

# Mobile Learning and Multi Mobile Service in Higher Education

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**Abstract**—Mobile devices can be used not only for consuming information but also can be used as innovative knowledge tools. It is related to e-learning and distance education, but today focus on learning through multimedia contexts with mobile devices. Progression in mobile communication technology will push more educational environments into interactive community. This paper depicts the level of mobile learning readiness among undergraduate students in MMU because of achieving to higher quality of educational services in the 2011/2012 academic year. Questionnaires were distributed among undergraduate students from four faculties in MMU and lecturers in each faculty that are Faculty of Creative Multimedia (FCM), Faculty of Information Technology (FIT), Faculty Of Engineering (FOE) and Faculty Of Management (FOM).

**Index Terms**—Ubiquitousness, Bite sized learning, Collaborative learning, Blended approach, Mobile learning

## I. INTRODUCTION

Evolution of new expertise and approaches will be necessitated to maximize the pedagogical effectiveness of mobile learning[12]. A Personal Digital Assistant (PDA) is a manual device with applications such as word processing, spreadsheet and personal organizers. Shifting from teacher-centered to student-centered classroom environments, PDAs may perform a consequential role in increasing the teaching and learning process[14]. Distance Education alters from the traditional E-learning to the Mobile learning so the learner can receive the data in any location. The lecturers will send e.g. exam Schedules and important notification to their students due to reminder. As a result, the content of the SMS is very concise report but very effective.

One aspect of mobile learning is the opportunity to run away from classroom, and to move to another location and makes learners capable to joint information network when it is necessary to use portable learning device [16]. Providing informative data such as SMS about requirement of participating in classroom has effective benefits such as experiences in taking online classes, motivation for taking the class, and expectations for mobile learning[19].

The recent research shows that Open University of Malaysia has initiated their version of mobile learning in a few of its courses. Results expressed that the satisfaction of the respondents in the direction of Mobile learning was in high point. Also Mobile learning has improved them to their subjects in distance learning courses [7].

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The objective of this paper is to survey students' and tutors' readiness of using Mobile learning in Multimedia University of Malaysia. The survey is very important because it will elaborate the background knowledge level of undergraduate students and tutors about Mobile learning technology. The result illustrates practical information which can be exploited for installing this approach in MMU.

## II. PROBLEM STATEMENT

Undergraduate students spend lots of their weekly time in classroom environment. The problems among undergraduate students in MMU consider around the learning spaces, which is almost inflexible and impassionate. The other common problems relate to student timidity of asking question in classroom space, also student neglected to lecturer notification. Having daily schedule between student and lecturer and needing quick lecturer assignment confirmation could be the other result to pay more attention to learning process.

## III. RESEARCH OBJECTIVE

The objectives of this research are to:

- Survey the weaknesses of current problem in MMU learning systems
- Collecting data from undergraduate students and lecturer in four separate faculties due to using of mobile learning
- Suggest a mobile learning system in learning environment due to several reasons such as Performance support, Manage and control learning requirements, Enhancing interaction and motivation among learners, Convenience, Flexibility and efficiency, Fast knowledge sharing, Increasing learner confidence, and etc.

## IV. LITERATURE REVIEW OF UTILIZING MOBILE LEARNING IN EDUCATIONAL SCENARIO

iPod educational content has a wide capability to support students' understanding. When multimedia tool has been jointed to specific learning goals, it has been practical in a large domain of subject areas. iPod provide various facilities and opportunities. Scientific educational approach recommends the benefits of simulations, computer based laboratories, and video to solving the learning problem [13].

### A. Mobile Learning Definition

A clear difference between conventional learning and

mobile learning is that mobile learning initiates from the assumption that learners can receive data continually on the move. They learn across place and time as taking learning materials and information in one specific location. Learners also move in and out of engagement with technology, for example they join and leave cellphone coverage [18]. Mobile Learning is a method of applying wireless and mobile technologies for educational system by extending access data to one desktop-based online environment such as mobile phones or personal digital assistants (PDA's).

### *B. Mobile Learning Characteristics*

A mobile learning could be considered any form of learning and teaching process that occurs by mobile device or in mobile environment.

#### *1) Ubiquitousness*

Mobile learning becomes possible to develop mobile applications services that not only are proficient of replying to subscribers whenever/wherever, but also may engage users when the requirement arises. By growing coverage by mobile network, mobile learning services can have more and more ubiquitous presence. Availability of mobile technology supplies comfort for the learner [6].

#### *2) Bite sized learning*

Through bite-sized approach, short learning modules can be added into the abstract. This type of learning content can be appropriate for rendering and delivery on small mobile devices. Mobile learning components require being short in time duration. There is probably to be a necessity for 'bite-sized' learning [10].

#### *3) Collaborative learning*

Mobile technologies can be exploited as collaborative devices that help learners in informal and formal environment to manage activities and complete results by increasing the sense on motivation [11]. Collaborative learning is afforded via mobile learning including SMS, MMS (multimedia message sending), voice, email contact and sharing information by uploading to central location.

