.0, a term coined by O'Reilly in 2004, has introduced a new concept to the use of the Internet, in particular as it relates to the educational framework. The web 2.0 tools allow the creation of emerging ubiquitous environments that enable the development and management of a real Personal Learning Environment (PLE).

With the limitation of Learning Management Systems (LMS), the PLE has emerged in recent years in research papers and publications, recognising the importance of informal learning through social software (Academia.eu, ResearchGate, Twitter, LinkedIn, Perltrees, etc) and the importance of getting involved in lifelong learning (Adell & Castañeda, 2010; Castañeda & Adell, 2013b; Mota, 2009).

The concept of Personal Learning Environment (PLE) first appears in 2001, in a text by Olivier & Liber (2001) named *Lifelong learning: the need for portable personal learning environments and supporting interoperability standards*, where the authors integrate the institutional learning context with a peer-to-peer model that should focus on a personal and lifelong learning (Mota, 2009).

According to Mota (2009; 2011; 2012), the PLE seeks to operationalise the principles of eLearning 2.0, the learner's power and autonomy,

“openness, collaboration and sharing, permanent and lifelong learning, the importance and value of informal learning, the potential of social software, the network as a space for socialization, knowledge and learning ” (Mota, 2009a:127).

In conclusion, this chapter intends to clarify the concept of PLE, how to build it and the benefits in its use as an opportunity for lifelong learning. This is a current need, to achieve an academic improvement and motivation for a new learning process, with new technologies and using different learning strategies.

DEFINITION OF PLE

In a first analysis, we can say that there is no agreed definition, in the specialised literature, on the term Personal Learning Environment (PLE) because it is still a relatively recent term. There are, thus, two clear aspects on its definition. In a first perspective, the PLE arises as an approach based on applications or web tools (Downes, 2006, 2007), which is not and cannot be considered as a software, but as an environment where individuals, communities and resources interact flexibly (Wilson, 2008) through a set of tools or applications available on the Web 2.0, whether social software (social networks) or not. The second perspective considers the PLE can be represented with technology, including applications and services (Attwell & Costa, 2008), combined, however, with the interpersonal relationship with a network of contacts, an essential part of these environments.

The concept of Personal Learning Environment (PLE) was first mentioned in 2001, in a text by Olivier & Liber (2001) entitled *Lifelong learning: the need for portable personal learning environments and supporting interoperability standards*, where the authors integrate the institutional learning context with a peer-to-peer model that should focus on a personal and lifelong learning (Mota, 2009). That same year, the JISC (Joint Information Systems Committee) funded the NIMLE

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