

# Assessment of mLearning A Case Study: Assumption University of Thailand

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## **Abstract**

*This paper is based on the research done during October-December 2006 at Assumption University of Thailand to assess the needs and requirements of students in using mobile devices to augment their traditional studies at the university and also to study the attitudes of the lecturers towards mobile learning.*

Key Terms – mLearning, mobile devices, need assessment for mobile learning, blended mLearning

## **1. Introduction**

Assumption University is the first international university in Thailand. Fully accredited as an institution of higher learning by the Ministry of Education in Thailand, it currently serves about 19,000 undergraduate and graduate students from more than 60 countries. The University is a non-profit institution administered by the Brothers of St. Gabriel, a worldwide Catholic religious order, founded in France in 1705 by St. Louis Marie De Montfort, devoted to education and philanthropic activities. The congregation has been operating many educational institutions in Thailand since 1901 [1].

The College of Internet Distance Education (CIDE) was established in 2002 as

a semi-autonomous organization within Assumption University whose purpose is to provide Internet based eLearning programs to Thai students and those in neighboring countries. Currently it offers 2 master degree programs in Management and ICT, and a Ph.D. program in eLearning Methodology [2]. CIDE uses Moodle as the main Learning Management System (LMS) for the eLearning programs. Video of lecturers teaching the courses in various programs are taken in the College studio and after post-production, these video files are stored on the College server alongside other teaching materials as the learning resources accessible through Moodle. Graduate students registered for a given course could access and view the course video on their PCs or notebooks anywhere in the world using video streaming technology. The MP3 audio lectures have been very popular because students are able to download them and listen to them on their MP3 players or smart mobile phones practically anywhere.

In a survey conducted in May 2006, CIDE students considered the MP3 audio lectures to be the second most important learning tool after the video lectures. As a result of this survey, the author considered the introduction of MP3 audio files, or even videos of lectures, to the programs of traditional students to supplement attendance at class. Given the ability of today's pocket phones and PDAs to connect us to a variety

of information sources and enable communication nearly everywhere we go, mobile technologies may gradually come to extend beyond from occasional supplemental use on accessed through desktop computers; frequent and integral use of personal mobile technologies [3] to augment physical and situated learning may become an important part of the education of the near future [4].

Mobile devices allow access and use of learning materials almost at any location which indeed enhances the concept of asynchronous eLearning by definition of “anytime” and specially “anyplace”. Ally [5] defined mLearning as the delivery of electronic learning material on mobile computing devices to allow access from anywhere and at anytime. As the prices of mobile devices such as MP3 players, smart mobile phones, PDAs, and notebooks are dropping, more and more students could afford to own one of these devices. Many varieties of mobile devices have easy access to the Internet either using GPRS or WiFi (Wireless IEEE 802.11 b/g) technologies. Many of these mobile devices can play audio files in MP3 format or video files in flash or Windows media player format. These devices could become ideal tutoring tools for students to listen or watch the audio and video lectures again and again to improve their understanding of the class lectures when audios of the lectures are recorded or videos of the lectures are taken.

Most students of Assumption University are from middle class and higher income families who own some sort of MP3 player or a smart phone/PDA capable of playing MP3 files. The purpose of this research was to determine the need and usefulness of such mobile devices in students’ studies at the university.

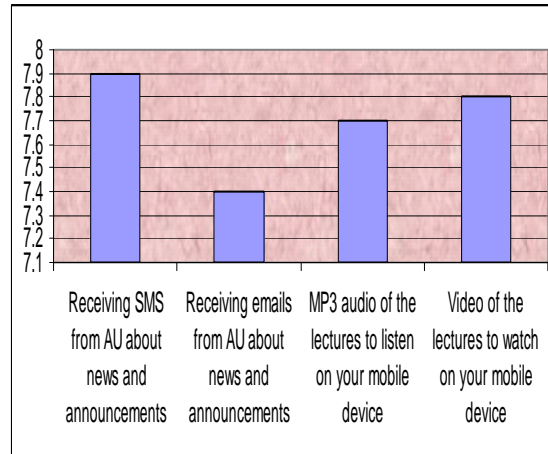
## 2. Research Analysis

In order to determine the attitudes of students enrolled in programs using

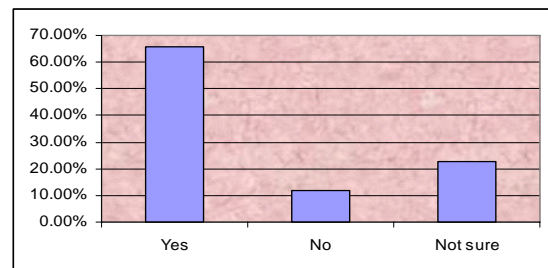
traditional on-campus classes towards the use of mobile devices in their studies, a survey was prepared and posted on the student portal of the Assumption University web site ([www.au.edu](http://www.au.edu)) in October 2006. An email was sent to all the students of the University explaining the purpose of the survey and asking them to go to the URL of the web page to complete the questionnaire. Within one month after the emails were sent, 145 students replied. The questions and responses are as follows:

