

Chapter 18

Transforming Pedagogy Using Mobile Web 2.0: 2006 to 2009

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ABSTRACT

Blogs, wikis, podcasting, and a host of free, easy to use Web 2.0 social software provide opportunities for creating social constructivist learning environments focusing on student-centred learning and learner-generated content creation and sharing. Building on this foundation, mobile Web 2.0 has emerged as a viable teaching and learning tool, facilitating engaging learning environments that bridge multiple contexts. Today's dual 3G and wifi-enabled smartphones provide a ubiquitous connection to mobile Web 2.0 social software and the ability to view, create, edit, upload, and share learner-generated Web 2.0 content. This chapter outlines how a Product Design course has moved from a traditional teacher-centred face-to-face, studio-based learning environment to one using mobile Web 2.0 technologies to enhance and engage students in a social constructivist learning paradigm.

INTRODUCTION

The term Web 2.0 was coined in 2005 (O'Reilly, 2005) as a way of characterizing the emerging interactive, user-centered Web based tools that were revolutionizing the way the Internet was conceptu-

alized and used. These tools include: blogs, Wikis, image-sharing (e.g., Flickr), video-sharing (e.g., YouTube), podcasting, and so forth. These Web 2.0, or social software, tools share many synergies with social constructivist learning pedagogies. Therefore many educators have harnessed Web 2.0 tools for creating engaging student-centered learning environments. This appropriation of Web

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2.0 tools within a social constructivist pedagogy facilitates what has been termed pedagogy 2.0 (McLoughlin & Lee, 2008a, 2010).

Pedagogy 2.0 integrates Web 2.0 tools that support knowledge sharing, peer-to-peer networking, and access to a global audience with socioconstructivist learning approaches to facilitate greater learner autonomy, agency, and personalization. (McLoughlin & Lee, 2008a, p. 1)

Mobile Web 2.0

While there have been many attempts to define the unique essence of mobile learning (m-learning), most definitions have either focused on the mobility of the device, the learner, or on the facilitation of informal learning beyond the confines of the classroom (Kukulsa-Hulme & Traxler, 2005; Laurillard, 2007; Sharples, Milrad, Sanchez, & Vavoula, 2009; Wali, Winters, & Oliver, 2008). Mobile learning, as defined by the authors of this chapter, involves the use of wireless enabled mobile digital devices (Wireless Mobile Devices or WMDs) within and between pedagogically designed learning environments or contexts. From an activity theory perspective, WMDs are the tools that mediate a wide range of learning activities and facilitate collaborative learning environments (Uden, 2007). M-learning can support and enhance both the face to face and off campus teaching and learning contexts by using the mobile wireless devices as a means to leverage the potential of Web 2.0 tools. The WMD's wireless connectivity and data gathering abilities (e.g., photoblogging, video recording, voice recording, and text input) allow for bridging the on and off campus learning contexts, facilitating real world learning. It is the potential for mobile learning to bridge pedagogically designed learning contexts (Laurillard, 2007; Vavoula, 2007), facilitate learner-generated contexts (Luckin, et al., 2010), and learner-generated content (Bruns, 2008) (both personal and collaborative), while providing personalisation and ubiquitous social

connectedness, that sets it apart from more traditional learning environments.

Situating the Research

This section briefly overviews a short history and critique of mobile learning research, indicating the research gaps that this study attempts to fill, and situates the research project within the context of current mobile learning activity.

The twenty-first century has seen the consolidation and maturing of m-learning research (Traxler, 2009a, 2009b), while the increase in m-learning-focused conferences (e.g., MLearn, Handheld Learning, mICTe), research projects and briefing papers from organizations like JISC, and articles in educational journals like *Educause*, *JCAL*, and so forth, demonstrate a growing general interest in m-learning. Many early m-learning studies were relatively short-term pilot studies, and lacked rigor in evaluation and epistemological underpinnings (Pachler, Bachmair, & Cook, 2010; Traxler & Kukulsa-Hulme, 2005), and many studies focus upon content delivery for small screen devices and the personal digital assistant capabilities of mobile devices rather than leveraging the potential of mobile devices for collaborative learning as recommended by Hoppe, Joiner, Milrad, and Sharples (2003). In recent years there has been a flurry of m-learning research and case studies, particularly from the UK. M-learning and Web 2.0 technologies have been identified as emerging tools to enhance teaching and learning (Anderson, 2007; Becta, 2007; Johnson, Levine, Smith, & Stone, 2010; McFarlane, Roche, & Triggs, 2007; McLoughlin & Lee, 2008b; Sharples, et al., 2009; Traxler, 2010; Trinder, Guiller, Marggaryan, Littlejohn, & Nicol, 2008), but are not usually explicitly linked together. Many recent m-learning research projects have focused on the informal learning environment, and often presuppose self-motivated learners like pre-service teachers (Cook, Pachler, & Bradley, 2008). Few studies have yet to explicitly bridge both the formal and informal

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