ENGINEERING STUDENTS' PERCEPTION TOWARDS MOBILE LEARNING AT INSTITUT TEKNOLOGI BRUNEI

[1]THULASIMANI MUNOHSAMY, [2]SURES MUNIANDY

[1]Institut Teknologi Brunei, [2]Independent Researcher
E-mail :[1]thulasi.munusamy@itb.edu.bn, ggthulasi@yahoo.co.in, [2]suresmuniandy@gmail.com

Abstract- The use of mobile phone has become very popular among university students. Educators can take this opportunity to use the mobile phone for learning and teaching purposes. Therefore this is a quantitative study, conducted on 70 first-year Petroleum and Chemical Engineering degree students, observing their perception towards mobile learning. Questionnaires were designed and distributed to the students. Results from the study shows that all the students participated in the survey own mobile phones with Internet access and they use mobile phone for academic purposes. The findings also show that the students have positive attitudes towards mobile learning, are well aware of the disadvantages of mobile learning, however they are unsure when comes to its' advantages.

Keywords- Mobile Learning, Perception, Advantages And Disadvantages, Technology

I. INTRODUCTION

In the recent years information and communication technologies have become very popular among student especially university students. The era of bulky and heavy monsters with meters long network cables have gone obsolete, evolved into portable, handheld lighter devices with wireless network access and this has accelerated the information processing and transfer thus revolutionize our lifestyle, especially students. Since mobile phones, one of the major innovations of technology has been part of a university student's life, then it is rationale for the educators to use this gadget for teaching and learning purposes. According to Lan & Huang[8], using mobile devices for educational purposes is becoming a common expectation of learners as they can access to learning material easily.

Therefore the term 'Mobile Learning' (ML) seems to becoming popular in the education field. Mobile learning refers to the use handheld devices such as PDAs, mobile phones, laptops and other handheld information technology devices that maybe used in teaching and learning [5]. In this research the perception of the Petroleum and Chemical Engineering first year students of Institut Teknologi Brunei towards mobile learning is studied before it is formally introduced as the media of learningas all of them owns mobile phone with Internet connectivity.
The objective of the research is to study the first year Petroleum and Chemical Engineering students' perceptions of mobile learning at Institut Teknologi Brunei based on their knowledge or experience using mobile phone.

Good technology facilities and having the device itself in a university may not promise good use of technology in a classroomunless the objective of using technologies in university is studied and implemented. By conducting this study, educators can take the opportunity to promote active teaching and learning using mobile devices, as the popularity continues to grow and becomes inseparable from the students. The findings of this study are expected to provide valuable information on using mobile devices for learning purposes. This study may also provide a potential point of reference in quantitative literature and establish grounds for further research in this area.

II. LITERATURE REVIEW

In this section the studies related to this research is discussed. Many related studies have been conducted on mobile learning all around the world. Mobile learning is said to contain three key components: mobility of technology which refers to the mobile nature of installed hardware and software that enable wireless Internet connection, mobility of learner which means the learners are no longer physically need to attend a lecture and they can be mobile and learn at the same time as long as their devices are connected to the internet and mobility of learning process which refers to the result of mobility of both the technology and the learners [3].

Kumiko and Downes [1] conducted a survey on college students' cell phone usage from a behavioral and psychological perspective and they concluded that people have various feelings and attitudes towards cell phone usage. Meanwhile Thornton and Houser [9] conducted a research on 333 Japanese university students on the use of mobile devices. The study found that 93% of the sample of the study believed that this is a valuable teaching method. Furthermore, Fozdar and Lalitha [6] conducted a survey to better understand and measure students' attitudes and perceptions towards the effectiveness of mobile learning and found out half of the respondents highly supported the use of mobile phone for learning purposes.

In a survey conducted at the King Saudi University, Saudi Arabia, on the students' attitude and perception on the use of mobile technology in education, Fahad [4] found out that the majority of the students supported the idea that mobile learning increases the flexibility of access to resources in learning and they can work independently. Mobile learning also prove to improve education in the developing countries. In a study conducted by Tewari, Canny and Others [2], mobile phone was a perfect vehicle for making educational opportunities accessible to rural children in places and times that are more convenient than formal school. This study was conducted for 26 weeks to investigate the extent where rural children will voluntarily make use of mobile phones to access educational content when not supervised. Not only academic learning occurred but also exhibited that there is potential for learning to be increased if barriers like limited electricity and gender attitudes could be overcome.

