Formal and Informal Learning Flows Cohesion in Web 2.0 Environment

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ABSTRACT

This paper presents the results of an exploratory study examining bachelor degree students' experiences of learning with a new generation learning management system Edu 2.0 combined with Web 2.0 applications. The authors discuss students' perceptions of formal and informal activities within this environment as captured through a collection of surveys, activities' tracking, and assessment. The main functional characteristics and available social tools of Edu 2.0 are examined in the context of students learning support. A model of Learning area is developed to analyze the formal and informal learning flows from the point of view of learning enhancement.

Keywords: *Edu 2.0, Formal, Informal, Learning Flow, LMS 2.0, PLE, Web 2.0 Technologies*

INTRODUCTION

In spite of recent debates at conferences, web sites and blogs (Stiles, 2007; ALT-C 2009 conference, 2009; Goldsmiths University London Blog, 2009) about the end of the Learning Management Systems (LMSs), universities and training organizations still successfully (Rankine et al., 2009; Sterbini & Temperini, 2009) empower LMSs to support a high-quality education delivery in a blended-learning model (Ellis & Calvo, 2007) or in distance learning. The core components of the LMSs enable students to access the course content, as well as to participate in the course activities in formal learning flows. Web 2.0 technologies and eLearning 2.0 strategies influence LMSs development and implementation. Today's LMS rapidly adapt to meet the needs for social and informal learning. Research shows that some corporate and open source solutions are moving fast in this direction. For example, Blackboard 9 is extended in the highlights of new Web 2.0 and social learning capabilities including blogs, journals and enhanced group tools; notification dashboards highlighting time sensitive information and alerts; and a completely redesigned, customizable Web 2.0 user interface. The open source LMS ATutor adds a social networking module "ATutor Social" that allows ATutor users to connect with each other. They can gather

DOI: 10.4018/jissc.2011010101

contacts, create a public profile, track network activity, create and join groups, and customize the environment with any of the OpenSocial gadgets available all over the Web.

In the context of the expansive adoption of social software, "traditional LMS" evolve to a new generation of LMSs 2.0. These are extended into building networks within a course, or between training institutions registered in the system and among all the registered students, educators and professionals. The LMSs 2.0 represent a new way of thinking teaching and learning that has profound implications not only in terms of traditional concepts of authority and value, but also on the opportunities presented for developing and sustaining communities of practice, content generation by educators and learners and the aggregation of resources (TimeCruiser Computing Corporation White Paper, 2008). The content provided can come from mixed resources.

In the perspective of eLearning 2.0 ecosystems in general, LMS 2.0 environments are still an underexplored segment of eLearning. Elearning 2.0 ecosystems focuses on collaborative and open learning techniques, where learners are not at the end of the learning chain but actively participate in the learning process as authors, co-authors and contributors of knowledge and their products are based on collective intelligence and personal progress. eLearning 2.0 ecosystems capture the learning space as a mashable space for personal activities and for collaboration and communication with other learning communities. These characteristic grows the interest for informal learning. There are different resources as evidence that the learners are engaged in a wide range of technology-based informal learning at home and the community of practice (Cranmer, 2006; Gray, 2004).

It is a challenge to explore and organize the tools and approaches for learning based upon new social computing capabilities within the LMSs 2.0. Arrays of learning activities are facilitated not only within the specified course environment, but also beyond its borders (McLoughlin & Lee, 2008). Students have the opportunity to interact with the educator and classmates in a given course as well as with peers and experts from specific groups and communities. As the options grow for different learning flows to coexist within the online learning environment, so does the necessity for identifying the types of these flows that are the most valued by students (Canzi et al., 2003). In the same way, a new model for assessment of students' learning and their achievements in Web 2.0 environment is needed. Recently, educators try to weave the informal learning forms and informal media in a formal learning process. For example, using wiki for constructivist learning environments forming, as it facilitates collaboration (Notari, 2006); utilizing blog for group work, for sharing course related resources, and for submission of students' assignments and home work (Luján-Mora, 2006); microblog to train communicative and culture competence anytime anywhere without face-to-face interaction (Borau et al., 2009), start pages for self-organizing learning and personal development (Ivanova, 2009).

The focus of this work is on formal and informal usage of the next generation Learning Management Systems (LMSs) based on Web 2.0 technologies (LMS 2.0) and Web 2.0 applications for enhancing learning. The aim of the exploratory study is to examine the learning experiences and flows occurring in Edu 2.0 Learning Management System and beyond it: in Web 2.0 environment, gained by 110 bachelor degree students (in a two years project) concerning the various learning activities that they undertake during a course in Computer Graphics.

The following four primary research questions guided this research: (1) How could the affordances of LMS 2.0 for learning enhancement be used in the most effective way? (2) How could LMS 2.0 social capabilities be integrated into a learning process? (3) How could students' learning experience be improved combining formal and informal learning flows? (4) How could student-generated artifacts be incorporated in a formal learning program?

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