Engaging ODL Learners through Mobile Learning at Open University Malaysia

Formal Education: Technologies for Scaling up ODL Programmes

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INTRODUCTION

Mobile learning (m-learning) is said to be the next wave of learning (Bonk, 2009). The ITU World Telecommunication (2009) reported an estimate of 4.6 billion mobile cellular telephone subscriptions around the world compared to 6.8 fixed telephone line subscriptions. There are currently 9.5 billion mobile broadband subscriptions. Expected to bring about ubiquitous learning or u-learning, mobile devices such as phones have become more affordable, yet more powerful and packed with features that rival the supercomputers of years ago. Hence, it is not surprising that an increasing number of institutions of higher learning (IHL) are starting to design learning that incorporates mobile devices. Students with smart phones and other popular personal devices such iPods and iPads or netbooks and notebook computers are already benefiting from a plethora of online learning materials such as podcasts, open educational resources (OER) and use of social media. Open distance learning (ODL) institutions are also expected to embark on making available materials for m-learning 24 hours a day. Soon, the development of mobile wireless technologies will urge ODL leaders to consider and adopt m-learning on a wider scale to benefit its students.

MOBILE LEARNING

Mobile learning can be defined as learning opportunities that are offered through mobile devices such as mobile phones, MP3 and MP4 players such as iPods as well as personal tablet devices such as iPads. Mobile learning has been experimented, tested and implemented in a variety of situations. Generally, as McConatha, Praul & Lunch (2008) stated, m-learning will be a champion in education because learners will find it convenient to obtain information and resources. According to Savill-Smith and Kent (2003), handhelds or mobile devices are part of a new generation of technology that emphasises both mobility and connectivity. Kimura (2006) reported that mobile phones have helped prepare Japanese college students for the Test of English for International Communication and the video-on-mobile-phones were also found to be effective for vocabulary learning and listening comprehension. Besides learning languages, Bradley, Haynes, and Boyle (2005) experimented with the teaching of Java programming using PDAs. Brown and Parsons (2006) stated that mobile technology can offer many different levels of engagement. Podcasts have been used to disseminate supplementary materials for an information technology based subject to distance learners (Lee & Chan, 2008). More important on why m-learning has been an attractive option is, as Ally (2009) highlighted, that through the use of wireless networks, mobile learning allows anyone to access information and learning materials from anywhere and at anytime.

In addition, ODL instutions such as the Indira Gandhi National Open University (IGNOU) and Open University Malaysia (OUM), for example, have established presence via their videos uploaded on YouTube. These can be easily downloaded through wireless technologies and viewed devices such as mobile phones and MP4 players. With some of the latest innovations such as iPads from Apple, it can be anticipated that developments in the next few years will be more exciting and are likely to benefit learners.

Mobile Learning through SMS
The world average, according to the International Telecommunications Union (2009), is four mobile phone subscriptions for every fixed telephone line. In Malaysia, there are seven mobile phone subscriptions for every one fixed line subscription. On the former, among the 30.38 million people in Malaysia, 110.6 percent (30.7 million) of the population are mobile phone subscribers. SMS (Short Message Service) is the most widely-used application among mobile phone users. It is also inexpensive. Some examples of mobile or SMS applications in learning environments include:

- Berlin University: Campus Mobile Project – used mobile wireless phones to send and receive SMS through WAP
- University of Twente in The Netherlands: "M-Poort" project which made current web-based curriculum available to WAP-enabled mobile phone
- Kingston University in United Kingdom: SMS experiment was used to determine its effectiveness for student learning (results showed that students liked SMS more than any other text message application)
- Sheffield Hallam University: used SMS to support and manage learning activities (results found that students recognized SMS as immediate, convenient, and personal)

So (2009) recently reported that there are several teaching and learning activities in university settings that can be facilitated via SMS. SMS could be used effectively as a *Tool, Tutor* and *Tutee* (Taylor, 1980). As a tool, SMS-based teaching and learning system can provide support in the form of communication and administrative support such as sending out students' marks or grades or teachers sending an urgent message of class cancellations. As per tutor and tutee functions, SMS can be used to facilitate teaching and learning activities such as brainstorming and interactive voting.

Another use of SMS is where Srinakharinwirot University has its lecturers use a bulk SMS system which allows students to pose or respond to questions immediately. SMS was used in two ways. Firstly, m-learning is used to enhance learning by sending out mobile quizzes where students were able to provide answers. Students obtained their scores, answer keys and feedback instantly. Secondly, m-learning can be used to enhance the provision of educational information and to improve public relations. Students receive academic information like enrollment information and grade results as well as the latest on the university such as news and events, academic calendar, and so on.

