# Chapter 3
# Educating University Students:
## Can Mobile Technologies Help?

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## ABSTRACT

*Recent technological advances mean mobile phones can now be thought of as computers that fit in pockets. With the Apple iPhone and the Google Android Phone leading the way, mobile phones today offer many technological possibilities including SMS messaging, browsing the World Wide Web, watching and making videos, downloading and playing educational games, partaking in discussion forums, blogging, etc. Educators are currently looking at the mobile phone and other mobile technologies (such as netbooks, PDAs, Nintendo DS, SONY PSP, media players, iPod Touch, voting systems, and specialist cameras) as a way of immersing the student in the learning process. These new mediums allow students to record, organise, access, share, and reflect on work-based learning experiences. The aim of this chapter is to examine how universities can use mobile-learning tools, with a view to engaging students in the learning process while also developing their meaning-making system.*

## INTRODUCTION

In times of crisis, we change. Today, the world of education is changing. Globalisation, technological shifts, financial booms and crisis, demographic pressures and most importantly changing user expectations are all forcing education to adapt. This is particularly the case for third level education. While traditionally third level students were in their early twenties, attended University full-time and spent many hours each day in the University library, this is no longer the case. The

DOI: 10.4018/978-1-4666-1987-6.ch003

modern student inhabits a social, cultural, and technological environment (Cobcroft, et al., 2006) and is just as likely to be a shopkeeper in search of a formal training, a financial manager who wants to learn more about risk management or a solider on military duty, anywhere in the world, who wants to complete a degree in Business Strategy. Life-long education and education-on-the-move have become an integral part of the knowledge economy we find ourselves in.

Today a new way of educating and learning is appearing - mobile learning, known as m-learning. M-learning is not just learning using a portable device instead of a book, in fact, the mobile device is no more than a learning enabler. O'Malley et al. (2003, p. 6) argue that m-learning is "any sort of learning that happens when the learner is not at a fixed, predetermined location or, learning that happens when the learner takes advantage of learning opportunities offered by mobile technologies." The advantage of m-learning is that it provides the learner with a high degree of mobility, flexibility and independence. Learners of all ages, nationalities, and social groups can use unexpected idle times spontaneously for learning, obviating the need for computer access and the availability of printed learning materials.

The 21st Century educator can and should see technology as a way to engage the learner more in the education process. Being a competent educator goes beyond simply telling your students what they need to know. Each student in a class is a unique individual, who learns and processes information in a different way. It is noteworthy that educators address these different learning styles and adapt their teaching styles so as to maximise the return on each new learning opportunity. Keegan (2011) argues that there are four types of learners: visual learners (students who learn through seeing or reading), auditory learners (students who learn through hearing), reading/writing learners (students who learn by reading information and then writing it), and tactile/kinaesthetic learners (students who learn through doing). To a large extent teaching and learning in many universities, particularly in the area of business and the social sciences, focuses around the first three of these learner types. The modern student, however, is more likely to be a tactile learner—this student learns from role-plays, practicing experiments, short lectures, and learning environments where they can view, handle, and experiment with ideas and instruments. With this in mind, this chapter examines how mobile technology can be used to enable higher order thinking and to enhance the student learning experience.

To date the majority of research in this field has examined the application of mobile learning to disengaged youths (Attewell, 2005) and primary school students (Sharples, et al., 2002; Silander, et al., 2004; Zurita & Nussbaum, 2004), with only a few studies examining tertiary students (see review in Duncan-Howell & Lee, 2007). In third level education, we now have the opportunity to design learning differently, to create extended learning communities, to link people in real and virtual worlds, to provide expertise on demand, and to support a lifetime of learning. This chapter focuses around four key issues. Firstly, we review what is meant by m-learning; secondly, we examine the key criteria required to foster and develop higher order thinking; thirdly, we examine whether m-learning can be seen as an incentive mechanism which can motivate students to immerse themselves in their education; and fourthly, we examine how modern technology can be used to enable and enhance critical learning. We begin in the next section by defining what is m-learning.

## Background

Many definitions of mobile learning exist in the literature. For example, Stead (2005, p. 3) defines mobile learning as "making use of whichever devices and technologies surround our learners, in an attempt to empower and enrich their learning, wherever and whoever they are." Wexler et al. (2008, p. 256) define it as "any activity that