

The Advent of Digital Tablets in Higher Education

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Within the scope of educational development, the utilization of progressive pedagogic tools has always been a definitive aspect of forward thinking within the didactic community. With the advent of digital technology, the field of education has taken massive strides forward in terms of cultivating and sustaining high levels of effectiveness and efficiency, considered by many to be conducive toward delivering instructive content to the academic masses. In spite of this fact, the need to improve upon current teaching ideologies and methodologies with fresh and innovative approaches, has long been viewed by conventionalists as nothing more than an instrument for needless change and incessant progress. As might be expected, the bastions of pedagogic orthodoxy remain adamant about their staunch views that cater to a more outdated traditionalist belief system. The purpose of this literature review is to examine the effectiveness and impact of digital tablets as viable and useful pedagogic learning tools within higher education classroom settings.

Pedagogic Tool

Electronic Textbooks. Over the course of the past few years, the digital tablet market has increased exponentially with enthusiastic consumer support for devices such as Apple's iPad and Samsung's Galaxy Tab. Within the context of global culture and educational development, these contemporary tools are working fast at becoming a fixed and integral part of the academic and pedagogical experience (Ozdemir, 2011). Designed with intuitive touch interfaces, these devices provide a method of interactive learning that at one point could only be imagined in science fiction movies. As an all-purpose educational tool, the digital tablet performs a wide variety of functions that is only limited by the creative and talented group of software developers writing applications for this hardware platform (Nelson, Arthur, Jensen, & Van Horn, 2011).

This adaptive performance factor makes digital tablets more than capable at performing the basic duties of standard E-Book readers (i.e. Amazon Kindle, Barnes & Noble Nook, Kobo Touch, Sony Reader, et al.) that simply render electronic textbooks for students who prefer their prose displayed in pixels than on paper. According to Shen (2011), a case study conducted at the California State Polytechnic University at Pomona, attests to a strong budding interest and readiness for electronic textbooks on digital tablets from librarians, students, and educational faculty. Based on the results from her study, Shen suggests that as more schools begin to adopt and accept the inevitability of the imminent paradigm shift, the need for paper-based textbooks as a pedagogic tool for the classroom will soon be deemed dated and obsolete (Shen, 2011).

Interactive Media. In addition to functioning as an E-Book reader, current digital tablets have the uncanny ability to double up as an interactive media device. The use of an educational tool that is interactive and fun provides for a more immersive and effective learning experience that accommodates both visual learners and individuals with cognitive challenges. A recent study by Kagohara, Sigafos, Achmadi, O’Rielly, and Lancioni (2011) revealed the need, prudence, and importance associated with the utilization of digital mobile devices within a classroom setting for students with social constraints and learning impediments. Devices such as the Apple iPad and Samsung Galaxy Tab have proven to be an effective means of delivering stimulating educational content that supports interactive mobile learning activities in and outside of the classroom setting (Hwang, Wu, & Ke, 2011).

According to Paxhia (2011), results from his case study suggest that the "Next-generation digital learning products have tremendous potential to offer students individualized solutions to their learning challenges. Their levels of customizability and interactivity are appealing to both students and instructors” (p. 326). Paxhia’s bold yet substantiated assertion is a good indicator of

how interactive digital content on tablet devices will further help to transform the educational industry from the current static teacher-centered modal to a more dynamic student-centered modal (Paxhia, 2011). As a hopeful yet objective observer in the utilization of technology as an instructional tool, I feel optimistic about the future of digital tablets as interactive media devices. Based on recent studies, there is a fair amount of potential with regard to cultural impact and didactic effectiveness of these devices.

Impact

Video Modeling. In a study conducted by Kagohara et al. (2011), the utilization of iPad tablets was shown to be highly effective at supporting and reinforcing the way students with autism spectrum disorders (ASD) learn. In addition to markedly improved performance scores, participants of the study were also found to possess a greater sense of self-efficacy based on their desire to work independently in the completion of their assigned tasks. Prior to the introduction of the iPad, the baseline scores for task performance were consistently less than 40% on average. With the use of an iPad, a form of video modeling was used as an instructional strategy, which was highly effective at raising the baseline scores to 100% performance accuracy in the five intervention sessions and follow-up assessment sessions (Kagohara et al., 2011). In this example, the utilization of digital tablets reveals a significantly important aspect of how this new pedagogic modal can greatly impact the way students with cognitive challenges approach and experience the learning process.

