Chapter 3.8

iPods as Mobile Multimedia Learning Environments:
Individual Differences and Instructional Design

Peter E. Doolittle
Virginia Tech, USA

Danielle L. Lusk
Virginia Tech, USA

C. Noel Byrd
Virginia Tech, USA

Gina J. Mariano
Virginia Tech, USA

ABSTRACT

In recent years, educators across the globe have begun to employ portable, digital media players, especially iPods, as educational platforms. Unfortunately, while the iPod grows in favor as a mobile multimedia learning environment, relatively little is empirically known about its educational impact. This chapter explores the use of the iPod as an educational platform and reports on a study designed to examine individual differences in iPod use as a mobile multimedia learning environment. This exploration into applied and basic research involving the iPod reveals that iPods are being used across a variety of content areas, educational levels and geographic locations, involving a variety of pedagogies. However, very little research has been conducted to establish the efficacy of the iPod for fostering learning. To address this need, the authors conducted a study that examined the effects of working memory capacity (WMC) on learning within an iPod-based mobile multimedia learning environment.

INTRODUCTION

Mobile learning, or m-learning, is typically defined as learning with mobile technologies (see Laouris & Eteokleous, 2005). This type of definition generally emphasizes the ability to move beyond place-bound teaching and learning environments (Goh & Kinshuk, 2006; Seppala & Alamaki, 2003) based on the application of wireless educational technologies (e.g., mobile phones, personal digital assistants, laptop computers, portable digital media players). Educational research into the efficacy of mobile learning and mobile technologies tends to focus on "their use embedded in classroom practice, or as part of a learning experience outside the classroom" (Naismith, Lonsdale, Vavoula, & Sharples, 2006, p. 11). One arena in which this is especially the case is the use of portable digital media players (e.g., iPods, Zunes, MP3 players). In recent years, educators across the globe have begun to employ portable digital media players, especially iPods, as educational platforms (see Belanger, 2005; Cebeci & Tekdal, 2006; Trelease, 2006).

The use of the iPod for educational purposes has included lecture capture at Duke University (USA), podcasting at Auckland University of Technology (New Zealand), foreign language instruction at Astley Community High School (U.K), math instruction at Apollo Parkways Primary School (Australia), and an entire degree at Sligo Institute of Technology (Ireland), to name only a few. Unfortunately, while the iPod grows in favor as a mobile multimedia learning environment, relatively little is known about its educational impact. How well do students learn from podcasts? How are students using iPods to view or re-view lectures? Does listening to native speakers on the iPod affect learners' foreign language listening, writing, or speaking skills? This chapter explores the use of the iPod as an educational platform and reports on a study designed to examine individual differences in iPod use as a mobile multimedia learning environment.

iPOD RESEARCH

Over the past several years, research addressing the use of the iPod as a mobile multimedia learning environment has included both applied research, which is designed to solve problems, produce products, or fulfill a specific need; and, basic research, which is designed to expand the current knowledge base regarding learning in iPod-based mobile multimedia learning environments. There is, however, a disparity between the depth of applied and basic research, with there being much more applied research than basic research.

Applied Research: iPods in the Classroom

Mobile multimedia learning environments can take on many forms as technological advancements abound and are being used to supplement and even replace some forms of formal classroom education. The use of iPods and podcasts for educational purposes is a growing trend in the realm of education from primary school through college. Even the military has incorporated these educational tools for learning.

The Navy College Program for Afloat College Education (NCPACE) teamed with Dallas Tele-College to institute educational programs using the iPod for deployed sailors, thereby reducing the number of computers needed on board ships while still allowing the sailors the opportunity to learn (Jay, 2007). In addition, the National Defense University's Information Resources Management (IRM) College not only uses video iPods to deliver education but also to allow students to create assignments for their courses, such as recording interviews with officers.

New Mexico State University (NMSU) offers educational programs to the airmen on Holloman Air Force Base so that they can continue to pursue their education while on deployment (Venegas, 2007). Their iPod program begins with "sociology in a sack" in which the iPod is loaded with sociol-

17 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/ipods-mobile-multimedia-learning-environments/51843

Related Content

A Continuous Assessment Strategy Using Fuzzy Logic
Abraham Varghese, Jincy S. Georgeand Joseph George (2018). *Learning Strategies and Constructionism in Modern Education Settings (pp. 69-86).*
www.irma-international.org/chapter/a-continuous-assessment-strategy-using-fuzzy-logic/207944

Andragogical Curriculum for Equipping Successful Facilitators of Andragogy in Numerous Contexts
John A. Henschke (2014). *Andragogical and Pedagogical Methods for Curriculum and Program Development (pp. 142-168).*
www.irma-international.org/chapter/andragogical-curriculum-for-equipping-successful-facilitators-of-andragogy-in-numerous-contexts/106307

IS Project and Portfolio Management
Brian Cameron (2008). *Handbook of Research on Instructional Systems and Technology (pp. 476-496).*
www.irma-international.org/chapter/project-portfolio-management/20808

An Action Research: Application of a Three-Way Multimedia Blended Learning in a Second Language Acquisition and Development Course
Chih-Feng Chienand Zahra Moghadasian (2012). *International Journal of Online Pedagogy and Course Design (pp. 1-19).*
www.irma-international.org/article/action-research-application-three-way/74170

Performance Case Modeling
Ian Douglas (2008). *Handbook of Visual Languages for Instructional Design: Theories and Practices (pp. 208-223).*
www.irma-international.org/chapter/performance-case-modeling/22095