

Chapter 38

Preparing Educators for Development of Innovative Teaching Using Mobile Technology

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ABSTRACT

Mobile technology, in the form of smart phones and tablets, is an integral part of how we connect with information. Educators recognize that these mobile technologies shift the manner in which information is accessed, communicated, and transferred, and that they are infiltrating educational settings. A critical need is rising to prepare educators to effectively embed mobile technology in the learner's educational world (O'Hara, Pritchard, Huang, & Pella, 2013). This chapter outlines a progressive model of professional development designed to prepare educators for innovative educational uses of mobile technology. Traditional, individualized, and innovative professional development models are discussed as well as the core content that should be incorporated in this professional development. Best practices in mobile technology implementation are addressed as well as suggested strategies to transition educators from novice to experienced users of mobile technology.

INTRODUCTION

Outside of the classroom, both teachers and students experience the pervasiveness of mobile technology in their daily lives. This impact of mobile technology has not gone unnoticed by those in education ("ASU readies freshman,"

2013; Dahlstrom, 2012; Dogan, 2012; Marmarelli & Ringle, 2011; Melhuish & Falloon, 2010). Cauthen and Halpin (2012) in their Education Technology Market Watch report indicate that tablet device ownership among college students jumped in one year from 7% in 2011 to 25% in 2012. Of these students, 66% report that tablets

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improve the learning environment and 63% see tablets replacing textbooks within 5 years. Smart phone ownership in 2013 among college students has similar numbers at 53% ownership with the following breakdown of operating systems: Apple 40%, RIM 26%, Android 22%, Windows 8%, and Palm 4% (Tennessee Board of Regents, n.d.). Additionally, student smartphone owners report that 82% use them for school related tasks. Many schools and universities recognize that integration of mobile technology in the classroom is the direction education is headed as they focus on 21st Century skills (Cavanagh, 2013; Partnership for 21st Century Skills, n.d.; Rajasingham, 2011). Educators can no longer ignore the fact that it is not just about the 3R's but now includes the 4C's as defined by 21st Century skills: (a) Critical thinking and problem solving, (b) Communication, (c) Collaboration, (d) Creativity and innovation (Goldman & Lucas, 2012). Now is the time to prepare teachers to bridge the gap between student technology availability and use outside of school into that of the classroom milieu (Herro, Kiger, & Owens, 2013).

Today's learners want immediate access to information, desire frequent feedback, and respond to the interactive ability of hands-on mobile technology (Manuguerra & Petocz, 2011). Notre Dame's yearlong study found that use of iPads were overwhelmingly positive from the student viewpoint (Chapla, 2011). Notre Dame students note incorporating iPads made class "more interesting, encouraged exploration of additional topics, provided functions and tools not possible with a textbook and helped them more effectively manage their time" (Chapla, 2011, p. 2). Tablet and smart phone mobile units provide an opportunity to adjust to changes in the student population but at the same time challenge teachers to redesign instruction within this new learning environment. Dogan (2012) reports that 85% of university students in his study want to see faculty using iPads for teaching. In their responses 46% of faculty in the study indicate that they have future plans to

use iPads in their teaching but see barriers related to lack of training on educational uses of the iPad. These findings are consistent with Bonnstetter & VanOverbeke's (2012) comment that knowing how to use technology is important but educators need to learn how to teach with technology. Teachers and educational institutions that are ready to use mobile technology are indicating a need for professional development to prepare their educators (Collins & Halverson, 2010).

TEACHING WITH MOBILE TECHNOLOGY

Mobile technology such as the Apple iPad and iPhone, have tremendous educational potential with over 108,000 educational applications (apps) for the iPad available for use in the classroom (Steel Media Ventures, 2013). Etherington (2013) notes that Apple reports selling over 8 million iPads around the world directly to education with more than 4.5 million sold to U.S. based educational institutions. The iPad is currently the dominant mobile tool and the technology of choice for schools, likely due to the stability of the operating system and availability of educational apps. Schools across the U.S. and around the world are actively exploring educational use of this mobile technology (French, et al., 2012; Friedman, 2012; Heinrich, 2013).

Technology is driving the change in the way students are learning, cognitively and concretely, and is altering their perspective and the reality of how their learning occurs (Jukes, McCain, & Crockett, 2010; Richardson, 2010). Results from a recent study by Geist (2011) reveal that when college students were given an iPad in their college classroom, their stated benefit was to use them as an e-reader and as a device for instant accessibility of information during the instructor's lecture. This Net Generation, named by Tapscott (1998) and originally called the N-Generation or N-Geners, is defined by Oblinger and Oblinger

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