Mobile-Learning in Thai Universities: Potential Technological Impacts

Dr Paul TJ James
Graduate School, Bangkok University, Bangkok, Thailand
(paul.j@bu.ac.th)

ABSTRACT

Higher education appears to be changing in Thailand, as students, especially young students whose networking concerns match their obsession with mobile technology, may not accept past staid patterns of teaching practices and opt for more contemporary approaches such as mobile-learning.

This research used a qualitative approach and conducted a focus group of students exploring their recent experiences of m-Learning at a university in Bangkok. The major results yield a mixed response in terms of student readiness for m-Learning technology demands. The analysis would appear to suggest that there are crucial technological constraints that have to be overcome relating to mobile devices, the media used and the effects of the delivery mechanism; and that these technological constraints have a considerable impact on student’s pedagogic engagement.

Future research implications and issues surrounding the development of mobile-Learning in Thai higher education is also discussed.

Keywords
m-Learning, Higher Education, e-Learning, Thailand.

1) INTRODUCTION

Higher education appears to be changing in Thailand. Students, especially young students (Wilson and Velayutham, 2008) - whose networking concerns match their obsession with mobile technology - may not accept past staid patterns of teaching practices and opt for more ‘sexy’ contemporary approaches such as mobile-learning (Weller, 2008). These students can be characterised essentially as digital natives (Prensky, 2001a). Although Robinson’s (2008) notion of contemporary students learning behaviour as collaborative, problem solving and task based, may not reflect a universal student phenomenon and is perhaps somewhat imprecise when applied to Asian settings. This may be considered in terms of the disconnected discourse (Lippincott, 2005) between what higher education offers students and what they demand in terms of learning attributes and the technological provision that encompasses their pedagogic needs. However, Bates (2001) claimed that many universities in developing countries may not move towards e-Learning and this may thus offset and reduce the pattern of university engagement in m-learning.

Consequently, student demands could add pressures to Thai higher education to make their educational provision more personalised, interactive, responsive and facilitative – using technologies in the same way as expected through students’ normal social-networking behaviours. However, engaging higher education processes to consistently meet students requirements comes at a cost. Besides the usual costs of media development, universities in Thailand will also have bear the costs of on-going staff training; upgrades to hardware and software; and of course the cost of understanding what students want. Whilst these are upfront costs, which burden the higher education purse, there is also the opportunity-cost associated with not engaging with such contemporary technologies as the competition seizes such opportunities to gain student recruitment increases. This also puts pressures on higher education internal changes such as quality assurance mechanisms and how these are changed to facilitate assessments. Thus, changing one part of the technological
equation creates fundamental and on-going issues that underpin exactly what higher education needs to do in order to match student demands. Web 2.0 and any corresponding use of mobile devices are seen as technological tools in linking the university to meet these current student demands. The power of Web 2.0 underpins e-Learning 2.0 and helps create and communicate towards a more effective distributed learning environment.

What are mobile devices?

Petsas et al. (2001) suggests that mobile devices are often technologies such as personal digital assistants (PDAs); mobile phones; iPods; and also includes such things as web-based systems that support both internet and mobile access. This is seen by some an innovative (Nyiri, 2002), reflecting newer and broadening learning channels that seemingly offers organisational flexibility. Ally (2004) defined m-learning as the delivery of electronic learning materials to mobile devices. Unfortunately, targeting remains one of the ubiquitous problems of electronic media personalisation developments (Perugini and Ramakrishnan, 2003) through which to deliver appropriate adjustments in learning content provision as flexibility is required as a consequence of heterogeneous mobile technologies relating to student device software capabilities and hardware limitations. Coupled with the technology limitations are the issues surrounding delivery band-width (Jones et al., 2006) which has an impact on the effectiveness of the whole m-learning experience – irrespective of the mobile-device capability or the content design.

Numerous researchers have discussed digital system developments (Petsas et al., 2001; Cheng et al., 2000; Tsai et al., 2000) and have shown how user data can be used to provide appropriate content/information streams that match targeted user learning needs. More appropriate to this paper, Zhang and Shijagurumayum (2003) used the concept of user metadata as a profile underpinning the delivery of targeted and customized content to mobile-phone users. This has not been lost in pedagogic developments, as research has focused on how students may be assisted in receiving individualised and personalised knowledge content (Dahn and Schwabe, 2002) whether as assisted learning in the classroom (Carchiolo et al., 2003) or through distance-learning programmes (Qu and Shen, 2002; Dadarlat et al., 2002). Consequently, it has become an operational imperative for universities to deliver appropriate learning requirements to interested stakeholders/students (Freeman and Thomas, 2005; Lancaster and Reynolds, 2002) directly through contemporary technologies such as mobile devices (Tapp et al., 2004).

