Chapter 33
Collaborative Mobile Learning:
A Systematic Literature Review

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ABSTRACT

Mobile learning (ML) fosters engaging personalized learning where students can optimize their understanding and learning gratification via wireless mobile devices. Although there are studies conducted on the research trends on ML, not much studies were conducted on the cutting-edge researches pertaining to Collaborative ML. Collaborative ML is significant because it promotes active learning and cooperative skills. This paper aims to analyze the state-of-the-art research conducted in the span of five years for identifying the trends and focuses in Collaborative ML. The systematic literature review is conducted based on Knowledge Discovery Database model capitalizing data mining as the main research methodology. Findings were based on top ten Impact Factor Journals on Educational Technology indexed in the ISI Web of Knowledge. The SLR discovered ten main areas that were discussed pertaining to Collaborative ML which are Motivation, Students' Acceptance, Pedagogy, Assessment, Tools, Social Networking, Gaming, Knowledge Sharing, Special Needs and Communications.

INTRODUCTION

The emergence of a post-industrial information age and the explosive growth give impetus to the evolution of harnessing information and knowledge. Exponential growth of technological gadget and influx of mobile technologies provide expansive platform for researchers to look at their potentials in optimizing teaching and learning productivity, effectiveness and gratification. The robust development of mobile technologies has led to incorporation of mobile devices in learning ecosystems worldwide (Ariffin, 2011). As opined by Sharples (2010), one of the potential approaches is Mobile Learning (ML) where it is defined as utilization of "advanced mobile technologies, such as high bandwidth infrastructure, wireless technologies, smart devices,wearable and handheld devices." To frame it in the context of learning

paradigm, ML is interweaving the learning transitions in daily life sans formalized learning setting and scaffold learning process via portable tools, beyond the classroom boundaries. Due to the widening body of knowledge on ML, there is a need to refine and offer updated reviews on state-of-the-art researches on ML by conducting meta-analysis on empirical studies conducted on ML, especially in reputable and significantly cited Impact Factor Journals on Education Technology.

The convergence of the mobile devices with existing educational technologies provides learners with greater flexibility by making homogenous learning activities available and accessible by heterogeneous mobile devices (smart devices). The term M-learning is coined to describe the convergence of mobile technologies with E-learning and we can achieve this by utilizing wireless connectivity. In business, for example, the importance of m-learning has been raised as many companies look into mobile technologies to support mobility of their Knowledge Management (KM) activities. The advent of M-Learning created an environment of anywhere, anytime learning. With the advancement of hardware technologies now users could have wearable computing. Which actually support the concept of internet of things and inventually brings learning to everywhere with gadgets like (Smart Watches, optical head-mounted display (OHMD),Mobile ECG, Biometrics wrist bands, etc.

ML is novel in that it facilitates delivery of learning to the right person, at the right time, in the right place using portable electronic devices.(Ally, Schafer, Cheung, McGreal, Tin, 2007). M-learning is E-learning where different mobile devices are used for educational purposes. In this chapter we consider M-learning is extension of E-learning.

With key features like portability, ubiquity, and customization of these mobile technologies enables us to put the power of knowledge literally in the hands of today's society, by enabling them to have 24/7 access to acquire and ascertain study materials via a mobile device, takes away the constraints of always having to be in a "classroom environment" for learning to be effective.

This chapter presents a Systematic Literatiure Review (SLR) of Collaborative Mobile Learning based on the Knowledge Discovery in Database (KDD) Process (Marban et. al., 2008). First, this chapter defined ML and its past reviews. Secondly, the objectives and scope of the SLR are outlined. Next, the research design is discussed in detail and the outcomes of the SLR are presented. Finally, the contributions, recommendations for future research and the limitations of this research are highlighted.

LITERATURE REVIEW

Definition of ML

The concept of Mobile Learning derived from the mobile revolution of the late 1990s which changed the distance student from a citizen who chooses not to go to campus but within the parameter of the premise (Sharples, 2012). ML is akin to mobile devices optimizes for learning purposes where it is a device that has ubiquitous features which can be utilized in any places, sans physical constraints yet have a communication systems. It is about using the massive growth of mobile technologies to benefit learning and learners. Parallel with the development of computer technology, mobile phone goes one step further and it is remarked as a new organ in evolutionary of time line because it have directly integrates with the brain.ML refers to the use of mobile or wireless devices for the purpose of learning while on

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