

# Chapter 9

## iClassroom: Opportunities for Touch Screen Handheld Technologies in Learning and Teaching

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### ABSTRACT

*Hand-held technologies such as Apple's iPod/iTouch/iPhone devices are now capable of being used for educational purposes as well as for entertainment. The purpose of this chapter is to discuss the issues, content authoring, usage, workload, and pedagogical consequences of creating an iClassroom for mobile learning based on these devices. Use of podcasts and vodcasts by students, and their rate of success are varied as shown by studies reviewed from the literature and carried out by the author for this chapter. Several strategies for reducing workload at an individual and institutional level are proposed for adoption by educators. Key recommendations from this chapter are an increased emphasis on evaluation, usage of models for developing content, and an inclusion of iPod/iTouch/iPhone devices as part of an overall architecture for m-learning.*

### INTRODUCTION

Recent advances in hand-held, touch-screen devices open up many opportunities for learning and teaching. Already, many third-level institutions world-wide have introduced such devices in many different ways to both engage learners and teachers, as well as to provide administration support. While there are many such devices now available, this chapter will concentrate on the

use of Apple technology with video capabilities: specifically the iPod/iTouch/iPhone devices, as these are the devices that the author has most experience with. The power of these devices lies in their portability, connectivity, and flexibility. They can be used for a wide variety of education types such as the delivery of HIV/AIDS educational material to a college population (Shim, Crider, Kim, & Raffin, 2008), the provision of College services to students (Sacco, 2008), and the use of podcasts by students for reflective learning (Ng'ambi, 2008).

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This chapter reviews:

- the existing literature on the use of iPod/iTouch/iPhone devices in the classroom
- the pedagogical challenges in the use of iPod/iTouch/iPhone devices in the classroom for e-learning content
- existing uses of such technologies in third-level institutions
- examination of both student and teacher perceptions on the use of iPod/iTouch/iPhone devices in the classroom
- workload implications for educational technologists
- an exploration of m-learning and the use of iPod/iTouch/iPhone devices

## BACKGROUND

Since the introduction of the original iPod from Apple on the October 23, 2001, advances in hand-held technology have opened up many opportunities for educational use of iPod/iTouch/iPhone devices. Early Apple devices were used mainly for entertainment purposes only: they were capable of little more than playing music. With the introduction of iPods with colour display in 2005, and video capability in 2006, educators started to get interested in looking at ways to use these devices to enhance the educational experience for students. Innovative teachers and lecturers started to use podcasts—sometimes recording entire classes—which were then made available to students. In the meantime, the storage capacity of hand-held devices soared: by 2007 the capacity of the iPod had reached up to 160GB. Suddenly file size was no longer a major technological issue: recordings (podcasts) that needed many megabytes of storage capacity could easily fit on an iPod. Videos (vodcasts) were now also available for the iPod.

In January 2007, Apple announced the introduction of the iPhone that ‘completely redefines

what users can do on their mobile phones’ (Apple Press Release, 2007a). While the storage capacity of the initial iPhone was smaller than the then available iPods, it was instead a feature rich device that had touch-screen capabilities. By September 2007, Apple had also introduced the iTouch: essentially the same as an iPhone, but without mobile phone capabilities. By the end of 2007, Apple had a suite of products with Internet access and media rich audio and video capabilities: the iPod, iTouch, and iPhone. The iPhone 3G has recently become the top-selling mobile phone in the USA (NDP Group, 2008). In February 2009, the iPhone accounted for a ‘staggering 66.61 percent of mobile traffic’, though just ‘0.48 percent of the web’ traffic (Malley, 2009).

Initially teachers had to distribute their podcasts and vodcasts through their own websites. In May 2007, Apple launched iTunes U which is a dedicated area within the iTunes Store that provides ‘free content such as course lectures, language lessons, lab demonstrations, sports highlights and campus tours’ (Apple Press Release, 2007b). To date there are over 200 universities and colleges such as Oxford, Cambridge, Yale, Trinity College Dublin, and The Open University UK, with a presence on iTunes U. iTunes U makes content available for download onto iPod/iTouch/iPhone devices. Currently there are over 100,000 educational audio and video files available ranging in content from lectures on quantum mechanics at Stanford University, to Creative Writing at the Open University, and to Genetics at the Université Paris Descartes.

In July 2008, Apple launched the App Store—a resource for third-party developers to create their own applications for the iTouch and iPhone and making them available online through iTunes, many of which are free. At the time of writing there are over 15,000 applications available with over 500 million downloaded so far (Burrows, 2009). Of these, over 3,000 are education related applications. These range from applications that teach a variety of subjects such as: languages,

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