Effects of Mobile Devices and Text Messages:  
A Multi-Study Design to Explore a Model for Mobile Learning in Introductory Journalism

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ABSTRACT

This collection of four studies was one of the first to explore an emerging model for mobile learning (Sharples et al., 2007; Taylor et al., 2006). Students in two introductory journalism courses, open to all majors, used either a tablet (N = 44) or a smaller smartphone/iPod (N = 31) to complete assignments. Goals included assessment of the value of rehearsed production of mobile content, graded field assignments, and performance on a mobile quiz with or without optional course-related text messages prior to the quiz. Results indicated consistent support for the value of rehearsing mobile skills and statistically significant higher quiz scores for those receiving guiding text messages. A post semester survey administered to 11 blended courses using or not using mobile devices (N = 459) revealed significantly higher ratings from mobile users for perceived course efficiency, access to course content, intention to take future blended courses, and overall satisfaction.

Keywords: Journalism, Mobile Content, Mobile Devices, Mobile Learning, Text Messaging

INTRODUCTION

Speaking to more than 750 digital leaders at the National 2011 Conference of the Interactive Advertising Bureau (IAB), former CEO of Google, Eric Schmidt, admitted that mobile is taking off faster than predicted (Virzi, 2011). Tracking only video, for example, there are now more than 200 million YouTube mobile playbacks per day. Global demand for the iPhone brand alone boosted Apple’s profit 95% reflecting robust demand in China and purchases of the company’s new iPad (Satariano, 2012).

A 2011 survey (N = 2,260) indicated that 63% of the adults surveyed access Internet information with a cell phone, laptop, or tablet (Pew Research Center, 2011). Those most likely to claim a mobile device as their main source for web access included younger users, under represented populations, and those with lower incomes or education. Another Pew survey of teens (N = 799) found 37% of those between the ages of 12 to 17 use video chat applications, 27% record and upload video, and 13% stream live mobile video.

As these teens eventually infiltrate colleges and universities, mobile users’ familiarity with the production and sharing of mobile media is
expected to grow. Emerging technologies, including social media, have already been shown to positively affect the learning process (Yaros, 2012) and there is evidence that student engagement can be enhanced with newer technologies (Yaros, 2009a, 2010). At the same time, little to no research has explored the effects of learning from mobile devices, and researchers have not yet probed whether text messages could measurably enhance student engagement and test performance.

This collection of studies responds with surveys and experiments that test mobile-exclusive assignments, in which instructions to learners plus data collection and viewing of content for a quiz are completed on a mobile device. These studies evaluate performance of undergraduates in two courses assigned to identical mobile activities. Analyses varied by three primary conditions. The first is whether a mobile device was utilized, the second was the type of device used (tablet versus smaller iPod or phone) and the third condition was whether users were exposed to text messages related to assigned content for a mobile quiz. The goal was to empirically measure the extent to which mobile devices are effective in college courses that “blend” face-to-face meetings with mobile learning.

**Mobile Learning**

Despite the rapid growth of the mobile market, and increased attention to the technology in education, the definition of “mobile learning” remains broad (Frohberg et al., 2009). “There are more or less interchangeable terms such as wireless, ubiquitous, seamless, nomadic or pervasive learning/education, as well as mobile computer-supported collaborative learning and mobile e-learning” (p. 308). Frohberg and his colleagues conducted a meta analysis of nearly 1,500 conference proceedings, articles and journals to associate mobile learning projects with a model for mobile learners (Sharples et al., 2007; Taylor et al., 2006). Their meta-analysis identified six factors for a mobile task model, which are conceptualized for this study. These six factors are: 1. Context, 2. Tool(s), 3. Control, 4. Communication, 5. Learner, and 6. Objective. Each will now be explicated.

**Context**

Context in mobile learning can be independent, formalized, physical or social (Frohberg, 2008). A mobile assignment is independent if it has no direct relationship to specific course content. An example is practicing basic math problems on a mobile device anytime and anywhere. Conversely, a formalized context synchronizes learners to specific content such as an assigned video. A physical context defines a specific location for learning to occur, such as a museum. Finally, a social context involves mobile assignments during which learners share sustainable, interpersonal relationships.

We know positive or negative environments and social contexts influence behaviors and decisions. Behavior and decision-making, however, are not influenced solely by psychological factors (Rotter, 1954). Social learning theory posits that psychological factors function as a continuous and reciprocal interaction of personal and environmental determinants. In other words, people who interact with each other also learn from each other. This prompted some researchers to conclude that the determinants of behavior reside not within the organism, but also in environmental forces (Bandura, 1977).

In response, this research investigates multiple mobile assignments and measures, beginning with a physical context (coverage of a campus event). This includes an assignment with a formalized context that requires learners to view content then complete a quiz. All of this is analyzed in the context of mobile tools.

**Tools**

The context of tools includes any mobile device, instrument, material, medium or content used to mediate the learning process (Frohberg et al., 2009). Of course, it is not always what is learned that’s important, but how it is learned (Lave & Wenger, 1991). These researchers defined learning as an increase in participation.
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