

## Chapter 3

# Using iPads in University Mathematics Classes: What Do the Students Think?

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### ABSTRACT

*This chapter reports on two studies carried out with first-year undergraduate students in Mathematics classes. The first study investigates regular use of iPads over the course of one semester. Overall, the students reported positive impressions regarding the use of iPads in their Mathematics classes. However, only 47% stated that they would join an iPad class in future semesters. The second study is a qualitative follow-up to the first to find out why the majority said they would not join an iPad class in the future. The students in the two studies could see both the value and the drawbacks that the use of iPads in their Mathematics classes would provide. The findings suggest that as supplement to instruction the use of iPads has the potential to enhance the learning process, but classes delivered using iPads only would not meet the educational requirements or expectations of the study's participants.*

### INTRODUCTION

The move towards mobile learning has been on the rise world-wide in both K-12 and higher education since the beginning of the 21<sup>st</sup> Century (Motiwalla, 2007, Sharples, 2002). However, according to Wishart and Green (2010) the use of mobile devices

in higher education has been on a smaller scale compared to K-12 institutions. In their investigation of iPads in higher education, Gawelek, Spataro and Komarny (2011) found that faculty and students who do use iPads do so for convenience, portability, communication, information gathering, note taking, reading, and interactive work. In another study in

DOI: 10.4018/978-1-4666-7316-8.ch003

2011, looking into mobile technologies and apps in higher education, Khaddage, Lattemann and Bray also found that the use of mobile devices in higher education is limited. This may quickly change as per the 2013 NMC Horizon Report which listed tablet use in classrooms in Higher Education as a key trend with a time to adoption being one year or less. As Salmon points out, “as we move forward, higher education will become increasingly mobile, resulting in students carrying their university in their pockets” (2012, para 1). Reasons for this include students’ familiarity with technology and the wide, and reasonably priced, availability of smart phones and tablets. However, as Matias and Wolf point out, “mobile learning is not just about using or learning with a mobile device. The appeal of mobile learning is about learning across contexts such that the nature of the learning is mediated through the portable technology” (2013, p. 118).

Reasons for the growth in mobile learning include more than availability of devices; it also has to do with the changing student population and their expectations. As Fee (2009) notes, “today’s young people have been using digital technology from a very early age: desktop and laptop computers, games consoles, mobile/cellular phones and other handheld devices, and all the connectivity of the internet” (p. 2). Some believe that this early and ongoing exposure to technology has created a new kind of environment for the current generation to grow and learn (Holmes & Gardner, 2006, Warschauer, 2003). White and Le Cornu (2011) proposed the term “digital residents” to describe, not only today’s students, but anyone who:

*...see [s]the Web as a place, perhaps like a park or a building in which there are clusters of friends and colleagues whom they can approach and with whom they can share information about their life and work. A proportion of their lives is actually lived out online where the distinction between online and off-line is increasingly blurred. Residents are happy to go online simply to spend time with others and they are likely to consider that they ‘belong’ to a community which is located in the virtual.*

This notion of digital residents fits in with the characteristics of the Connected Learner. As Masie noted, “the ‘e’ in e-learning initially meant electronic. Now it means everyone and everywhere. It means effective and engaged experiences. It means experiential. Now we’re talking about the connected learner” (2012). Learners can now connect to an ever-widening circle of mentors, peers, experiences and information sources. All these opportunities to connect in the virtual world bring people together who want to learn together to create mutually beneficial relationships. These relationships create communities which help to form pathways so that formal and informal learning are no longer separated to the same extent as they have been in the past (<http://coopcatalyst.wordpress.com/2011/02/01/connected-teaching/>).

Plekta (2007) notes that the expectations of the learning process have also changed for today’s students and suggests that this generation, more than any other generation, “expects a personalized educational setting that meets their needs, provides immediate feedback, and enables them to move at their own rate” (p. 129). McGlynn (2008) agrees and lists the following characteristics of today’s learners:

- Expect to be entertained,
- Expect a fun and interactive learning environment,
- Expect the teacher to take a proactive/active role,
- Expect to be engaged in the classroom,
- Expect 24/7 access,
- Expect immediate feedback (instant gratification),
- Expect a customized learning environment / expect info that is relevant to their lives,
- Expect to work in groups / enjoy collaborative learning,
- Expect a learner-centered / process driven classroom.

Appropriate use of technology is one way to meet the changing needs of today’s students.

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