- 72 of respondents were male and 73 of them females.
- 7.59% of respondents were graduate students and 92.41% of them undergraduates.
- The respondents represented 9 faculties of the University; the greatest numbers of respondents were from the faculty of Business Administration and faculty of Business Arts, the two largest faculties of Assumption University.
- 142 out of 145 or almost 98% of respondents own an MP3 player or a mobile device capable of playing MP3 files. 77 of them or 53% of the respondents had mobile devices capable of playing video files in addition to audio files.
- The most prevalent OS of the mobile devices, 25%, was Symbian; 12% used Windows mobile; the majority, however, did not know the operating system of their devices or simply reported that they were using plain MP3 players.
- The screen sizes of the mobile devices
  - 1 - 1.99 inches : 24%
  - 2 - 2.99 inches : 61%
  - 3 - 3.99 inches : 13%
  - 4 - 4.99 inches : 3%
  - 5 inches or more : 1%
- SMS, listening to music, playing games, and browsing were the highest ranked activities for which mobile devices were used.

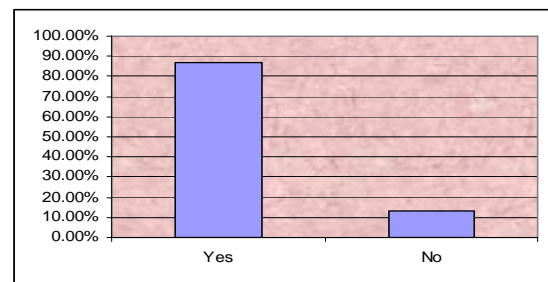
- Most of the respondents use their mobile devices many times a day for other tasks rather than making phone calls and spend more than one hour a day on the tasks.
- The majority of participants considered the purchasing cost of these smart mobile devices or the cost of being online (GPRS, WiFi) as the main drawback in using their gadgets. They did not consider the small size of screens or lack of keyboards as problematic factors.
- The participants considered the followings as the most important features that could contribute to their studies, if they were to be implemented for mobile devices.
  - Receiving SMS from the university about news and announcements.
  - Watching video lectures on their mobile devices.
  - Listening to MP3 audio of the lectures.
- 79% of students indicated their willingness to purchase a smart mobile phone or PDA if their existing mobile devices could not play the video/audio files of the lectures.
- There was no significant difference in the attitudes of male and female students towards the use of their mobile devices for listening or watching the lectures; neither was there any significance difference in the attitudes of students in various faculties towards mobile learning.



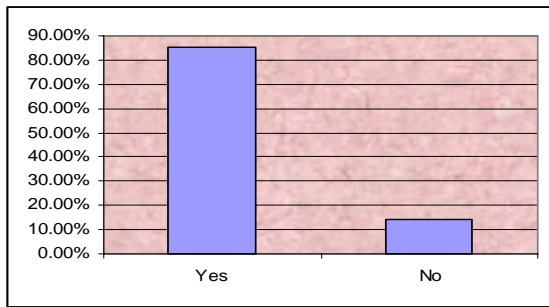
**Figure 1. Ranking of the usefulness of the features if implemented to work on mobile device (1 = the least useful, 10 = the most useful).**



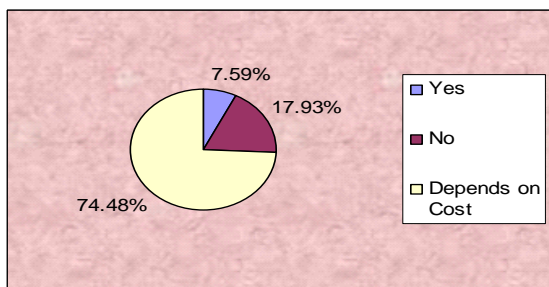
**Figure 2. Do you think mobile devices can play a useful and effective role in your studies?**



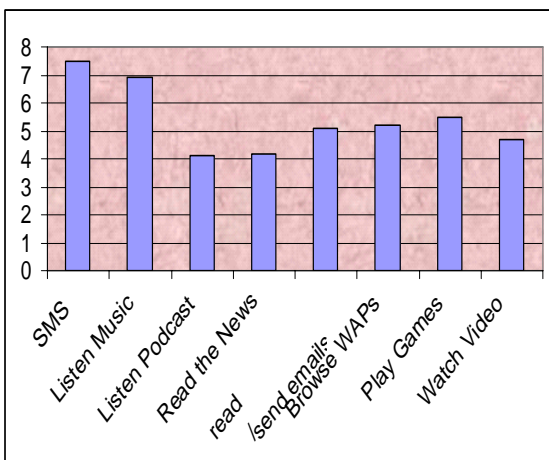
**Figure 3. Would it help your studies if the video of the lectures become available for your mobile device?**



**Figure 4. Would it help your studies if the MP3 audio of the lectures become available for your mobile device?**



**Figure 5. Will you be willing to pay to get the audio or video files of the lecture?**



**Figure 6. Please rank the following features of your mobile device that you use the most (1 = the lowest rank, 10 = the highest rank)**

From the Figures 1 through 6 which are parts of the questionnaire, it is clear that majority of students have a positive attitude towards mobile learning. They believe that watching the video or listening to a lecture on their mobile devices would certainly improve their studies and understanding of

the subject in a better way. They indicated that they would be willing to pay a reasonable amount of money to gain access to such services.

