

Learning environments: Will mobile technologies enhance tertiary students' learning?

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Abstract

Technology is changing the way education is being delivered particularly within the higher education arena. Increased access to this technology means that educators need to incorporate new methods of delivery in their teaching. People are becoming lifelong learners engaging in learning opportunities when and where they choose, based on need and availability, rather than being limited to physical location. It is important to find new ways to integrate emerging technology into current learning practices and training programmes for current educators. This paper describes a research initiative which is to be carried out trialling the use of mobile devices to three target groups of students made up of online web based learners, distance/blended delivery resource based learners and traditional face to face classroom based learners. The project will involve the modification of a learning environment instrument to assess 'actual' and 'preferred' perceptions of students and teachers of the usefulness of mobile devices allowing comparisons between groups and predictions for possible future uses of mobile tools to be made.

1 Background

Mobile technologies and mobile learning (m-learning) are gaining popularity with wireless devices that can be used by students to access web servers for real time information from anywhere on or off campus. Mobile devices are anything that is handheld with wireless capabilities in which real time learning with no fixed location or time can occur. This includes devices such as mobile phones, portable digital assistants (PDAs) or Palmtops and iPods (Mellow, 2005). Much of the literature on mobile technologies speaks of these tools being used as additional or supplementary tools in which to enhance the learning process, often with particular reference to processes such as exam preparation and lecture reviews. 'Chunking' of data is particularly suited to mobile devices because of their screen sizes and storage capacity. Learning material is divided into bite size knowledge chunks that can represent essential summarised data that can be used by learners to assist in learning challenging concepts, review material covered in previous classes or as an overview to upcoming lectures. This concept of delivering 'pieces' of information rather than entire blocks of learning material means that m-learning is well suited for enhancing the learning experience rather than being a primary method of delivering courses. Mobile learning provides another layer of support to the student's learning experience (Mellow, 2005).

2 The Proposed Study

From a review of the learning environment literature, there does not appear to have been any studies using an existing learning environment instrument to assess the effect that mobile technologies might have on the tertiary learning environment. The proposed study intends to trial the use of mobile devices and provide validation of a modified form of an existing learning environment instrument for assessing 'actual' and 'preferred' perceptions of both students and teachers on the usefulness of the mobile devices in a tertiary environment in New Zealand.

3 Future Directions

The authors are currently reviewing both the learning environment and mobile technologies literature, and administering a survey of how tertiary institutions in New Zealand are currently using mobile technologies. The next phase will be the development and validation of a learning environment instrument. The trial and intended study will enable enquiry into the following specific research questions:

- Is the learning environment questionnaire developed a valid and reliable instrument for use in New Zealand?
- Does the use of mobile technologies enhance student outcomes?
- What sort of learning environment is created by mobile technology tools?
- What associations exist between students perceptions of their learning environment and their attitudinal and cognitive outcomes?
- Are there differences between how each of the three target groups utilised the tools?
- What differences are there between the actual mobile technology learning environment and that preferred by students?
- Does age and gender affect student's response to using the tools?

4 References

- Mellow, P. (2005). The media generation: Maximise learning by getting mobile. Proceedings of Ascilite Conference, 2005. Retrieved on August 6, 2007, from http://www.ascilite.org.au/conference/brisbane05/blogs/proceedings/53_Mellow.pdf