

Chapter 8

Preparing Teachers for Mobile Learning Applications Grounded in Research and Pedagogical Frameworks

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ABSTRACT

Contrary to the benefits and opportunities mobile learning may provide, “Teacher preparation programs are often devoid of opportunities to teach with mobiles” (Herro, Kiger, & Owens, 2013, p. 31). Educators need to understand the pedagogical affordances and limitations of mobile technology tools and develop materials and lessons based on frameworks or models grounded in research and practice. This article presents an overview of research and mobile learning integration frameworks in order to provide a theoretical and practical basis for app selection and integration in the K-12 and higher education classroom. Educators need to understand the pedagogical affordances and limitations of mobile technology tools and develop materials and lessons based on frameworks or models grounded in research and practice. This article presents an overview of research and mobile learning integration frameworks in order to provide a theoretical and practical basis for app selection and integration in the K-12 and higher education classroom.

INTRODUCTION

Mobile technology has great potential for incorporating engaging, interactive and learner-centered instructional activities into traditional or online classrooms. There is an increasing expectation for teachers to incorporate mobile learning into their classrooms (Foulger, Waker, Burke, Hansen, Williams & Slykhuis, 2013). For effective adoption and classroom integration, there is an urgent need to develop

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strategies, methods and models grounded in theory and best practice. Educators need to “engage with the deeper questions about teaching and learning that will continue to underlie the application of learning technologies” (Parsons, 2014, p. 217).

Mobile applications and their innovative features can be attractive to educators to use in their traditional or online classrooms for activities and purposes such as differentiating and enriching the curriculum, sparking student interest and engagement, and extending classroom learning. Mobile technologies can facilitate formative assessment and personalized instruction while augmented reality applications can help engage the learner in authentic learning and the transfer of knowledge and skills to real-life situations (Fritschi & Wolf, 2012). In addition, mobile technology can provide just-in-time access to resources and shared collaborative spaces for students or teachers to work together on projects.

Stevenson, Hedberg, Highfield and Diao (2015) regard mobile app use in the classroom as a cognitive stepping stone in the learning process. They talk about the role of mobile devices in encouraging a wider range and more forms of literacies such as creating, authoring, co-authoring and publishing visual texts to reflect the users’ world. According to Khaddage, Müller & Flintoff (2016), mobile learning “accommodates and supports personal agency of the learner in a way that the learner can decide when, where and how he or she will learn; as such, mobile learning is instrumental in just-in-time and on-demand learning” (p. 16). This is particularly important as access to learning via mobile technologies can be critical to motivate students to utilize just-in-time and on-demand learning opportunities to their benefit.

Educators and researchers can benefit from past experiences of technology integration into the teaching and learning process to embark on new technology-driven interventions (Parsons, 2014). Mobile technology and application (app) design and development as well as classroom integration should be grounded in pedagogy that will activate, support and increase engaged learning. Without a sound understanding of pedagogy grounded in theory and research, initiatives to incorporate mobile apps and technologies can result in teacher deterrence or ineffective use of these technologies in the classroom; thus, failing to take advantage of the benefits of mobile learning.

Since more research is needed with mobile learning technology, schools should find unique ways to blend mobile learning “seamlessly into their settings to create an engaging informal learning environment” (Khaddage, Müller & Flintoff, 2016, p. 23). It’s important that preservice teachers are well-prepared to integrate mobile apps using pedagogies that are grounded in theory and research that is informed by best practice.

Hu and Garimella (2014) emphasize the emergent need for up-to-date training on the use of mobile technology for K-12 teachers. In addition, professional development activities on infusing technology into the curriculum for in-service teachers and teacher educators need to be based on effective technology integration models, frameworks or strategies. Teacher educators need to model how to develop “creative links between what is being learned (content), how it is taught (pedagogy), and the appropriate tools (technology)” (“What is TPACK?,” n. d.).

Herro, Kiger and Owens (2013) argue that clear examples of best practice for preparing teacher educators to use of mobile devices with their preservice teachers are not available. There are neither any clear models or strategies that guide teacher practice integrating mobile technology nor have they been tested or researched in order to make effective connection between theory and practice. This article presents an overview of current research on mobile technology and technology integration models and frameworks in order to provide a theoretical and practical basis for app selection and integration in the K-12 and teacher education classrooms.

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