Chapter 2
iPad Implementation Approaches in K–12 School Environments

Heejung An
William Paterson University, USA

Sandra Alon
William Paterson University, USA

David Fuentes
William Paterson University, USA

ABSTRACT

This exploratory case study reports on the ways in which iPads are currently being used in New Jersey public schools, with a focus on the effectiveness of three different implementation approaches: 1) "ubiquitous approach," 2) "classroom approach," and 3) "sign-out approach." This study also examines how K-12 teachers and students perceived of iPads as teaching and learning tools. Findings indicate that the teachers and students viewed iPads as valuable tools for teaching and learning, yet there were also several perceived challenges. The results of this study have implications for practitioners involved in the implementation of iPad initiatives.

INTRODUCTION

Technological advances in recent years have dramatically impacted K-12 students' lives as well as the ways in which teaching and learning with technology have been carried out in classrooms. In only the past two decades, school technology has shifted from a behaviorist mindset to one in which interactivity and collaboration are the main focal points. The cost of mobile handheld devices has also dropped significantly, while the capabilities of such devices have expanded dramatically. These shifts have enabled teachers and students to better leverage digital tools for effective teaching and learning. Research indicates that the amount of time in which K-12 students have been exposed to media has increased in the past five years, and has largely been driven by use of mobile comput-

ing devices with Internet access, such as iPods, MP3 players, Smartphones, and tablet or hand-held devices (Rideout, Foehr, & Roberts, 2010). The emergence of Apple's iPad in 2010 and the exponential development of applications (apps) have also dramatically expanded the capabilities of mobile devices (Johnson et al, 2013), for which the K-12 market has been a growing sector.

iPads equipped with apps purport to be educational, tend to keep children occupied, and appear to help motivate children to learn. Consequently, many K-12 schools have invested funds for the purchase of iPads, with the hope of improving student's learning processes and outcomes, while also meeting the millennial generation's life style needs for "being digital." K-12 schools have begun using iPads to create more individualized learning activities and personalized assessments and to create more student-centered learning environments (Berson, Berson, & Manfra, 2012), for students with special needs, and for those in mainstream classrooms.

Yet, as noted by Cuban (2001), many new technologies often turn out to be little more than fads, offering less than what can be accomplished with a pencil and paper. Past technologies have often sat in the closet, unused, rather than being managed and incorporated effectively in many public schools. Furthermore, as indicated by Larkin (2011), logistical problems in coordinating the use of iPads have been one of the biggest impediments to one-to-one computing initiatives. Moreover, it has been asserted that attitudes and perceptions toward technology use within a school setting play a significant role for successful integration of technology into the curriculum (Burden, Hopkins, Male, Stewart, & Trala, 2012; Franklin, 2007; Lawton, & Gerschner, 1982; Park & Ertmer, 2007)

As a first step, in order to prevent these "over-sold and underused" phenomena (Cuban, 2001), there need to be clear plans regarding why iPads are needed, who will be using them, and how they can be managed effectively in K-12 school

environments. The major challenge facing schools that adopt iPads or other hand-held devices is in determining how to best implement and manage them in order to empower teachers and students. Unfortunately, there is little known in the literature about how these needs can be fostered, particularly in relation to specific aspects (i.e., How many iPads to purchase within a specified budget, where the iPads should be placed, and administrative control over app downloads). Further, the teachers' and students' perceived effectiveness of this technology also needs to be considered.

The purpose of this exploratory case study is, therefore, to examine current implementation approaches of iPad usage in New Jersey public school classrooms, as well as to examine the students' and teachers' perceived attitudes and beliefs about using iPads in their own classrooms. Findings are intended to enlighten broader implementation strategies. The research questions guiding this study are:

1. In what ways are iPads currently being implemented in New Jersey public schools?
2. How do students and teachers perceive of iPads as learning and teaching tools? What are the perceived challenges and solutions?

BACKGROUND AND LITERATURE REVIEW

Technology Integration and Its Effect on Learning in K-12 Schools

Educational technology loomed large in school environments throughout the 20th century, first with radio and television, and then with desktop computing. As noted by Cuban (1986, 2001), these technologies were promoted as being saviors of the educational system, but instead ended up generating learner passivity, while often negatively impacting instructional activities through an emphasis on rote memorization. Recently, however,

Related Content

New Media Literacy in 3-D Virtual Learning Environments
Yufeng Qian (2009). *Handbook of Research on New Media Literacy at the K-12 Level: Issues and Challenges (pp. 257-269).*
www.irma-international.org/chapter/new-media-literacy-virtual-learning/35918

Activities in the Secondary School: An Arithmetic, Algebraic, Analytic path
 (2021). *Computer-Based Mathematics Education and the Use of MatCos Software in Primary and Secondary Schools (pp. 396-466).*
www.irma-international.org/chapter/activities-in-the-secondary-school/260139

3D Video Production in Education
Jay Wilsonand Stefan Scott (2013). *Cases on 3D Technology Application and Integration in Education (pp. 72-91).*
www.irma-international.org/chapter/video-production-education/74406

A Brief History of Computers, Computing in Education, and Computing in Philadelphia Schools
Catherine Schifter (2008). *Infusing Technology into the Classroom: Continuous Practice Improvement (pp. 1-30).*
www.irma-international.org/chapter/brief-history-computers-computing-education/23767

Course Assessment in a Teacher's Learning Community
Giorgos Hlapanisand Angélique Dimitracopoulou (2009). *Handbook of Research on New Media Literacy at the K-12 Level: Issues and Challenges (pp. 755-776).*
www.irma-international.org/chapter/course-assessment-teacher-learning-community/35949