Using Mobile Devices in Higher Education

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Abstract

As technology becomes a more important part of every facet of our modern society, higher education must deal with an ever increasing gap between how students live and the traditional classroom. Educators have tried with varying degrees of success to incorporate new technologies into the curriculum as the new technologies become available. Mobile handheld technology is the latest evolution of personal computing and studies have demonstrated that these new devices have the power to transform the curriculum. Properly used, these devices can transition occasional, supplemental use of computers for instruction to more frequent use allowing educators to make them an integral part of the curriculum. This study investigates how mobile handheld technology has been incorporated into the graduate education curriculum.

In the past few years, mobile devices have become a common part of modern life. Their capabilities have increased at an amazing rate and now devices like tablet computers and smartphones are replacing a multitude of other common devices that have been a part of modern
life for years. The traditional telephone is quickly disappearing from many homes and businesses as wireless technology makes a phone that is anchored to a fixed location almost obsolete. Televisions face a similar threat as the available bandwidth and coverage area for mobile devices allows television programs to be broadcast to mobile devices located almost anywhere. It is not uncommon to see someone watching movies and television shows on their mobile devices as they wait in an airport or enjoy a cup of coffee at the local Starbucks. The same scenario is playing out for a host of other common household devices including clocks, calculators, stopwatches, cameras, books, thermometers, global positioning systems, maps, notebooks, textbooks, measuring tapes, radios, audio recorders, dictionaries, thesaurus, encyclopedias, to name just a few. With these new capabilities, mobile devices are now becoming a more powerful force in public education and many studies have investigated both their potential uses in the public school classrooms and the effectiveness of these programs compared to traditional instruction. Students and teachers are increasingly embracing these new technologies in their personal lives but the question remains as to whether or not these devices have a place on the college campus (Wong, 2012). In this study we will look at the opportunities for incorporating these emerging technologies into higher education.

Interest in incorporating mobile learning into higher education is not a new concept. Many early efforts at infusing mobile technology into the curriculum centered around Apple products. Apple Computer has always been a leader in the field of education and their mobile devices were clearly superior to other products making them the platform of choice for early adopters. The superiority of the Apple products is demonstrated not only by their huge market share when compared to other manufactures of mobile devices but also by their increase in iPad sales year after year. iPad sales in the third quarter of 2012 were double their sales from the
third quarter of 2011. Add to this the fact that overall PC sales declined from 1.9 million to 1.64 million in this same quarter and it is easy to conclude that “the iPad is beginning to cannibalize a material portion of PC sales in this market” (Hughes, 2012).

An example of early attempts can be seen in a project at Abilene Christian University. In their 2008-2009 Mobile Learning Report, researchers at Abilene Christian University noted that “iPhones presented a more attractive platform for learning” than traditional classroom instruction (Kolowich, 2009). To explore whether or not these devices could be used to enhance instruction, this university set out to transform its campus into a “perti dish for studying the intersection of mobile technology and higher education” (Kolowich, 2009). iPhones and iPod devices were distributed to their first-year undergraduate students as they investigated whether or not these devices could be used to enhance their curriculum and the results were astonishing. Eighty-nine percent of the students and eighty-seven percent of the faculty felt that the program was successful. They found that mobile handheld devices allowed them to move instruction beyond the traditional classroom. Students were able to take these devices out into the world to explore and experience a reality that had previously been unavailable as they could only discuss it using simulations.

The approach at Abilene Christian University was in large part responsible for the success of the project. While many previous experiments with mobile learning made the devices available and then waited to see what the students and faculty would do with the devices, this study was more active as professors were urged to integrate the technology into their courses and measure the changes that resulted from inclusion of the devices. As an example, a class of chemistry students was issued iPhones and some lessons were taught using podcasts while other
classes were taught using traditional classroom instruction. The students who were taught using the mobile devices scored slightly higher than those taught by traditional methods. While the grades of the students in the experimental group were not significantly higher, the fact that they were not lower provided evidence that their courses could move to a mobile platform without risking a loss in student achievement.

While many colleges and universities began integrating mobile devices into their curriculums, a number of institutions went further and published apps for both iPhones and the Android operating system that allow students to access campus news, maps, announcements, and other information of their smartphones (Keller, 2011). These apps bring phenomenal capabilities to the smartphones allowing students to access maps of the campus, mobile learning environments like Blackboard, and in some cases they could point the camera of their smartphones at a building on campus and access information on the purpose of that building as well as who worked inside. While these apps are quite impressive, Keller notes that at least a few colleges are now rethinking this approach and determining that stand-alone applications that can be downloaded from an app store might not be the best way to make these capabilities available to students and are instead opting for mobile-optimized versions of their web sites (Keller, 2011). Proponents of the mobile web sites say that developing apps for multiple platforms is getting much too expensive. “ Developers at the University of California estimated that the system will save about $1,000,000 in staff time each year by using UCLA’s mobile framework rather than trying to build downloadable applications (Keller, 2011).

Scottsdale Community College in Arizona has recently begun a new initiative to determine whether or not the devices can positively impact higher education. In their study they
have equipped faculty and students in selected classrooms with iPads. The college has also purchased iPads for students to use in their tutorial center. The question they are trying to answer is what types of classes show the greatest gains in achievement from using the mobile devices. iPads were placed in English, Journalism and film classes. The devices have definitely increased collaboration among students but as yet there study has yielded no definitive results on whether or not the devices have resulted in increased student achievement. Ron Bonig who is their director of higher education research states that they are “at the stage where administrators are doing the analysis and going, ‘Here’s where it’s good and can make a big impact, and here’s where it isn’t.’ Few have nailed it down, and the vast majority are still testing” (Wong, 2012).

A project at Houston Community College used iPads, Kindles, and dual-screen tablets. The Kindles were used primarily in English classes. The instructors did not change their teaching styles but students who switched to electronic books saved a great deal of money and did not have to deal with all the heavy textbooks that their classmates had to carry.

At Jacksonville State University we have begun using mobile devices in a number of classes. The administration in the College of Education recently polled instructors to determine who would be interested in using the devices in their classrooms and purchased third generation iPads for the interested faculty members. The range of courses where the devices have been used in quite broad ranging from PE to communications, special education, counseling, school administration, and instructional technology. By installing Apple TV in the classrooms, the iPads were able to control projection devices, smartboards, and access the Internet making traditional PC’s virtually obsolete.
Works Cited


