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Bond Padagogy Project

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Background and Literature

There are two components of the coupled term, mobile learning. Mobility refers to the unencumbered nature of the student experience. Devices such as smartphones, tablets, netbooks, and iPads make learning materials light-weight and portable. Mobility also means that students can access the Internet anywhere, anytime, provided that they also have access to a wireless or 3G network. “Mobile devices open up new opportunities for independent investigations, practical fieldwork, professional updating and on-the-spot access to knowledge” (Kukulska-Hulme & Traier, 2005, p.26). Mobile access to the Internet affords the opportunity for the constructivist educator to engage students in hands-on inquiry (Cox & Uzunboylu, 2009; Chao & Chen, 2008; Chen et al., 2008; David et al., 2009; Mottiar, 2007). These tools are part of the pedagogy of the higher educator and intended to promote learning.

Much has been made of mobile learning and improved student experience and there is little question that the prospect of anytime, anywhere using email, yet powerful multi-purpose tablet computers is tantalising (Vavoula, Pachler, & Kukulska-Hulme, 2010, Guy, 2006). As with all new approaches to teaching and learning, the burden of proof must rest with the innovation, rather than the established approach. Yet, discourse on mobile learning and indeed, uses of emerging technologies in education more generally, readily presents assumptions about learning gains often based on observations of learner, teacher or administrator attitudes without testing the actual learning outcomes related to the technology use.

Objectives

This research tested the efficacy of a blended learning iteration with iPad tablet computers, an e-textbook and Blackboard’s Mobile Learn application connected with a learning management system (LMS).

Research Questions

1. What mobile learning technologies do students currently bring with them to the classroom?
2. What attitudes toward using mobile learning technologies are demonstrated particularly in relation to tablet computers, e-textbooks and LMS applications on mobile devices?
3. What is the observed relationship between use and attitudes of mobile learning tools and academic performance as a proxy for learning?

Participants

A total of 135 students who were enrolled in an undergraduate subject titled Digital Media and Society in the final semester of 2010 and the first semester of 2011 participated in the study. Of the 135 undergraduate students who participated in the project, 63% were female. Median age was 21 years (mean=22, range=19-35, standard deviation=3.03). Sixty percent were enrolled in the subject as required for their major or degree while 23% were enrolled for elective credit and 13% were study abroad students. The final grade distribution for these students was slightly skewed with 40% earning a Pass, 28% a Credit, 20% a Distinction, 7% a Fail and 5% a High Distinction.

Results

What mobile learning technologies do students currently bring with them to the classroom?

<table>
<thead>
<tr>
<th>Devices Brought to Class</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet Computers</td>
<td>80</td>
</tr>
<tr>
<td>Smartphones</td>
<td>75</td>
</tr>
<tr>
<td>Netbooks</td>
<td>15</td>
</tr>
<tr>
<td>iPods</td>
<td>30</td>
</tr>
<tr>
<td>E-textbooks</td>
<td>5</td>
</tr>
<tr>
<td>LMS on Mobile Devices</td>
<td>4</td>
</tr>
</tbody>
</table>

What attitudes toward using mobile learning technologies are demonstrated particularly in relation to tablet computers, e-textbooks and LMS applications on mobile devices?

Quantitative Analyses

<table>
<thead>
<tr>
<th>Attitudes</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>I agree to loan iPad</td>
<td>135</td>
</tr>
<tr>
<td>I agree to use the e-textbook</td>
<td>135</td>
</tr>
<tr>
<td>I agree to use the LMS</td>
<td>135</td>
</tr>
</tbody>
</table>

Discussion

Research into mobile learning is exciting both for its student learning potential and as a newly emerging sub-domain in educational research. Because this nascent field is the focus of emerging literature, opportunity abounds for research to make a meaningful contribution. For the 135 students who participated in this research, it appears that the affordance of a new learning tool in a blended learning environment added modality to their existing tool-set of technologies and provided stimulus to achieve and warm, if not enthusiastic, attitudes toward the emerging mobile learning platform of the tablet computer, and added something to their performance. Indeed, it seems that those who borrowed the iPad twice had the highest grades after controlling for age and self-management of learning (both of which are positive correlates with grade performance).

These findings are, as always, preliminary and should be treated with caution. On the face of it, the results seem to invoke notions of the Hawthorne effect in which a novel stimulus generates increased arousal and thus, for some, better performance. That those who borrowed the iPad had better grades, is perhaps indicative of the students’ motivations and eagerness to learn, eagerness to use technology, and eagerness for innovation and engagement in the classroom. Certainly the results indicate that the ability to use Internet-connected technologies during class is important to students, particularly in a class on Digital Media and Society!