### 3. Teachers' Attitude towards Mobile Learning

After the questionnaires from students were collected, lecturers from various faculties of the university were informally interviewed during November and December 2006. The purpose of the informal interview was to determine their attitude towards mobile learning. A total number of 17 lecturers, 11 male and 6 female, aged between 28 and 54, were interviewed and part of the data obtained from this process is shown below:

- One lecturer just uses transparencies for giving the lectures. The lecturer does not use any sort of electronic media.
- Sixteen use some form of electronic media, such as PowerPoint to conduct their lectures.
- Three lecturers use open source Moodle installed at the one of the university's servers to provide more information in electronic format to students and receiving questions and assignments through Moodle in addition to the use of PowerPoint.
- One of the three who use Moodle also provides a video lecture of his classes on VCDs which students can borrow from the library.

The lecturers were asked whether they would mind if the audio/visual department of the University recorded the activities in their classes on video or audio taped their lectures and then after editing of the recorded material to store on a server at the University for their students to download to watch or listen using their mobile devices. Here are their responses:

- Eleven had strong reservation against either video or audio recording of their lectures.
- Six other lecturers had a more limited and more moderate reservation.
- Only one lecturer had a positive attitude towards the audio or video recording of his classrooms lectures.

The reservations expressed by the lecturers were as follows:

- A lack of a strong copyright law in Thailand.
- The question of whether the copyright ownership of the recoded media would be owned by the lecturer or the university.
- A worry that the recorded lectures could be used by deans or administrators of the university to judge the teaching performance.
- The feeling that greater preparation would be needed to make lectures suitable for recording.
- A few indicated that they are camera shy and fear they could not give a good lecture when being video/audio taped.

Lecturers were asked whether they would accept to be video/audio taped if the university provides an adequate compensation for their participation in the mLearning project and providing the recorded media for their students to download. Below are their comments:

- Fifteen of the lecturers showed a willingness to be audio taped if the compensation is satisfactory.
- Eleven indicated they would be willing to be videotaped with adequate compensation.

These informal interviews suggest that a majority of lecturers may be willing to participate in an mLearning project that will

benefit students as long as financial compensation is provided to them. More lecturers prefer audio recording to video recording and demand more compensation for video recording.

#### **4. The University Attitude towards Mobile Learning**

Assumption University has been very supportive of providing faculty and students with the latest technologies that could be used in the teaching and learning process. In 1993, AU was the first university in Thailand to provide, for a fee of US\$ 5.00 per month, full Internet access to all the students both on-campus and of-campus through 800 telephone lines [6]. Being a non-profit organization, the University invested this income to enhance the networking infrastructure in the University and to provide PCs with the Internet access at all classrooms, offices, and labs for the students and faculty. Starting 2003, AU has also initiated installing wireless access points at various locations in two campuses of the university to provide wireless Internet access to the students and faculty anywhere in two campuses. The College of Internet Distance Education was set up in 2002 to provide Internet-based education which is growing through these years and has been proven to be successful. The College provides the MP3 audio of the lectures to students and plans to prepare the flash video version of the video lectures and to provide them to students for watching on their smart mobile phones and PDAs. The university and the College top executives believe in importance of mobile learning in education.

It would be costly to provide mLearning material for students. The cost of recording the audio of the lecturers and converting them to MP3 format and storing them on the university's server for the students to download is much cheaper than the cost of video taping the lecturers, editing and

rendering the video tapes and converting them to a format like Flash for mobile device. The university could provide the MP3 audio and video ready format of the lectures and sell the media to students on a download basis.

In the survey conducted, as shown in Figure 1, the participants ranked receiving the SMS from the University about news and announcement as the most important feature for their studies. The respondents use the SMS feature of their mobile devices most frequently as shown in Figure 6. Most students are familiar with sending and receiving SMS and know the importance of receiving SMS from the University about the news and announcement. Currently the University announces the news such as cancellation of classes, exam schedules, exam rooms and seat arrangements, and other news of importance to students on the University website. With some investment, the University could provide the service of sending all the relevant news to the right students through SMS service. The students could subscribe for such a service with a small fee. Such a service has already been utilized in a number of universities with a good satisfaction [7].

## 5. Conclusion

A number of studies concerning mobile learning have shown the positive potential of the use of mobile devices for student studies. The cost involved in producing audio MP3 files or video files for smart mobile phones or PDAs could be partly paid by students and partly by the university. If the high cost is a major issue, the project could be started with less expensive MP3 audio recording. The author of this study plans to continue the research by making it possible for MP3 audio lectures to be prepared for several classes and measuring the impact of these audio recordings on the academic success of the students in class

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