

Chapter 9

Seamless Learning Environments in Higher Education with Mobile Devices and Examples

Victoria I. Marín

University of the Balearic Islands, Spain

Päivikki Jääskelä

University of Jyväskylä, Finland

Päivi Häkkinen

University of Jyväskylä, Finland

Merja Juntunen

University of Jyväskylä, Finland

Helena Rasku-Puttonen

University of Jyväskylä, Finland

Mikko Vesisenaho

University of Jyväskylä, Finland

ABSTRACT

The use of seamless learning environments that have the potential to support lifelong learning anytime and anywhere has become a reality. In this sense, many educational institutions have started to consider introducing seamless learning environments into their programs. The aim of this study is to analyze how various educational university programs implement the design elements for seamless learning environments with mobile devices. For that purpose, three cases involved in a Finnish teaching development project are explored by conducting semi-structured interviews with key participants. The themes of the interviews were related to the theoretical background for (mobile) seamless learning environments from previous literature. This paper describes the findings of the three cases as common aspects for designing mobile, seamless learning environments; and it proposes a research agenda on challenges related to designing seamless learning environments with the integrated use of mobile devices in the curricula.

DOI: 10.4018/978-1-5225-0783-3.ch009

INTRODUCTION

The twenty-first century has raised educational demands that require new ways of thinking and learning (Kereluik, Mishra, Fahnoe, & Terry, 2013). These demands include the diffusion of technology into all aspects of personal and professional life (Butson, 2005), the exponential growth of the amount of information available, the growing importance of a knowledge-based economy, and globalization, which is facilitated by technology.

One of the fastest growing trends, as reported by Johnson, Adams Becker, Estrada, and Freeman (2014), is the growing ubiquity of social media. The authors state that portable, connected, and personal technology is transforming people's lives wherever they go. Ubiquitous learning environments can thus provide possibilities for accessing information, content creation, and communication and sharing in a personalized way through mobile devices (such as smartphones or tablets) at any time and in any place (Sharples, 2006). This implies that learning can also occur independently from the physical and temporal context (Evans & Johri, 2008; Salinas, 2012); hence, because it is seamless, it can broaden learning environments from classrooms and other formal places for learning (Partnership for 21st Century Skills, 2009). The idea is that students can learn whenever they want to in a variety of scenarios, and that they can switch from one scenario or context to another easily and quickly using a personal device as a mediator (Chan et al., 2006; Looi et al., 2010; Wong, 2013). Therefore, a shift to more dynamic conceptions of space-time and an emphasis on lifelong learning is taking place. Seamless learning environments are rooted in two main characteristics of mobile learning that have previously been expressed: personalization and mobility (Wong, 2013a).

"Personalization" is based on student-centered approaches, which prioritize learning as a whole person, including intellect and feelings as well as personal and group processes (Motschnig-Pitrik & Holzinger, 2002). Furthermore, student-centered approaches emphasize authentic, complex, and ill-defined tasks in order to enhance meaningful and relevant learning experiences (Elen, Clarebout, Léonard, & Lowyck, 2007; Lombardi, 2007). Much of the research on the use of mobile devices for learning has been conducted either in formal or informal learning environments, but not much research has been done on bridging these two environments (Looi et al., 2010).

This study will provide insights, examples, and challenges for designing seamless learning environments that utilize mobile devices in the higher education context. We will present and discuss the findings of the interview study through three case examples and a synthesis of each. The three cases are related to educational programs that aim to design seamless learning environments. These programs are implemented in the context of the teaching development project of the University of Jyväskylä, Finland.

THEORETICAL BACKGROUND

Present seamless learning environments can be characterized as being hybrid entities that integrate formal and informal, individual and collaborative, physical and virtual, and local and global elements of learning environments (Häkkinen & Hämäläinen, 2012; Sharples, 2006). They imply an embodiment of learning into everyday living, or a seamless flow of learning across contexts (Wong & Looi, 2011). At their best, these learning environments consist of scenarios in which learners are active, productive, creative, and collaborative across different environments (physical or virtual) and settings (formal or informal). Learners use multiple technological devices in diverse ways for information search; knowledge

18 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/seamless-learning-environments-in-higher-education-with-mobile-devices-and-examples/163523

Related Content

Perspectives of Pre-Service Teachers About Blended Learning in Technology Integration Courses

Olha Ketsman (2019). *International Journal of Mobile and Blended Learning* (pp. 15-31).

www.irma-international.org/article/perspectives-of-pre-service-teachers-about-blended-learning-in-technology-integration-courses/236080

An Investigation Into Mobile Learning for High School Mathematics

Vani Kalloand Permanand Mohan (2011). *International Journal of Mobile and Blended Learning* (pp. 59-76).

www.irma-international.org/article/investigation-into-mobile-learning-high/56334

The Continuous and Systematic Study of the College Algebra Flipped Classroom

Lori Ogdenand Neal Shambaugh (2017). *Blended Learning: Concepts, Methodologies, Tools, and Applications* (pp. 1240-1271).

www.irma-international.org/chapter/the-continuous-and-systematic-study-of-the-college-algebra-flipped-classroom/163578

Opportunities and Challenges of Mobile Learning Implementation in Schools in Oman

Muna Abdullah Al-Siyabiand Yota Dimitriadi (2020). *International Journal of Mobile and Blended Learning* (pp. 32-48).

www.irma-international.org/article/opportunities-and-challenges-of-mobile-learning-implementation-in-schools-in-oman/256838

The Affordances of Digital Social Reading for EFL Learners: An Ecological Perspective

Osman Solmaz (2021). *International Journal of Mobile and Blended Learning* (pp. 1-15).

www.irma-international.org/article/the-affordances-of-digital-social-reading-for-efl-learners/274505