Chapter 13
A Trend Analysis of Mobile Learning

Serçin Karataş
Gazi University, Turkey

Nimet Özgül Ünsal Köse
Gazi University, Turkey

Onur Ceran
Gazi University, Turkey

Mustafa Kılıç
Gazi University, Turkey

Ülkü Ülker
Gazi University, Turkey

Gökçe Akçayır
Gazi University, Turkey

Ezgi Tosik Gün
Gazi University, Turkey

Zeynel Abidin Tok
Gazi University, Turkey

ABSTRACT

The aim of this study is to determine current tendencies regarding mobile learning in published research between 2010 and 2015. In this study, 221 articles collected from the Web of Science Core Collection database with SSCI index were examined by using the content analysis technique. In the analyses, eight criteria were used, namely; research technique, sampling size, sampling level, learning domain, topical domain, data collecting tool, data analysis method and mobile application development approach. The results suggest that the main tendencies under these categories were experimental method; sample sizes of 31-100 people; higher education students; humanities and social sciences domain; learner outcomes topical domain; mixed data collecting tools; mixed analysis methods; and native mobile application development approach.

INTRODUCTION

It is possible to say that we live the mobile age by looking at mobile phones, ATMs, mobile cars used as offices, timeless and placeless advertisements, and palmtop computer games (Sharples, 2006). The use of mobile technologies has become widespread as wireless communication technologies have improved (Chu, Hwang, Tsai & Tseng, 2010). Mobile technologies, which offer the opportunity to reach educational content at any place and time, have a great deal of potential in that they have the advantage

to make learning customized for the individual, and to eliminate time and place constraints (Attewell, 2005; Kukulska-Hulme, 2005; Mutlu, Yenigün, & Uslu, 2006; Motiwalla, 2007; Demsey, 2008; Wexler, Brown, Metcalf, Rogers, & Wagner, 2008; Wang, Wu, & Wang, 2009; Wagoner, Hover, & Ernest, 2011; Roberts, 2013; Ally & Tsinakos, 2014). Many higher education institutions favour mobile learning in order to ensure flexibility in education (Tsinakos & Ally, 2013). Likewise, learners prefer mobile devices to personal computers due to the flexibility they provide (Stockwell, 2010). When considered from this perspective, mobile technologies have become an up-to-date subject of study for educators and researchers (Kukulska-Hulme, & Traxler, 2007; Wu, Wu, Chen, Kao, Lin, & Huang, 2012).

Definition of Mobile Learning

As a result of these improvements, the definitions used for mobile learning (m-learning) have also varied over time. From the *technocentric point of view*, m-learning is learning which takes place through using any mobile device such as PDA, mobile phone, or iPod. For instance Quinn (2000) defined m-learning as electronic learning through mobile devices such as Palm, Windows CE machines, & digital cell phones, while Keegan (2005) defined it as enabling learning through PDA, smart and mobile phones. A relationship to e-learning perspective describes m-learning as an extension of e-learning; one group of researchers views m-learning as a *sub-branch of the study of e-learning* (Georgiev, Georgieva, & Smrikarov, 2004). Furthermore, another group states that the reason why m-learning and e-learning are different fields of study is due to a terminology difference (Parsons, 2007). In e-learning, terms such as multimedia and hyperlink are often used while; in m-learning, terms such as mobile, portable, personal are usually used. According to the *learner-centred perspective*, in mobile learning not only are devices used and life-long learning supported, but also it is a learning method, which is based on the mobility of learners (Sharples, 2000; Sharples, Corlett, & Westmancott, 2002; Winter, 2006).

To sum up, it is possible to say that the descriptions created in the early years about m-learning are technology focused, and stress the learning conducted through mobile devices and wireless technologies (Quinn, 2000; Traxler, 2005), whereas in later years, m-learning is defined as a learning method, in which learners can benefit from the learning advantages offered by mobile technologies without depending on a place or time, and in this definition learning is emphasized, instead of technology (Brown, 2010). In other words, m-learning is more concerned with the learner than technology, because the learner is mobile and is in the center of the act of learning, whereas the technology is only an enable for learning in any context. Mobile learning is a social event, which includes mobile people and enables the configuration of spontaneous learning contents, rather than a technological event (Vavoula and Sharples, 2009).

Technologies and Applications of m-Learning

The technologies used in mobile learning studies include devices such as tablet PCs, iPods, palm computers, PDAs, mobile phones, wireless infrastructures, laptops, and smart phones (Cobcroft, Towers, Smith, & Bruns, 2006; Corlett, Sharples, Bull, & Chan, 2005). The primary mobile devices people use for mobile learning are briefly explained in the following (Corbeil, & Valdés-Corbeil, 2007; Trinder, 2005; Woodill, 2011):

Related Content

Courageous Leadership: Transitions to Sustainability by Empowering Institutional Excellence
Peggy Pelonis (2021). *Handbook of Research on K-12 Blended and Virtual Learning Through the i²Flex Classroom Model (pp. 205-215).*
www.irma-international.org/chapter/courageous-leadership/275569

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

Taking Responsibility for the Future: A Case Study of a State-Run Program to Train K–12 Online Teach
Jayme Nixon Lintonand Wayne Journell (2019). *Handbook of Research on Emerging Practices and Methods for K-12 Online and Blended Learning (pp. 1-22).*
www.irma-international.org/chapter/taking-responsibility-for-the-future/223619

Mathematics Students' Readiness for Mobile Learning
Ahmad Abu-Al-Aish, Steve Loveand Ziad Hunaiti (2012). *International Journal of Mobile and Blended Learning (pp. 1-20).*
www.irma-international.org/article/mathematics-students-readiness-mobile-learning/74724

Student Perceptions of Mobile Video Recording to Learn American Sign Language
Elaine Galeand Shiao-Chuan Kung (2019). *International Journal of Mobile and Blended Learning (pp. 1-11).*
www.irma-international.org/article/student-perceptions-of-mobile-video-recording-to-learn-american-sign-language/215362