

Chapter 21

Employing Innovative Learning Strategies Using an E-Learning Platform

Andrina Granić

University of Split, Croatia

Maja Ćukušić

University of Split, Croatia

Aimilia Tzanavari

University of Nicosia, Cyprus

George A. Papadopoulos

University of Cyprus, Cyprus

ABSTRACT

Web-based learning environments have become an integral part of learning. The way that they are employed in the learning process, or in other words the learning strategy followed in that respect, is an important issue that has to be carefully thought of, deciding upon topics such as suitable pedagogical approaches and appropriate assessment techniques for a given context. The chapter deals with this exact issue by visiting the relevant literature on the subject, describing selected learning strategies that have been employed in the use of an innovative eLearning platform in schools in Europe and finally outlining and comparing two real case studies from two European countries.

INTRODUCTION

Informal learning today becomes the dominant form of learning (Tuomi, 2007). Peer-to-peer and problem-based learning in real-world contexts as well as learning through games and entertainment is becoming more and more popular. At the same time, eLearning systems are still being frequently used for teaching (transmissive learning), but no-

ticeably less for autonomous learning, reflection, social and communication skills development, problem solving capacities (expansive learning) and alike (Ulf, 2007). To overcome this, every attempt to design an eLearning experience should begin with the pedagogical strategies that drive it and continue with setting the learning goals and designing learning activities that require the appropriate eLearning content to meet those

learning goals, *cf.* (Kelly *et al.*, 2005). The selection of technologies has to be performed then within the context of these pedagogical choices so as to understand both the potential of learning and the development of successful eLearning resources.

Learning often seems to be a natural process; however, the many definitions of and theories on learning confirm that human learning is a complex activity. Literature concerning learning strategies explores different ways of learning. Learning strategies, as defined by Nisbet and Shucksmith (1986), are seen as the processes that underlie performance on thinking tasks, while Mayer (1988) defines learning strategies as behaviors, manners of a learner that are intended to influence a person's cognitive processes during learning. In line with the latter definition, an implementation of theoretical foundations in praxis is illustrated in the chapter. Concerns about the gap between theory and practice, about what instructional designers have learned and experienced in the workplace as well as the lack of a unifying perspective on human learning have raised the question – how an innovative learning strategy can be employed using a Web-based learning environment. Specifically, our objective is to indicate how taken “pedagogical decisions” implicate the selection of suitable pedagogical approaches and assessment techniques to be employed in an innovative eLearning platform.

This chapter first presents a literature review of the area of pedagogy in eLearning, focusing on learning theories and the concept of a learning scenario. It later summarizes the several issues/problems one encounters when it comes to employing an eLearning system and implementing a pedagogical framework for eLearning. A proposal solution for overcoming some of these obstacles is presented in detail, supporting it with the results of two real world case studies. Finally, conclusions are drawn and future research trends are identified.

PEDAGOGY IN eLEARNING

Learning Theories

Teaching and learning activities can be designed and implemented to take principles of learning into account, emphasizing on the fact that learning occurs within certain context and that is active, social as well as reflective (Driscoll, 2002). The spectrum of learning theories consists of a plethora of methodologies and approaches explaining how people learn, with behaviourism, cognitivism and constructivism being well-known categories of these. It is clear that the lack of a unifying theory on human learning gives rise to gaps between the theory and practice of instructional design. Nevertheless, ideas about learning in general fall under two headings – the generic heading of socio-cultural theory, including for example “communities of practice” (Wenger, 1998), and “activity theory” (Engestrom, 1987). Since, from this perspective, the basic unit of analysis is larger than the individual learner (e.g. the “activity system”) these theories are able to account for learning in collaborative contexts. The idea of “distributed learning” is important here but it is a term that is not always used consistently. From a socio-cultural point of view learning takes place through the co-construction of meanings, specifically it is distributed across learners (agents/actors). This is a stronger claim than the simple proposition that learning can be distributed, say across a network, in the form of content or other resources. An emphasis on “practice” and “activity” is consistent with constructivist and socio-constructivist theories of learning which place the learner as agent at the heart of the learning process.

Another key idea is that of “situated learning”. This is important because it draws attention not only to social context but also to material culture, including technology. A recent and significant development in cognitive science is the emergence of an “embodied-embedded approach”, see for

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