

Chapter 3

Using Mobile Devices Selectively: Developing Constructivist Pedagogy to Support Mobile Learning

David Fuentes

William Paterson University, USA

Heejung An

William Paterson University, USA

Sandra Alon

William Paterson University, USA

ABSTRACT

The purpose of this chapter is to provide a useful framework for thinking about the integration of mobile devices into classroom practices and pedagogy. By offering a portrait of different constructivist practices and learning environments, drawing connections between theory and methods, the chapter provides teacher educators, as well as practicing teachers, with a series of theoretical considerations. These considerations, coupled with individual learning objectives, mark an avenue for novice technology users to begin the complex process of pedagogical decision-making, including the use of mobile devices into their teaching and learning. The authors offer this conceptual chapter in the hope that readers can glean a sense of how philosophical and theoretical orientations of teachers both prohibit and enable spaces for mobile learning. Moreover, they believe that when theoretical orientations of teaching do not allow space for mobile learning to take place, or do not support best practices of the use of mobile devices, the benefits may remain unrealized.

INTRODUCTION

In 2010, Apple released its first hand-held tablet, the iPad, which has since taken the world by storm. Since its inception, the birth of the mobile computing tablet has taken on an almost ubiqui-

tous presence in society. Schools have seen the tablet enter into its sphere quickly, with little to no preparation time to think, plan, and consider the various impacts that these kinds of advents can bring to K-12 schools. It has become clear, that teaching and learning have been afforded some

DOI: 10.4018/978-1-4666-6300-8.ch003

very compelling new media that have potential to impact the way we perceive, and plan, the pedagogy we deliver. Despite the almost limitless potential that new media such as the iPad have placed before pedagogues, there seems to be some rather compelling questions that remain, at best, difficult to answer, with regards to the macro scale that K-12 education works with and the ability to have any kind of change take place in schools at a large scale. Rightfully, there are those that remain skeptical about the use of mobile technology in schools, while there are also proponents who are already using or ready to adopt them into their classroom. Still, some questions loom for both groups. What kinds of pedagogical approaches best support the use of hand-held, mobile technology? How can I plan for using technology applications in my classroom? What do I need to know before I can begin to use technology in my classroom effectively?

BACKGROUND

Teaching with technology has gained increased attention over the passed several decades, as technological advances continue to tantalize educators with the potential to impact learning outcomes, classroom pedagogy and curricula. Interestingly, one of the challenges of these implications that different technological advents present teachers is how to seamlessly incorporate them into their classroom routines and pedagogy. In a short time, we have come a long way. During this shift, many researchers have been skeptical about the inclusion of technology into schools (Cuban & Kirkpatrick, 1998; Cuban, Kirkpatrick, & Peck, 2001), citing reasons including: expense, the lack of use, inexperience of the planning teacher and the time it takes for practitioners to adopt the technologies into their practices. Additionally, some scholars have pointed to the distance between the ways that technologies are used by teachers and

the potential they have to impact teaching and learning (Becker, Ravitz, & Wong, 1999). According to Collins and Halverson (2009), much of the research on the impact of technology and the potential technology has to shift teaching and learning in K-12 schools, has led to categorization of two groups: enthusiasts or skeptics.

One of the bigger changes that have impacted thinking about teaching with technology in schools, has been the recent trend in models of the ratio of students to digital computing devices. Known as one-to-one (1:1) initiatives (Murray & Zembal-Saul, 2008), many schools and researchers have become interested in changing the way that schools use technology, moving from a whole group or small group setting, to a settings in which every student has the ability to use digital technology on an individual basis. Thinking about this kind of immersion with digital devices has led some to claim that the benefits of 1:1 learning can best be realized when students are enabled to use the technology within a learning environment that connects students to the web and allows them access to anytime, anyplace learning using the devices (Penuel, 2006). This formation poses challenges to traditional educators because it potentially shifts their beliefs about teaching and learning, classroom management, teacher lead instruction, and the role of students in their own learning.

Due to the changing nature of our beliefs about teaching and learning and the increased interest in digital technology and 1:1 formations, there has been a resurgence of interest in constructivist learning environments (Jonassen & Land, 2000) as well as student-centered learning to support teaching and learning in the digital age. Along with these paradigmatic shifts, has been increased interest in epistemological beliefs about teaching and learning that have paved the way for innovative, provocative, and grounded constructivist learning environments. Much of this research could help educators to reconcile some of the tension that

10 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/using-mobile-devices-selectively/113855

Related Content

Student Learning Experience through CoSpace Educational Robotics: 3D Simulation Educational Robotics Tool

Amy Eguchi and Jiayao Shen (2013). *Cases on 3D Technology Application and Integration in Education* (pp. 93-127).

www.irma-international.org/chapter/student-learning-experience-through-cospace/74407

The Flipped K-12 Classroom: Implications for Teacher Preparation, Professional Development, and Educational Leadership

Vanessa P. Dennen and Jonathan Michael Spector (2016). *Revolutionizing K-12 Blended Learning through the i2Flex Classroom Model* (pp. 38-51).

www.irma-international.org/chapter/the-flipped-k-12-classroom/157577

Virtual Mentoring: A Response to the Challenge of Change

Thomas T. Peters and Terrie R. Dew (2011). *Telementoring in the K-12 Classroom: Online Communication Technologies for Learning* (pp. 173-185).

www.irma-international.org/chapter/virtual-mentoring-response-challenge-change/46300

Technology, UDL & Literacy Activities for People with Developmental Delays

Kevin M. Ayres, John Langone and Karen Douglas (2009). *Handbook of Research on New Media Literacy at the K-12 Level: Issues and Challenges* (pp. 14-31).

www.irma-international.org/chapter/technology-udl-literacy-activities-people/35904

Tech-Knowledge in Japanese Early Childhood Education

Tetsuya Ogawa and Satomi Izumi-Taylor (2010). *Technology for Early Childhood Education and Socialization: Developmental Applications and Methodologies* (pp. 49-69).

www.irma-international.org/chapter/tech-knowledge-japanese-early-childhood/36622