

Chapter 21

E–Learning: Psycho–Pedagogical Utility, Usability and Accessibility Criteria from a Learner Centred Perspective

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ABSTRACT

Since the democratization of personal computers and Internet access formal and informal learning opportunities have multiplied, increasing the technological-supported contexts and contents. Despite the increasing opportunities for education, not all teachers have developed a satisfactory level of eCompetence (Schneckenberg, 2006), not being able to choose and implement a technology-supported learning solution efficiently. On the one hand we need to consider the phenomenon of digital emigrant teachers, which is linked to the avoidance of technologies; but on the other, we have a large number of technological-enthusiastic teachers that try to introduce tools and functionalities without assessing first: the cognitive load, the cost, the utility, the usability, the accessibility and the psycho-pedagogical criteria that must be considered before innovate with technologies. This chapter aims at both groups of teachers or instructional developers, by offering a review of the e-learning possibilities and criteria, based on several analyses carried out by the authors on higher educational settings. Based on the learner centered perspective, this chapter purposes some criteria for assuring the quality in higher education e-learning contexts, mainly based on three categories: psycho-pedagogical utility, usability and accessibility. One of the principal goals of the chapter is to support -by means of the criteria- the selection of technologies and functionalities (collaborative tools, e-learning 2.0 solutions...), considering, above all, the learning objectives and the specific learning contexts. The chapter will introduce also some of the main technology-supported learning solutions and will provide a decision-framework to choose, implement and evaluate the integration of educational technology for e-learning.

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INTRODUCTION

The university has been democratized in most developed countries. Facing the wide and diverse students' targets, nowadays, university is coping with the challenge of quality assurance in learning within a context of complex social changes, basically two. One of these changes is the convergence towards the European Higher Education Area (EHEA), which aims the harmonization of university programs at a European level; the so-called Bologna process aims to improve the recognition of university degrees throughout Europe by facilitating student mobility and employability. The second major change is the introduction of Information and Communication Technologies (ICT) in the University for enhancing teaching and learning methodologies.

In some cases, European universities have seen both changes as a synergy. In this sense, e-learning have been considered as an opportunity to accomplish the Bologna objectives. Thus, the use of ICT in the university increases the learning contexts facilitating the student learning process, the continuous assessment and the eCompetence development (Schneckenberg, 2006). Nevertheless, in some cases, both changes have been considered as a top-down imposition that increases the workload of faculty staff and students. It is possible to observe how implementation of Bologna process means for some teachers incredulous feelings in their first approach to student-centred methodologies. Even worst, some of them feel overwhelmed confronted to the evolution of educational technologies along with the increasingly higher eCompetence of their learners. Worse yet, often these tools involve a high cognitive load (Sweller & Chandler, 1994; Amadiou, Tricot, & Marine, 2009) both by the students and the teachers. It is seems that the speed of technological change is more important than the speed of evolution in the teaching methodologies, or the time required for learning how to use these tools in educational settings. This is a one of the major

stress for teachers, but also for some students, who sometimes prefer the traditional face-to-face context.

This chapter will consider the contribution of e-learning as a solution of these recent higher education challenges, and from the perspective of focusing on the educational criteria of usability, utility and acceptability that teachers should consider before using educational technologies. The benefit is for both teachers and students, as e-learning enhance the learner academic performances.

THE ROLE OF E-LEARNING IN THE STUDENT-CENTRED LEARNING PROCESS

The use of e-learning has a critical role for achieving the challenges of the convergence process in the EHEA. In 1998, the Declaration of the Sorbonne put into clear the objective to promote the Economy of Knowledge and Innovation in Europe. This declaration became the first step in the political process of a long-term change in higher education, it were promoted the convergence between national education systems within the different European states. A year later, the Bologna Declaration (1999) entailed a great deal of responsibility for the creation of the EHEA in accordance with principles of quality, mobility, diversity and competitiveness. The most important insight is that majority of the statements made for the implementation of the EHEA (Sorbonne Declaration, 1998 Bologna Declaration, 1999, Prague 2001, Berlin, 2003, Bergen 2005, London, 2007) highlight the need to change the teaching-learning process, for both the teacher and the students, through the use of ICT as a teaching resource, as an object of study, as a tool for educational management and an excellent tool for research (Bosco, 2005 ; De Pablos, 2007).

According to many statements and guidelines for the EHEA, it is required a shift towards a more

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