

# Chapter 44

## Exploring Faculty and Student iPad Integration in Higher Education

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### ABSTRACT

*Higher education institutions are exploring the impact of technology integration in educational settings since the release of marketed devices like the iPad and Chromebook. A university in the southern region of the United States launched a yearlong feasibility study to explore how mobile technologies support student learning, influence instruction, and identify how faculty and students perceive the usage of mobile devices for teaching and learning. The population consisted of freshman-level participants enrolled in a general education biology course. Student participants ranged from 17-21 years of age. All students were provided with an iPad to use during the year. Researchers used several data sources to collect bi-weekly observations on both faculty and students, a student survey, and post focus group interviews with students and faculty. Using the SAMR model paired with Bloom's taxonomies, findings described the various levels in which iPads were integrated into instruction by faculty and student participants. Research revealed student appreciation of iPad affordances and features of the device. The analysis also identified building infrastructure, technology support, and teacher training in technology integration as vital pieces to a successful schoolwide implementation.*

### INTRODUCTION

In 2012, Apple broke all sales records, just two years after the first Apple iPad hit the market [April 3, 2010]. Of the 200 million iPads sold since June 2014, nearly 8 million iPads are in schools (Smith & Santori, 2015). A large iPad adoption came from San Diego's Unified School District, in which they

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invested 1.3 billion to equip all 650,000 students with a digital device (Oliver, 2012). There were many challenges associated with this massive deployment; teachers were unable to get their data to provide differentiation, assessments were only available paper-based, and coursework was not delivered on time. Many teachers scrambled to develop their curriculum, often reverting to outdated textbooks. Funds for this massive deployment were procured through government funding and earmarked for technology upgrades (Prasertsilp & Olfman, 2014).

In 2012, the Thailand government deployed nearly 530,000 tablets to support K-12 education in the country through a project called One Tablet Per Child (OTPC). Recently a district in Alabama received an Apple ConnectED grant in which Apple donated \$100 million toward the provision of iPads, MacBook's, and other Apple-related products. Apple also provided professional development tools to 114 schools to support this deployment. Out of the selected schools, 96% of students are eligible for free or reduce lunch programs. These numbers illustrate the mass adoption of devices for academic settings. In-service as well as pre-service teachers are all experiencing this mass influx of devices and scrambling to implement these mobile devices to support student learning.

Ubiquitous computing, Internet access, and the proliferation of affordable mobile devices have laid the foundation for our digital destiny. Today roughly, 6 billion people have access to a connected mobile device, yet 60% of the world's population will remain unconnected. Some of the lowest percentages will come from developing countries. Global initiatives are focused on the distribution of devices such as One-Laptop-Per-Child (OLPC) and World Ahead as well as national policies supporting mobile education in Spain, Singapore, Iran, Africa, and Ireland.

Apple is positioned to change the landscape of education due to the high level of functionality, low level of training, support, and maintenance of the iPad. In March 2017, Apple decreased the cost of the 9.7-inch tablet to specifically target the United States educational market (Reuters, 2018). Unprecedented levels of mobile devices have permeated the landscape of education, changing the way we access information and utilize this information for training. Selection of the iPad is often driven by a wide range of educational decisions to support the educational setting. The lightweight, the portable device offers ten hours of battery life, which helps the portability of anytime anywhere learning and providing a high level of interactivity.

Mobile education takes place when students use portable devices such as iPhones, iPads, or tablets to access content and to interact with other learners anytime anywhere and many universities and colleges have begun to explore ubiquitous learning through the implementation of iPads. Most initiatives are scale, and often institution led. Studies range from single class pilots to campus-wide distribution allowing participants the freedom to break away from the traditional classroom model, untethering students from their seats.

As schools begin to implement iPads for instruction, a clear rationale should be identified before the adoption of any device. Most compelling reasons focus on accessibility (having any time, anywhere), ease of use, increased productivity, collaboration, and personalization for teaching and learning. Adoption of the device requires significant strategic planning to ensure smooth integration with existing systems. Such preparation involves technical networks, the development of ownership models and strategies for implementation to name a few.

Technology is not only affecting educational offerings in remote areas, but also advancing well-established practices in fully developed countries. UNESCO (2015) estimates that within five years more people will access the Internet on mobile devices than on desktop computers. Currently 6 billion people have access to a connected mobile device, and there is a 2:1 ratio for every one person that accesses the

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