

12-1-2011

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## Recommended Citation

Kinash, Shelley, "It's mobile, but is it learning?" (2011). *Learning and Teaching papers*. Paper 29.  
<http://epublications.bond.edu.au/tls/29>

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# It's Mobile, But Is It Learning?

Shelley Kinash, PhD

Mobile learning is defined as a portable process of teaching and study using internet-connected devices such as laptops, tablets and smart phones. The two defining features of mobile learning are represented in the words of the term. Mobile learning unleashes educational technology

from the computer and the LCD projector on the teacher's desk and allows students of all levels to have their resources available at all times whether at home or school. The second feature is that the devices are put to use for educational purposes.

Mobile learning was on the periphery

of education until the iPad became available – these Apple devices have features and affordances that inspired widespread roll-out into university, secondary and primary classrooms. The scale-tipping advantages of the iPad are that it is affordable and lightweight.

It can be purchased with both wi-fi and 3G, thereby expanding the internet connection options. It has a long battery life, which makes it conveniently wireless both for internet and power. The size and high resolution of the screen make it viable to read eBooks through applications such as Kindle. The large memory makes it possible to have an extensive library of educational source materials. The touch screen, icons and intuitive settings make the iPad user friendly. Bluetooth keyboards are available for those who do not like touchscreen keyboards. There are apps for every content area imaginable and to expedite many processes. The iPad supports multimedia, making the searching and viewing of YouTube videos easy. Many universities make their course content available through iTunesU affording access to rich, peer-reviewed content. Schools organise access to resources and assignments through learning management system apps such as Blackboard Mobile Learn. While these features and capacities expand the possibilities for mobile learning, there is still room for growth. Two of the most significant limitations of the iPad in mobile learning are that it does not have USB compatibility, which makes it difficult for teachers and students to readily retrieve and share documents and files, and printing from an iPad requires a work-around. With the uptake of mobile learning in schools and universities, it is anticipated that the wants and needs of teachers and students will exert enough market pressure to influence the design of future tablets.

### Promising Practices

Universities and schools who are experiencing heightened success in mobile learning share five features in common:

- **The educators have worked with the publishers to develop eBooks**

All or most of the students' books are loaded onto the device so that the lightweight portable nature is not compromised by also having to carry a heavy bag laden with texts. The eBooks are not just replicas of the bound paper text: Tables of content link directly to the content areas; diagrams and figures are animated and interactive;

content is searchable; and bookmarks and highlights are easily inserted and removed.

- **Educational content is effectively chosen and the organisational framework is explicit.**

Rather than using the device memory as a high capacity digital dump, educators designing mobile learning carefully select the processes and content to be included. Ockham's Razor is applied to decide what documents and apps to exclude. There is a clear organisational framework to course design so that students have the opportunity to learn from the information model and relationships between thematic content.

- **The mobile devices are the property of the student.**

Students are encouraged to take the device with them whether they are at home or school/campus. They are permitted to experiment with the capacities of the device and to load and use apps and other tools and view multimedia materials such as YouTube videos in addition to the content and processes assigned and installed by the teacher. Students are encouraged to demonstrate the tools and resources they have found to others.

- **Mobile use of the internet redefines the nature of the teacher.**

The teacher is not the keeper of curriculum and the holder of information. Mobile learning allows the shift from teacher as sage on the stage to guide on the side. When students ask questions, experienced mobile learning teachers ask the learners to search possible solutions and responses and discuss contrasting information. Rather than reading secondary interpretations of experts from textbooks, students are encouraged to search for original source material. For many topics, students may watch videos of the experts themselves.

- **Teachers direct the students' use of technology during the class.**

In addition to lesson planning what content is going to be covered and assessed using what teacher processes (lecture, demonstration, video, and so forth), lesson plans also cover what students

will be doing. It is important to provide guidance to ensure iPads and other mobile devices are used productively rather than as a distraction. While reading Facebook posts and sending emails to friends may be tempting, off-task behaviour will decline if students are engaged in robust educational tasks. Mobile learning means that students are tweeting questions, searching expert opinion, voting and ranking, viewing demonstrations, visually mind mapping, and constructing and sharing expressions of their ideas in formats such as animations and movies

What is fundamental to quality mobile learning is a complementary pedagogy. Simply handing iPads out to teachers, lecturers and students will not make mobile learning happen. Distance education is a parallel example in educational technology. What many educational researchers discovered in the mid 1990s was that online learning was no better than correspondence if the instructional developer did not embed graded opportunities for interaction, communication and the shared construction and critiquing of education artifacts. Similarly, students can carry digital devices around in their bags, but growth and development of knowledge, skills and attitudes will only occur if teachers have a strong pedagogy and apply teaching and learning principles.

