Mobile Learning in Organizations: Lessons Learned from Two Case Studies

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ABSTRACT

M-learning has been tested and investigated in the last decade in different levels of education, from K12 to higher education. However, academic studies reporting concrete m-learning experiences in the corporate environment are still rare. Considering this gap of knowledge, this paper analyzes two cases of corporate m-learning using COMTEXT® (a Mobile Virtual Learning Environment – MVLE, developed by the authors). It discusses the different elements involved in m-learning practices in organizations, including: (1) ergonomic, technological and pedagogical affordances; (2) limitations of mobile and wireless technology use in corporate m-learning; (3) methodologies and learning tools that can be applied; (4) the intricacies between the different types of mobility involved in m-learning activities in a corporate environment.

Keywords: Corporate M-Learning, Learning Management Systems, Mobile Computing, Mobile Learning, Mobile Workers, Nomadic Learning

INTRODUCTION

M-learning has been increasingly studied and experimented with in the past decade within educational settings, ranging from K12 to university activities, and several software programs and practices have been acknowledged (Barbosa et al., 2007, 2008; Kukulska-Hulme et al., 2009; Saccol et al., 2009; Sánchez et al., 2009; Sharples, 2000; Yin et al., 2010).

However, academic studies on corporate m-learning are still scarce. It is necessary to investigate the possibilities of m-learning in the organizational context, since it is particularly suitable for mobile workers, who usually spend most of their time traveling, visiting, and wandering, i.e. sales people, field technicians, etc. We can also assume that, since competences are developed in situated action, m-learning can help the development of professionals through contextualized learning activities, supported by the use of mobile and wireless technologies. Whenever the employees lack the
time to physically attend training during work hours, m-learning solutions can help to allow on-the-job, flexible training.

This paper analyses two concrete experiences of m-learning for training in one organization. Saccol et al. (2009) discussed the research theoretical background and the m-learning solution applied in the case studies (a mobile virtual learning environment called COMTEXT®, accessed via Pocket PCs). This paper focuses on showing the dynamics of the m-learning activities conducted and the lessons learned. In the next sections we present the research method, the two case studies and the research results.

RESEARCH BACKGROUND
AND METHODOLOGY

This is an exploratory research. We have created a Mobile Virtual Learning Environment (MVLE) called COMTEXT® (an acronym for COMpetence in conTEXT), as a tool for testing concepts related to competence development and m-learning in organizations (Saccol et al., 2009). COMTEXT® is a web based system designed to be accessed via mobile devices.

COMTEXT® was designed according to the process of competence management in a corporate environment (Lindgren, Henfridsson & Schulzle, 2004; Draganidis & Mentzas, 2006; Berio & Harzallah, 2007) and has four modules (Figure 1). The first module is called Profile (as can be seen in Figures 1 and 2, the icons titles are in Portuguese) and can record and show the competence tree of an organization and unfold it to the individual level. The environment can record the status of the individuals regarding the development of their individual competences that are linked to the organizational competences or the competences of their sector or work process, and also the competence gaps to be filled.

The second module is called Planning, and is used to plan the training or educational activities. The next module, called Learning, is the core of the system (Figure 2), offering a set of tools to support teaching and learning activities, including: learning diary, forum, e-mail, access to YouTube Mobile®, Skype®, and Pocket Mindmap® as well as a repository of learning objects and files. The Assessment module provides tools for evaluations that can contain scale-based and open questions. It is possible to apply quantitative and/or qualitative evaluations, including 360 degree feedbacks. This module also offers a portfolio that produces all the interactions recorded by each apprentice with the learning tools (diary, forum, chat and files).

In this research, the educational paradigm considered was the interactionist-constructivist-systemic strongly anchored in the genetic epistemology of Piaget (1995) and in the studies of Maturana (2000) and Morin (2005). According to these references, a new knowledge is constructed by the subject in action, during the interaction with an object of knowledge. Learning is an internal process, involving the creation of a network of relations by which the subject creates meaning about new information, transforming it into knowledge. Although internal, this process occurs in social interaction; the construction of knowledge occurs during collaboration and cooperation among individuals.

This paradigm was adopted because the development of competences requires an educational approach that is contrary to the traditional “stimulus-response”, content based learning approach. This view of learning has been traditionally adopted in the corporate context. This training approach is generally insufficient, since students gather content, but cannot mobilize what they have learned in concrete work and daily life situations – which is the essence of the concept of competence.

According to Perrenoud (1997), individual competences involve the ability to act effectively in particular types of situations, putting in action and in synergy several complementary cognitive resources (knowledge, skills and attitudes). The process of competence development relates to the creation of mobilization schemes of these cognitive resources in situated action (Le Boterf, 2003).
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