Mobile Portability. According to Courts and Tucker (2012), in 2010 over 77.4% of the U.S. population utilized the Internet for a variety of different reasons. From this staggering yet conceivable statistic, 86% were found to be college students who consider themselves frequent "netizens" of the infamous Interweb. With wide adoption of social media sites such as Facebook,

Twitter, and Google+, today's college students are well versed in the fundamentals of social interaction over mobile digital devices. From this wellspring of shared information and communal access arose the push toward online computing where the concept of cloud storage has become a very popular and effective means of accessing data. For many college students, the ability to access their personal files from the "cloud" via digital tablet is a vast improvement over the days of misplaced flash drives and heavy laptops. With college campuses across the country sporting some form of Wi-Fi access to the Internet for students and faculty, the respective impact and implications that digital tablets have toward higher education is substantial.

Effectiveness

Academic Development. With a strong push from the educational community for use of digital tablets within academic settings, the floodgates of creativity and opportunity have been opened, allowing developers from around the world to create a robust ecosystem of applications for this thriving platform. With the use of "instant on" portable mobile devices, college students have the ability to access and manipulate information at a moment's notice. In the case of college students who are in creative programs, they now have the ability to put thought to paper (tablet) quickly. The need to lug around a bulky art kit or a stack of writing journals for the purpose of capturing moments of inspiration is somewhat passé.

There are many graphics applications that provide the Art Major with access to an array of different art mediums (i.e. charcoal, oil, pencil, watercolor, crayon, pen, chalk, et al.) with a variety of textured art surfaces such as canvas and bristol. For the Writing Major, there is a plethora of writing applications to suit just about any writing taste. Everything from built in dictionaries and thesauruses to specialized fonts and customized templates are also available in these portable hand-held devices. An additional bonus is the ability and flexibility to have all of

the student's creations seamlessly synchronized with online services such as Dropbox, SugarSync, iCloud, and Box.net. There is little need to worry about losing creative works since the information is backed up and accessible from multiple computer devices (Luo, 2008).

Learning Attitudes and Achievements. According to a study by Cavus and Uzunboylu (as cited in Brand & Kinash, 2010), the researchers found that student perceptions of digital tablet devices significantly increased over time and improved levels of critical thinking were found to be a direct result of student acceptance and approval. Another study consisting of 152 surveyed university students, reported positive perceptions toward the use of tablet devices as a learning tool. According to Liaw, Hatala, and Huang (as cited in Brand and Kinash, 2010), the results from their study suggest that any mobile learning platform designed for autonomy and high interactivity improves student's attitudes and level of personal achievements. In terms of academic success and the role that digital tablets have within the process, Kinash (2011) found that students were "laid back in their attitude toward mobile learning" and that "rather than seeing mobile learning as distinctive or inspirational, they perceived it as an obvious and expected way of participating in university study."

Conclusion

While there are evident benefits to the use of digital tablets within a classroom setting, there is a prevailing consensus by many steadfast conventionalists who still believe that there is not enough conclusive empirical evidence to support and corroborate the effectiveness, impact, and overall use of tablets as a pedagogic tool. Despite studies that clearly indicate improvements in student attitudes and achievements when coupled with digital tablets, the ongoing debate by non-progressives assert that the growth and development of knowledge, skills, and attitudes will only happen if educators have a strong pedagogy and apply conventional teaching and learning

principles (Kinash, 2011). While I agree with this teacher-centered perspective to a certain point, I believe the future in education will be geared around a more student-centered approach that is more conducive toward the utilization of digital tablets within the classroom setting. The need for more research on this topic is an absolute must if we intend on pushing beyond the umbra and obscurity of the existing didactic mindset.

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