Mobile learning allows heightened opportunities for good teaching and learning processes that should be fostered with or without digital technologies. Good teaching means that rich inquiry-based questions are posed to students. Mobile learning means that students can search expert sources of information to consider ways of responding and can choose creative formats that best demonstrate their learning. Good teaching means that teachers give students immediate and specific feedback. Digital technologies have automatic response feedback loops and expedite processes of more complex feedback. Effective learning occurs when students have the opportunity to create, construct and invent and then to share and critique one another's contributions. Mobile learning tools and processes make this building and posting progressive and fun.

## Evidence Of Achievement

There is a large body of mobile learning literature. Most of this literature is very positive about mobile learning. Teachers, students and educational theorists overall believe that mobile learning makes a positive contribution to education at all levels. However, there are very few articles that have directly examined the relationship between mobile learning and student achievement. Part of the reason is that it is difficult to isolate variables in education research. In other words, how do we prove that it is the mobile learning and not some other factor that was the significant variable explaining an increase in student grades. The second reason is that educational factors are intricately interwoven with pedagogy. As described above, a teacher may invite students to use digital devices in their study, but not accomplish mobile learning because the pedagogy was inconsistent. The third reason is that iPads have only been in Australia for just over one year. The affordances that iPads bring to mobile learning are yet to be fully published in the literature given the short time period.

Bond University is one of the Australian universities engaged in research about mobile learning. In the final semester of 2010 and the first semester of 2011, a study of mobile learning was undertaken in a subject titled Digital Media and Society. The five features of good mobile learning described above and a consistent pedagogy were evident in this subject and its teaching. The students were invited to bring their own digital devices into the learning experience. Students were also invited to loan iPads for up to two weeks of the term. The iPads were loaded with an enhanced eText created by Oxford University Press. The Blackboard Mobile Learning app was used to access the online subject site. The lecturer used numerous other digital tools, resources and processes within his face-to-face teaching. Over 300 points of data were collected from 135 students over a total of 26 weeks. This data included overall grades, assignment marks, scores on weekly quizzes, results on standardised survey instruments and focus group transcriptions. Results were as follows:

- Did mobile learning make a difference to student achievement?


A cause and effect relationship between mobile learning and student achievement could not be proven by this study. However, the research did clearly indicate that students who borrowed the iPads had higher scores on their quizzes, assignments and grades overall. Another research result was that as age and self-managed learning attitudes increased for students involved in mobile learning, academic success also increased. The research also indicated that student results from mobile learning cannot be considered separately from curriculum design and student engagement.

- Did the students think that mobile learning affected their academic success?

The students were ambivalent about the learning aspect of mobile learning. They did not think that it would make or break their learning. However, they wanted to continue with mobile learning and shared that it did enhance their motivation. The students were more laid-back in their attitude toward mobile learning than their lecturer and the education researchers. Rather than seeing mobile learning as distinctive or inspirational, they perceived it as an obvious and expected way of participating in university study.

- How did the students use the digital devices during class time?

Students were honest and candid in reporting what they were doing with the devices during class time. They read Facebook posts and unrelated emails and looked at unrelated websites to the same extent that they visited related websites, engaged with the online subject site, searched for responses to inquiry-based questions and participated in other on-task behaviours such as sending the lecturer tweets. In interpretation of this result, the researchers asked themselves the difference between these behaviours and the off-task behaviours of their own youth, such as day dreaming, doodling and writing paper and pencil social

notes and letters. The researchers were also encouraged by the positive and productive ways that students were using the digital devices to engage in the teaching and learning experience. This research was interpreted optimistically. Mobile learning is an education initiative worth pursuing and continuing to research. Research into refining mobile learning approaches could make an outstanding contribution to student engagement, growth and development at all levels. 

If you would like to read more about this research see:

*Kinash, S., Brand, J., Mathew, T. & Kordyban, R. (2011). Uncoupling mobility and learning: When one does not guarantee the other. Communications in Computer and Information Science, R. Kwan, C. McNaught, P. Tsang, F.L. Wang & K.C. Li (Eds.), 177, 342-350. Full Paper Conference Proceedings for 6th International Conference, ICT 2011 in Teaching and Learning. Enhancing learning through technology: Education unplugged: Mobile technologies and Web 2.0, July 11-13, 2011, Hong Kong, China. <http://www.springerlink.com/content/1057r8328g2t31m0/>*

*Brand, J., Kinash, S., Mathew, T. & Kordyban, R. (2011). iWant does not equal iWill: Correlates of mobile learning with iPads, e-textbooks, Blackboard Mobile Learn and a blended learning experience. G. Williams, N. Brown, M. Pittard & B. Cleland (Eds.) Full Paper Conference Proceedings for 28th Annual Conference, Australasian Society for Computers in Learning in Tertiary Education. Changing demands, changing directions, December 4-7, 2011, Hobart, Tasmania. <http://www.ascilite.org.au/conferences/hobart11/procs/filename.pdf>*

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