Chapter 52
QR Codes and Mobile Technology Used in the Blended Learning Approach

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ABSTRACT

The purpose of this article is to explore the teaching processes that use Quick Response (QR) codes and mobile devices to support blended learning at the National Institute of Telecommunications and ICT (INTTIC). The satisfactory results of our previous research show that the use of mobile technology could enhance accessibility and communication in a blended learning course. In Algeria, the mobile penetration rate stands at over 111% and 21% with 3G. Since most of our students have access to mobile technology, three in five were smartphones. Using this technology would encourage students to use their phones to send questions to their teachers, listen to a podcast and snip the quick response (QR) codes. This paper introduces the implementations of QR codes, vcard and QR voice as a new tool in the Moodle platform in our institute. The QR code contains the URL of the page of one particular Moodle course and quiz are added to the bottom of Moodle. The students' satisfaction had been acknowledged as an important factor in order to estimate the effectiveness of a blended learning course.

1. INTRODUCTION

In recent years, mobile devices systems and technologies have become owned, accepted and used. They provide information access all the time and everywhere.

Now one of the greatest challenges for education is mobile learning which can be understood as learning with mobile devices (O'Malley et al., 2005). They are probably the most influential technology for teaching and learning in the next decade.

The learners now want to learn "on the move". They are nomadic learners who learn in faculty, restaurant, library, before sleeping, around a coffee. But they also learn in communities (social networks) i.e they exchange them with unprecedented ease of information solutions to the problems and mutually explain what the professor said.

The term of blended learning represents a combination of Face to Face (F2F) and online learning activities. Blended learning environment allow student to access a variety of media which support different learning preferences.

Mobile technology is increasingly being used to support blended learning. The satisfactory results of our previous research show that the use of mobile technology could enhance accessibility and communication in a blended learning course (Kouninef et al., 2012).

The use of e-learning courses could rely both on online and mobile technology which engage learners and keep them active in various educational setting never expected. Various learning tools, connectivity, social networking, and Web 2.0 applications could be combined in well-designed courses in Moodle Learning Management System (LMS) (Rice & Nash, 2010). E-learning courses encourage learners to use different tools at convenient levels anywhere at any time. There is a built-in flexibility that allows the learner to approach the material in ways that work for him/her (Cole & Foster, 2007).

M-learning is a term used to describe any manner of delivering courses or consultations of events spread through e-learning using mobile devices such as Pocket PCs, mobile phones or Personal Digital Assistant (PDAs) (Zahrani, 2010). All the interests of mobile media rely on the rapid diffusion of short information concerning training management: Ads on mobile phones (e.g. change of schedule, classrooms, meetings, news on forums, etc.).

Using available mobile tools for education may seem unexciting for the first glance. All course contents cannot be displayed on such tools. Therefore, the researchers can imagine light type contents. Such as, news, results of an examination or other events, grades or sending SMS and / or email from the platform to a PDA or a PC, etc. (Buyukkokten et al., 2000).

A new way to send information to different learners is developed, relying on the multimedia podcasting technology and using Quick Response (QR) codes in LMS. These latter are still relatively new and not widely known.

The study of QR codes in education can be placed in the context of mobile learning (Rikala & Kankaanranta, 2014).

Many research on mobile learning has been conducted all over the world but only a few studies have addressed the use of QR codes in education (Law & So, 2010).

The aim of this paper is to explore blended learning processes that incorporate QR codes and mobile devices the context of our institute (INTTIC).

This paper is organized as follows.

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