2) METHODOLOGY

To consider more closely the technological issues involved in the application of m-learning in Thai universities, this empirical paper employed an interpretive approach using a semi-structured questionnaire providing an appropriate element of context and flexibility (Cassell and Symon, 2004). Given the lack of purposeful research in this area, this methodology is seen as appropriate to generating contextual data for the purpose of underpinning an enriched theory development (Cayla and Eckhardt, 2007).

The population for this study were international students in a private university in Bangkok (based on Carman, 1990; Glaser’s (2004)) and the resultant sample frame was based on convenience sampling (after Harrel & Fors, 1992). The criteria of theoretical purpose and relevance (Glaser and Strauss, 1967) were applied to the identified population. The focus group was conducted in English and audio recorded for future analysis. The interview took approximately one and a half hours and were later transcribed verbatim. The conduct of the interviews follows a similar process as used by Gray & Wilcox (1995), where the group was asked a small set of prepared questions modified through ancillary questioning (probes and follow-ups) in the same way as Balshem (1991).

The focus group outcome was manually coded initially using Copernic desktop according to sub-themes that ‘surfaced’ from the interview dialogue using a form of open coding which is derived from Glaser (1992a) and Straus & Corbin (1990). This treatment was also reinforced and extended through the use of thematic analysis conducted using the NVivo
qualitative software package (Walsh et al., 2008). In this way, no portion of any interview dialogue was left uncoded and the outcome represented the shared respondents views and perspectives. Various themes were detected from the use of this package, as well as from the manual coding. This dual form of interrogation was an attempt to increase the validity of the choice of both key themes and sub-themes through a triangulation process. NVivo was further used to explore these sub-themes by helping to pull together each of these sub-themes from all the interviews (Harwood & Garry, 2003). It was thus possible to capture the respondent's comments on each supported sub-theme and place them together for further consideration and analysis.

3) OUTCOMES

The major outcomes of this m-learning inquiry suggest that there are many and varied issues that need to be assessed in order for m-learning to become more common-place in Thai higher education. Three major questions were asked in the focus group interview. The student responses are discussed below:

What is that students want from m-learning?
Students appeared to require media that they could use to collaborate with other students (Moriarty, 2008; Clarke and Hermens, 2001) and thus require that the media is flexible pedagogically in terms of learning outcomes and social integration (Duin, 1996). This would seem to be a crucial factor which could use the inherent capabilities of mobile devices through social discourse mechanisms (Mathews, 2004), as well as reducing the element of perceived distance (Zhao et al., 2002).

Many students did not seem to want m-learning (Mason, 1998) which differs from Chan (2001) in terms of learner autonomy. This was an interesting outcome. This was intimated through expressions of not wanting to lose classroom time. It would seem that face-to-face engagement (Schifter, 1999) was required more than their use of a mobile-device. This may reflect social aspects that goes beyond just technological possession and its consequent use (Bitner & Bitner, 2002) and it may also expose learning concerns (Rakes and Casey, 2002) relating to technology adoption within the learning sphere. Students appeared to want more say in what was actually presented, as some “programmes” used copied material that was used in a normal face-to-face teaching session without any apparent changes (Rovai, 2000). This has a number of implications: firstly, students appear to understand that m-learning should be different in terms of delivery and media content (Moriarty, 2008); secondly, students demand that if they use their technology then the “system” must understand (1) and deliver a more robust and personalised learning outcome (Chard, 2000) in terms of student learning portfolios (Chen, et al., 2000); thirdly, programme design and delivery issues are raised that students recognise, and these need to be mitigated through appropriate e-Learning developments (Clayton, 1997) in order to shape the learning outcomes (Andrews and Haythornthwaite, 2007) more effectively. As such, some students felt “left out” with the level of university m-learning engagement where technology was perceived as only a delivery mechanism (HEFCE, 2005), rather than an integrated and shared pedagogic/learning support process. This suggests that universities may need to undertake and deliver more appropriate media, through more effective channels to satisfy student needs (Waller & Wilson, 2001) whom expect to engage with the power of mobile-learning, not just through copy-learning but also in terms of how the technology could be used (Rahm and Reed 1997).