#### *4) Performance support*

The technologies are attempted to improve the productivity, creativeness, effectiveness, and efficiency of mobile subscribers through delivering information and support just-in-time for their immediate precedence [5].

#### *5) Blended approach*

Blended environments present pictures, graphs, animations, simulations, and video clips that the learner has the ability to manipulate them. Mobile blended learning is contained of several activates such as extending a course, supplying packaged content that can act as performance support and providing access to tutors and learners [2].

#### *6) Learning strategies*

According to constructivist learning environments (CLEs), each problem should be authentic and engaging, involving all parts of the activity system and provides the challenge for the learners [7]. Learner centered strategies should be developed on inquiry-based, discovery-based or problem based learning strategies which are based on constructivism theory [15].

#### *7) Device category*

We can explain the term 'mobile technologies' in to some devices such as mobile phones, smartphones, such as the Blackberry, iPhone or Google Android, PDAs, netbooks ,

notebooks , laptops, tablet PCs , non-telephony devices such as Apple's iPod and mp3 players, eBook readers such as Amazon's Kindle and Sony's eBook reader [17].

### *C. Short Message Service (SMS) and Multimedia Services (MMS)*

Observations comprehend that short messaging services (SMS) are often more popular ways of communication than telephone calls among learners [19]. The importance of using SMS surveys in several researches. Fear of being recognized as 'dumb' by the other students can be the reason of losing self-esteem and self-confidence that probably prevent students from asking help from the tutors [9].

Multimedia Services (MMS) is the more new in mobile messaging application. The MMS suggests automatic delivery of personal messages. MMS can broadcast all forms of information package, such as text messages, sound, images, and video.

### *D. Challenges and Benefits of Mobile Learning*

The challenge of implementing mobile learning technology depends on several factors such as training, device limitations, security, support, and the cost of implementation and maintenance [1]. Mobile learning implementation requires emphasizing in support-fading component of scaffolding. To take advantage of this ability, the important challenge is to determine when the support should be faded, and how much the support should be diminished. It needs to assess the learner's mastery level throughout scaffolding [3].

A number of surveys have illustrated benefits of mobile technology to learners, such as quick feedback, increased engagement and motivation, collaborative activity, group working and using mobile as a reference tool. Benefits of using this revolution for teachers are probably to see student motivation, better joining in class activity, improving retention and performance by students and encourage responsibility feeling [10].

## V. METHODOLOGY

From 200 questionnaires that distributed to learners, 195 questionnaires received and this shows a response rate of 97.5 percent. From 80 questionnaires that distributed to academics, 56 questionnaires received and this, translate to a response rate of 70 percent. The questionnaire consisted of four parts, which is A, B, C, and D. Part A focused on respondents' background information. Part B asked about their hand phone facilities. Part C questions focused on how respondents connect to the internet and what they do online on their hand phones. Finally, part D questions focused on respondents' understanding of mobile learning. The data was analyzed using IBM SPSS Statistics software version 19.

## VI. RESULTS AND DISCUSSION

This research has several results for each part. Because of importance of topic we mention the result of part D which is focused on understanding of mobile learning.

### A. Students

From the analysis of results, the majority of respondents were first year students (66.7 percent,  $N = 128$ ). Most of the students were between ages of 17-20 years old (67.5 percent,  $N = 131$ ). Most of students will not pay extra money for mobile learning ( $M = 2.34$ ,  $SD = .917$ ) but the research result ( $M = 3.02$ ,  $SD = .953$ ) showed that they agree to upgrade their hand phones. Students were agree approximately that mobile learning will make their life easier ( $M = 2.34$ ,  $SD = 1.038$ ) and it will save their time ( $M = 2.92$ ,  $SD = .889$ ).

### B. Academics

The majority of academics were between ages 30-39 years old (54.2 percent,  $N = 26$ ). 41.1 percent ( $N = 23$ ) of academics had 11-15 years teaching experience. The highest mean result which indicated that academics will motivated to upgrade their hand phones if the university provide some funds ( $M = 3.30$ ,  $SD = .851$ ). The same as students, academics gave a high score ( $M = 3.12$ ,  $SD = .740$ ) which indicated that they need to know more about what their hand phones can do to help them in mobile learning. MMU academics were not agree that mobile learning can save their teaching time ( $M = 2.48$ ,  $SD = .972$ ), also they were not agree that mobile learning make their life difficult ( $M = 2.75$ ,  $SD = 1.132$ ).

## VII. CONCLUSION

Mobile learning facilitates direct communication between teachers and students, in a way that may encourage students shy or hesitant to communicate more openly than they would in class. Additionally, teachers of large classes can use the direct interaction as a way of giving special attention where required.

The majority of students (86.7 percent) indicated that they could access to the internet on their phones and their phone supports 3G. In MMU, students have access to the Internet via Wi-Fi in faculties and hostels, so they used Wi-Fi. Respondents prefer to have mobile learning in addition to face-to-face meetings in the class.

The same as students, academic's respondents indicated that they need to know more about what their hand phones can do to help them in mobile learning. Furthermore this research illustrate that academics will motivate to upgrade their hand phones if the university provide some funds.

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