Beside those studies, Fuxin [10] in his study also explored the evolution of smart phone into potentially powerful learning tool by providing a literature review on smart phone's usage in higher education and lays foundation for future research that examines the digital gap between teacher and student related knowledge. These are some of the similar studies done by other researchers in this area. The similarity or differences between the findings in the literature and this study are discussed later in the paper. In the next section, the research method isdiscussed.

III. METHODOLOGY

This is a quantitative study and the sample of study consisted of 70 first-year Petroleum and Chemical Engineering students. The study sampleconsisted of 25 male students and 45 female students. The data collection was done through the use of an established survey questionnaire with five point Likert scale to capture students' responses. The questionnaire consisted of 3 demographic questions, three questions which coverthe students' use of technology for academic purposes and one question with 21 items on students' perception on Mobile Learning. The 21 items consisted of positively and negatively phrased statements to preclude any response set. The questions were modified on the contextual elements to meet its purpose. The 21 statements of the questionnaire were divided into three sections: Statement 1 to 6 are to measure the willingness to use Mobile Learning, statement 7-17 are to measure the advantages of mobile learning that support using it and statements 18-21 are to measure the disadvantages of Mobile Learning that hinder its' use. Looking at the validity and reliability of the questionnaire used, Faisal [5] reported a strong validity among the statements, with a correlation coefficient value of 0.83, measured using Alfa-Cronbach. The collected data were analysed using SPSS 20.0 software (Statistical Packages for Social Sciences) and presented in the form of frequency and percentage.

IV. RESULTS AND DISCUSSION

The main purpose of this study is to investigate the first-year Petroleum and Chemical Engineering students' perception towards the use of Mobile Learning at Institut Teknologi Brunei. In other words, this study would like to reveal if there is an orientation towards Mobile Learning regardless of its efficiency.

This study reveal that all 70 respondents own a mobile devices with internet access. Moreover all 70 students use their mobile devices for academic purposes. The major findings are reported in Table 1 below.

Table 1: Percentage of Reponses Based on the Questions Category

Response	Strongly Disagree & Disagree	Neither	Strongly Agree & Agree
Question 1-6 (Willingness to use ML)	23.4%	37.8%	38.8%
Question 7-17 (Advantages of ML)	29.5%	40.5%	30.0%
Question 18-21 (Disadvantages of ML)	17.0%	41.5%	41.5%

ML – Mobile Learning

The result of the first axis, which measures the students' willingness to use mobile learning shows that majority of the respondents are in favour of using ML by 38.8%, in comparison tothose who are not, which was only 23.4%. This findingis in line with the research done by Fozdar and Lalitha [6] where half of the respondents highly supported the use of mobile phone for learning purposes.

The result of the second axis, question 7 to 17 that measures the advantages of mobile learning, showed that students mostly did not agree or disagree with this parameter. Forty percentile (40%) responded with 'neither', 30% with 'agree' and another 30% with 'disagree' on the advantage statement of ML. This shows that there is a general agreement of uncertainty of the expectation of the mobile learning when comes to its' advantages.

The educators could probably explain and try out the mobile learning for the students to understand better on the advantages of mobile learning. Usually when a new method is used for teaching, it is expected to have much resistance since students are comfortable with the traditional way of learning.

Finally, the result of the third axis, statements from 18 to 21, which measures the disadvantages of mobile learning that hinder the use of it, shows that majority of the respondents are aware of the disadvantages of ML (41.5%), compared to those who are not (17.0%). This shows that the students are mostly aware of the fact that mobile learning has some disadvantages that could hinders its' use. Therefore, in order to introduce ML successfully to these group of students, the instructors must have the necessary competency before implementing this change, and student need to have access to well-prepared teaching materials and most importantly the transition should be done gradually.

CONCLUSION

The purpose of this research was to study the students' perception towards using mobile for learning. This study shows that the first-year Petroleum and Chemical Engineering students are ready for ML implementation as not only they perceive ML as favourable to their learning, they are all equipped with their own mobile device and already using it for academic readings. Since the survey is only done with one group of students, it cannot be generalised to any other subset of population. The students are aware of the disadvantages of mobile learning and this means that mobile learning can be implemented but it has to be done gradually in order for the students understand and well prepared for it.

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