

Chapter 6

Future Challenges of Mobile Learning in Web– Based Instruction

Rochelle Jones

Lockheed Martin Corporation, USA

Chandre Butler

University of Central Florida, USA

Pamela McCauley-Bush

University of Central Florida, USA

ABSTRACT

Mobile learning is becoming an extension of distance learning, providing a channel for students to learn, communicate, and access educational material outside of the traditional classroom environment. Because students are becoming more digitally mobile, understanding how mobile devices can be integrated into existing learning environments is advantageous however, the lack of social cues between professors and students may be an issue. Understanding metrics of usability that address the concern of student connectedness as well as defining and measuring human engagement in mobile learning students is needed to promote the use of mobile devices in educational environments.

INTRODUCTION

Distance education is the fastest growing educational modality because of the advances information technology has made over the past 25 years. Students, through technical tools and mobile devices such as Personal Digital Assistants (PDAs) and smartphones they use on the job, are becoming more digitally literate and mobile,

making the ability to access class work on the go a necessity. Because many students already own mobile devices, understanding how they can be integrated into learning environments is advantageous however, the lack of social cues mobile devices and computer mediated communications may introduce remain a concern. Using mobile devices for educational purposes opens the lines of communication between professors and classmates without the need of being at a designated location, at a designated time. Understanding if

DOI: 10.4018/978-1-61520-659-9.ch006

these devices help facilitate some of the challenges of distance education such as learners having a sense of connectedness is valuable.

The term “connectedness” is used across various knowledge domains and is sometimes synonymous with the term “engagement.” Interactive multimedia learning literature defines human engagement in terms of physiological arousal, mainly measures of heart rate, respiration, brain activation, and eye movement. The definition neglects the psychosocial aspect of the user experience because of the inherent complexity of interpreting both quantitative and qualitative data simultaneously within a common contextual frame of reference. Researchers are addressing this gap, where physiological measures are merged with psychosocial measures to define human engagement from a more inclusive perspective.

The purpose of this chapter is to introduce contemporary topics of applied mobile learning in distance education and the viability of mobile learning (m-learning) as an effective instructional approach. Metrics of usability that address the concern of user connectedness as well as defining and measuring human engagement in m-learning students is examined.

Application and Benefits of Mobile Learning

Mobile learning is learning that uses wireless, portable, mobile computing, and communication devices (namely smartphones, pocket personal computers (PCs), tablet PCs, PDAs, mobile phones, and iPods) to deliver content and learning support (Brown, 2005). Advances in mobile communication technologies including Wi-Fi networks, Third Generation (3G), and Worldwide Interoperability for Microwave Access (WiMAX) are enabling students to access class material without subjecting them to a physical classroom or in front of a computer at a set point in time. Despite the various functionality and capabilities of mobile devices, mobile learning is becoming

an extension of distance learning, providing a channel for students to learn, communicate, and access educational material outside the traditional classroom environment.

Thornton and Houser (2005) conducted a study of Japanese students learning English as a second language. Students were sent text and video lessons that defined new terms, story episodes that used target words, and English idioms on cell phones. The study resulted in students positively favoring the messages in their educational effectiveness. The students stated they felt comfortable reading the text and viewing the videos on the devices’ small screens.

MP3 players and iPods are used to download class lectures and tutorial notes. Students can listen and view audio and video files (podcasts) to recap and review lectures (when preparing for tests or recovering from missed lectures) and take notes of class sessions (Guertin et al., 2007). Companies are taking advantage of podcasting as well by sending employees training material, company compliance videos, and videos introducing a new tool to be used on the job. This implementation benefits the company and employees because it cuts costs of employees in the field having to travel to a central training location, and it cuts the use of “impersonal manuals to read and digest” during training sessions.

Incorporating mobile devices into existing learning environments can benefit the university community. First, mobile devices are cheaper than desktop and laptop computers, thus making them more accessible to students. According to Informa Telecoms & Media (2008), the number of mobile devices active in the world is more than 60 percent of the world’s total population. Second, the use of mobile devices for learning can help maximize the time students allocate for studying. Students can access course material whenever they have a free moment; during break hours or in transit. It allows students to customize and maximize their studying time around their busy schedules.

12 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/future-challenges-mobile-learning-web/44728

Related Content

Defining Knowledge Constituents and Contents

Sead Spuzic, Ramadas Narayanan, Megat Aiman Alifand Nor Aishah M.N. (2016). *International Journal of Quality Assurance in Engineering and Technology Education* (pp. 1-7).

www.irma-international.org/article/defining-knowledge-constituents-and-contents/163287

Students' Feedback: An Imperative to Enhance Quality of Engineering Education

Chenicheri Sid Nair (2011). *International Journal of Quality Assurance in Engineering and Technology Education* (pp. 58-65).

www.irma-international.org/article/students-feedback-imperative-enhance-quality/49560

Learning Engineering Ethics: The EPS Contribution

Roger Nylundand Benedita Malheiro (2022). *Handbook of Research on Improving Engineering Education With the European Project Semester* (pp. 165-175).

www.irma-international.org/chapter/learning-engineering-ethics/300249

Moving Beyond Traditions: Bachelor Thesis Redesign

Anders Berglund (2012). *International Journal of Quality Assurance in Engineering and Technology Education* (pp. 31-45).

www.irma-international.org/article/moving-beyond-traditions/63638

Developing Sustainable Processes through Knowledge Management

Thanh-Dat Nguyenand Stefania Kifor (2015). *International Journal of Quality Assurance in Engineering and Technology Education* (pp. 27-38).

www.irma-international.org/article/developing-sustainable-processes-through-knowledge-management/159199