Applications of Mobile Learning in Higher Education: An Empirical Study

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ABSTRACT

As mobile devices’ use among consumers accelerates at an exponential rate, there is a need to examine how these mobile devices can be used as effective learning tools and not just as a form of communication. In this paper, the authors use an empirical survey methodology to study various mobile learning tools that are currently available for use in higher education, their advantages and disadvantages in m-learning versus e-learning implementations, and to explore the current trends in m-learning.

Keywords: E-Learning, Higher Education, M-Learning, Mobile Devices, Mobile Learning

INTRODUCTION

Development of information technology and use of internet has brought about major changes to the traditional educational paradigm, with electronic learning (e-learning) using the Internet emerging as an alternative channel of education to the traditional face-to-face education. E-learning plays an important role at different levels of education settings. E-learning provides advantages in terms of time and space compared to the traditional classroom type of education (Weekes, 2006; Slevin, 2000). It is expected that e-learning providing remote or distance learning capability could be a viable alternative to the traditional face-to-face education.

Recent advances in mobile technology have enabled a variety of mobile technology applications to learning. Mobile devices include cellular phones, personal digital assistants (PDAs), MP3 players, smart phones, portable game devices, handhelds, tablets, and laptops (Wagner, 2005). More and more people from all ages use mobile devices, and it appears that they are familiar with using these devices (Wagner, 2005). It is estimated that the mobile phones are currently used by 50 percent of world population and is expected to grow to 80 percent in 2013, which would be about 5.8 billion people worldwide, compared to 1.5 billion people in 2004 (IBM Study Finds, 2008; Prensky, 2004). This number is considered to be at least three times more than that of PCs (Muyinda, 2007). In the U.S., in one year between January 2008 and January 2009, the number of people who used web-enabled

DOI: 10.4018/jicte.2010070107
mobile devices such as smart phones every day
grew from 10.8 million to 22.4 million (Kolakoski, 2009). In 2008, the United States had
15.6% active mobile Internet usage penetration
rate with 40 million mobile subscribers who use
these services at least once in a month (Figure
1), of these about 39.2% are in age group of
18-34 years (Nielsen Mobile, 2008).

In today’s society, there is a constant influx
of new information. Therefore, having the abil
ity to learn by making use of technology that is
better suited to deliver knowledge and resources
in real-time is a becoming a necessary skill in
itself. By adding the mobile technologies that
enable capability to learn “anytime, anywhere,
e-learning is transformed into mobile learning
(m-learning). For this reason, m-learning can be
used as an effective tool to support classroom
material, introduce new ways of learning, and
help enhance study skills. Moreover, with
younger populations becoming acquainted
with technology at an earlier age, its effects on
learning may have a powerful impact.

One of the major advantages using technol
ogy in education is its effect on raising learners’
motivation to learn. This phenomenon is more
evident for the younger generations who grew
up using computers in their daily lives. Since
this generation is used to the fun activities and
various learning tools available in digital realm,
traditional ways of learning sometimes does
not appeal to them. However, with the use of
technology, learning process does not have to
be boring. In the e-learning context, interactive
and fun activities are possible to implement.
Moreover, since a young learner’s attention
span is usually very short, fun and interactive
activities that invite learners’ active participa
tion are more effective (Koo, 2008).

This research examines how these mobile
devices can be used as effective learning tools.
Also, we explore the various kinds of learning
tools that use mobile technology are currently
available. In particular, the current trend and
people’s awareness about m-learning is sur
veyed. This study focuses on the following
research questions:

1. What kinds of learning tools using mobile
technology are currently available?
2. Are learners (students) familiar with the
mobile learning tools?

Figure 1. Active users of mobile internet in the United States (in millions). Source: Adapted from
Nielsen Mobile, 2008
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