The use of SMS by the Chinese University of Hong Kong (CUHK), as reported by Clarke, Keing, Lam and McNaught (2008), involved two cohorts on the subject of Social English. The concept of sending daily SMS messages was successful as the result of the survey conducted at the end of each of the two cohorts. It was found that 84% of students said it was worthwhile and 83% had enjoyed it. Generally the students found the SMS helpful and beneficial.

The benefits of using SMS in education is strongly agreed by Balasundaram and Ramadoss (2007). It was reported that even though SMS is the simplest of all technologies available in the mobile environment, the system can support various interactive learning activities with very basic equipment linking to a variety of people such as learners, instructors, administrations and parents. SMS was highly used in m-Learning activities like asking questions, providing answers, information delivery, and providing feedback and grades. It is believed that SMS has the potential to succeed in enhancing the learning process in ODL.

Motlik (2008) observed that e-learning, particularly Internet-based learning does not appear to be the best path for distance education in Asia due to problems such as lack of proper course monitoring, lack of online resources, high cost, etc. Fortunately m-learning methods specifically those involving the use of cell-phones was more convincing. M-learning technology is more affordable and learners are familiar with SMS as well as find it flexible. With proper instructional design, this technology is seemed to satisfy the 'anytime/ anywhere' component of distance education for thousands or even millions of learners. M-learning is seen to have a brighter future.

MOBILE LEARNING AT OPEN UNIVERSITY MALAYSIA

Open University Malaysia (OUM) was established in August 2001 and is Malaysia's first open distance learning institution. It has since enrolled more than 95,000 learners who have access to over 60 academic programmes. When OUM first started, it leveraged on a learning management system as a way to support learners who would login to access learning materials as well as participate in forums with their tutors and course mates. In 2008, OUM embarked on research on m-learning by forming a team of researchers who conducted a needs analysis and readiness for m-learning among its students. A total of 6,000 questionnaires were randomly distributed to learners enroled in various academic programmes and 2,837 questionnaires were returned. It was found that 98 percent of the students had mobile phones and 82.8 percent expressed that they would be ready for m-learning within 6-12 months from the day the survey was conducted (Abas, Chng & Mansor, 2009).

OUM's m-learning via SMS initiative was next piloted in the May 2009 semester with 1,863 first-semester learners enrolled in the "Learning Skills for Open and Distance Learners" course. Several meetings and a workshop were held prior to the start of the May semester to plan and discuss implementation strategies. The objectives of the mobile learning project were to:

- enhance the blend of learning modes currently used at OUM
- increase the flexibility of learning; and
- encourage and support ubiquitous learning

Designed to complement the learners' reading, face-to-face interaction and online discussions, a total of 31 SMSes were sent based on the following five categories: Content, Tips, Motivation, Course Management and Forum (see Table 1). Based on the survey and focus group discussions, learners indicated that they were more engaged with the course through receiving the SMSes and had a more positive learning experience. They also suggested that SMSes be sent for other courses (Abas, Lim & Woo, 2009).

The mobile learning concept used at Open University Malaysia incorporates a 'push' and 'pull' mechanism, albeit via different modes (refer to Figure 1). While various categories of text messages are 'pushed' to the learners via their mobile phones (that is, without them requesting for the information), learners 'pull' information via media other than the mobile phone, depending on the type of SMS received. For example, when learners receive an SMS asking them to read up certain topics in the module, they 'pull' information' from their modules. Or, if they are not clear of certain concepts, they could seek further clarification/explanation from their tutors during face-to-face tutorials. Likewise, upon receiving text messages asking them to discuss in online forums, learners may glean viewpoints from their peers or tutors via the online forums. For all these cases, learners have the added benefit of only responding to the SMS at a later point time when they have the time to look into their studies. This facilitates 'just-in-time' learning and adds flexibility to the whole learning process.

Table 1
Categories, Purpose, Examples and No of SMS Sent

Category	Purpose	Example	Quantity
Content	To help learners locate/remember important course facts easily	There are 4 pairs of learning styles: Active/Reflective; Sensing/Intuitive; Visual/Verbal; Sequential/Global. Which is yours? See Appendix 1.1	15
Forum	To remind and motivate learners to participate in discussion forums	What are the strategies & advantages of OUM blended learning modes? Discuss in myLMS forum.	4
Tips	To provide hints/strategies to learners on how to do well in their studies	Do you know you can change your password in myLMS? Try or ask your tutor	4

