

## Chapter 2

# Benefits and Barriers to the Use of Mobile Learning in Education: Review of Literature

*Maslin Masrom and Zuraini Ismail*

### Introduction

Mobile learning or “m-learning” is the acquisition of any knowledge and skill through the use of mobile technology literally anywhere and anytime. The use of mobile technologies to support, enhance, and improve access to learning is a relatively new idea. In this respect, mobile technology refers to any device that is designed to provide access to information in any location or while on the move. Specifically this includes, but is not limited to, mobile phones, personal digital assistants (PDA), tablet computers, and laptops.

Mobile technology can offer new opportunities for learning that extend beyond the traditional teacher-led classroom scenario. Advancements in mobile and wireless technologies have had an impact in educational settings, thus generating a new approach for technology-enhanced learning called mobile learning or “m-learning”. Nowadays, mobile learning is the buzzword of the day.

New advances in learning via cellular and mobile technologies now allow teaching institutions to experiment with bringing the new modes of teaching to remote audiences. The use of mobile learning technology encourages students’ active participation in the learning process. Mobile phones have an undeniable potential to expand the accessibility of learning opportunities. Alternatively, the use of mobile learning in education can change the teachers’ or lecturers’ or instructors’ perceptions of teaching and learning. For example, teachers or lecturers or instructors intentionally prepare more interactive activities to replace traditional lectures.

The mobility of digital technologies creates fascinating opportunities for new forms of learning because they change the nature of the physical relations between teachers, learners, and the objects of learning. Even the traditions of distance learning cannot offer the flexibility of these new kinds of interaction, so the rise of interest in mobile learning is understandable. An increasing number of colleges and universities are adopting mobile wireless technologies as teaching and learning tools.

According to Swett (2002), more than 90% of public universities and 80% of private universities in the United States of America have some level of mobile wireless technologies, such as mobile wireless devices and networks. One such institution is Louisiana State University (LSU), which implemented Cisco CTE 1400, an application enabling the transformation of web page into a format appropriate for mobile wireless devices. This application enables LSU to deliver its web content and applications to mobile wireless devices mainly because of the increasing number of mobile devices users: 76% used mobile phones, 14% used personal digital assistants (PDAs), and 9% had devices enabled for wireless connectivity (Cisco system, 2003). Other universities, such as the University of Minnesota and the University of South Dakota, even require students to have mobile wireless devices for their school assignments (Oliver & Wright, 2002).

Mobile learning has many benefits in the mobile world: in schools, colleges, universities, and workplace. Technology has made it possible to communicate over vast distances with a very wide audience. Mobile learning has reached out to many individuals who can now access learning materials at their own convenience regardless of their commitments. The focus is on user-mobility and distance learning. At the same time, in order to implement mobile technologies, there are many barriers that education institutions need to address. Therefore, the aim of this chapter is to review the benefits and barriers to the use of mobile learning in education and propose the conceptual framework that associates the benefits of mobile learning with their barriers and use.

The following section of this chapter begins with the learning system in brief, followed by definitions of mobile learning and its structures. Then, the chapter proceeds with the benefits and barriers to the use of mobile learning in education, and subsequently presents a framework. The chapter finally ends with conclusion and future research directions.