What are the technological constraints and opportunities affecting students engagement of m-learning in Thai higher education?
Students didn’t appear too concerned about what they could use their devices for, but there were practical concerns about the speed of connection (Cunningham et al., 2000); access issues (Magnussen, 2008) and any subsequent costs associated with downloads (Sekikawa et al., 2001; Dames and Handscomb, 2002). Students using WIFI capable/enabled mobile-devices whilst the use was essentially ‘free of charge’ were thus not be seen by many students as a constraint – but the cost associations of mobile-devices capable of only connecting through GPRS or Edge raised some
student cost issues. For example, students paid the same course fees – whether the course was traditional or distributed. It was perceived by some students that they subsidised the “system” whenever they engaged with on-line courses. Mobile viewing of media content was initially accepted by students, but many thought that this went away from the need to be in class (Rovai, 2000) supporting Chan et al. (2003); as was the negative impact of the large size of the presentations (Magnussen, 2008); and often, the presentation’s lack of interaction (Ponzurick et al., 2000) – seemingly ignoring the need for student media/interaction (Wong, 2007; Chan et al., 2003). Technological constraints were therefore related to how student’s perceived that they could use the m-Learning material (Rovai, 2000), as well as related to design issues surrounding the media’s development and delivery.

Further, students continued to advise that there appears to be a disparity between most students’ ownership (Rishi, 2007), the use of mobile-device technologies (Clark, 2001), and the implications for these in terms of university operations. This is seen as a major stumbling block to m-learning developments. An assessment of the students own personal technology demonstrated that few mobile devices were presently 3G capable and that suggested that it is the diversity of technology that student’s own that is a major barrier to m-learning developments in Thailand. Student’s suggested that they are willing to engage as long as the m-Learning platform was configured in a way that made the learning experience seamless (Chan et al., 2003). Although this is perhaps an opportunity, there are considerable technological issues to consider and mitigate as students struggle to engage in the provision of contemporary higher education m-Learning practices. What technological issues surrounding m-learning practices would help students learn more effectively?

Some students perceived that they favoured face-to-face over mobile-device technology (Rovai, 2000); but others recognised that more interactiveness (Lau and Bates, 2004) may help students learn in a more personal way (Armstrong and Hagel 1996). However, mobile broadband (Wong, 2007) which is a very fast, ubiquitous, and an always on technology will affect how universities connect to students. This will possibly create a new digital divide (Andrews and Haythornthwaite, 2007; Carnaby and Rao, 2003), but more importantly, as a consequence will bring about substantial changes to university pedagogic provision (Conole, 2004).

Coverage issues were raised by many students, as the programme content and accuracy was brought into question (Corbeil and Valdes-Corbeil, 2007). These issues were perceived as important as the lack of face-to-face capability left students on their own, but not isolated. Students seemed to prefer interactive media (Wong, 2007) and learning from some students experiences of game-play suggested that prior technology experience may have a positive effect on student perceptions of, and engagement with, m-Learning needs, requirements and capabilities.

4) FUTURE RESEARCH

Future research implications and issues surrounding the development of mobile-Learning in Thai higher education could focus on mobile-broadband developments; seeking wider student opinion; assessing lecturer needs and engagement; and evaluating the impact of support requirements and how these could enhance student learning experiences within and outside the classroom.

5) CONCLUSION

It was obvious from the response that many students thought that they would not like m-learning to become a mirror of PCs. A different and more personalised learning model was asked for by students and this signals that there would also be likely that the university applied learning-provision model will need to change as m-Learning capable mobile-devices become more popular; and the potential opportunities to enhance the mobile learning experience by connecting directly to students increases through the development of mobile-broadband. However, this will require changes in overall university strategy (Inglis et al., 2002) and possibly result in the future development of a
new paradigm in pedagogic operations in Thailand. It will take the Thai university beyond technology change per se, to a more enlightened techno-cultural ethic based on advanced technology development. This will change the structure and orientation of universities as Web 2.0 facilitates a more interactive experience, and as such this will put pressure on the development of more open and flexible organisational characteristics (Bates 2001).

However, developing learning media that is pedagogically innovative, fresh and unobtrusive in terms of technological constraints will remain a major obstacle for Thai higher education for the foreseeable future.

3) REFERENCES