| Motivation | To motivate learners to persevere in the learning process | Motivation Quote: "The man who can drive himself further once the effort gets painful is the man who will win" by Roger Bannister | 2 |
| Course management | To provide timely announcements/reminders on tutorial dates, assessments and other aspects related to course management | Mid-sem exam on 16/7 at 4.00-4.45 pm. Topics 1-4. 25 multiple choice questions. Sample & practise questions may be downloaded thru myLMS | 6 |
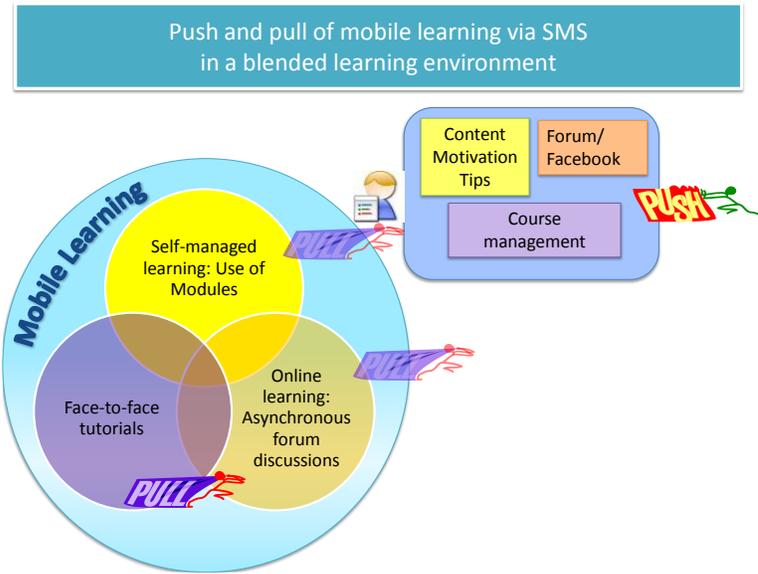
Figure 1. Push-pull blended learning at OUM

Since the pilot of m-learning via SMS at OUM, 13,243 learners have benefited. SMS was used to support and enhance the learning process of ten different courses between May 2009 and May 2010 semesters. In addition to the Learning Skills course, others included Renal Nursing, Company Law, Principles of Advertising, Management Accounting, General Genetics, Computer Programming, Mental Health Nursing, Entrepreneurship and English for Written Communication.

Table 2
Learner Satisfaction (May and September 2009)

Mobile Learning via SMS	May 2009	September 2009
Encouraged learners to be focused in their studies	76.3%	75.1
Helped learners manage their learning better	73.9%	72.9
Sustained learners' interest in course	77.5%	77.4
Gave flexibility to learning	77.7%	76.1

According to surveys conducted at the end of the May 2009 and September 2009 semesters, the majority of the learners found that the mobile learning initiative (see Table 2) sustained their interest in the course, gave flexibility to learning, encouraged them to stay focused in their studies, and helped them manage their learning better. As one learner expressed, "When I receive the messages, I feel that OUM is concerned about me. I don't feel alone and isolated and it reminds me to do my part in order to become a successful distance learner." Another learner felt that the "SMS is like a friendly reminder to study."

Table 3
Learner Satisfaction (January 2010)

Mobile Learning via SMS	Mean	SD
Helped to prepare better for tutorials	7.47	1.81
Enabled to learn anytime	7.39	1.90
Enabled to learn anywhere	7.38	1.90
Encouraged to stay more focused in studies	7.31	1.83
Sustained interest in the course	7.31	1.86
Helped manage learning better	7.28	1.84
Made learning more enjoyable	7.13	1.80

Another survey of learners was conducted in the January 2010 semester. As shown in Table 3, when asked to respond to survey items on a scale of 1 to 10 (1 = Strongly Disagree, 10 = Strongly Agree) learners were of the opinion (arranged sequentially from the highest to the lowest mean score of 7.47 to 7.13, respectively) that the text messaging service:

- Helped them to prepare better for tutorials
- Enabled them to learn anytime,
- Enabled them to learn anywhere,
- Encouraged them to stay more focused in their studies,
- Sustained their interest in the course for which Mobile Learning was offered,
- Helped them manage learning better, and
- Made learning more enjoyable

The m-learning initiative at OUM may be considered the first and only one of its kind successfully implemented on a large scale by a Malaysian IHL. OUM has not charged separately for the SMSes received and it will continue to be implemented in other courses. After about a year of implementation, the m-learning initiative was recently publicly launched by Tun Mahathir Mohamed, once Malaysia's Prime Minister, on 10 August 2010.

CONCLUSION

Over 13,000 OUM learners enrolled in ten courses have benefited from m-learning since its pilot in May 2009. Learners have expressed that the SMSes have helped them manage their learning better and kept them focused on their course. M-learning through SMS is flexible, timely and effective if designed right.

In the near future, it is possible that most of the universities in the world will be applying the anytime, anywhere concept in their education. SMS is the most popular application for mobile phones, inexpensive and can benefit almost all learners. It can be expected that m-learning will grow and will become the learning mode of choice due to its ability to support ubiquitous learning.

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