



ACCEPTANCE AND READINESS OF USING SMART PHONES BY EDUCATORS TO PROMOTE LEARNING ACTIVITY

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ABSTRACT

Mobile technology is providing a new frontier for the application of educational technology within the academia. However, as with any relatively new technology, much has to be understood about the concept of mobile learning before it can be employed effectively. One of the most logical early steps is to understand the perception of the stakeholders, including lecturers' and students. This is the angle of approach taken by INTI International University, Malaysia. This paper presents the results of a survey at INTI International University, the lecturers about their perception on mobile learning and training. The findings will help in formulating a well-planned and user-centric approach on application of mobile technology for the purpose of learning and training within the institution. The results of the survey showed that 76.5% of the respondents are owners of smart or mobile phones. The respondents also indicated a favorable perception of m-learning although 64% of them have never used it. The majority (76.5%) of respondents also believes that m-learning would be useful for their students, and 86.4% of respondents agreed to attempt to tap on the potential of using the networks and smartphones for educational purposes. The results showed positive potentials and capabilities of the smart phones use in the education. This indicates that teaching & learning could advantage from utilizing these new technological tools. Despite this positive acceptance of technology, educators' readiness for the use of mobile phone in teaching and learning was found to be at a considerably low level. However, the study identified a significant correlation between respondents' awareness and motivation towards mobile technology with their readiness for the pedagogical usage of mobile phone.

Indexing terms/Keywords

Acceptance, smart phone, education, educators, m-learning.

Academic Discipline And Sub-Disciplines

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1. INTRODUCTION

The transformation of teaching and learning caused by technology has certainly provides an exciting opportunities to design learning environment that are realistic, authentic, engaging and extremely fun (Kirkley & Kirkley, 2004). Besides, researchers also found that technology have always held a great promise for increasing student engagement and level in understanding the learning content (Di Serio, Ibáñez, & Kloos, 2012; Kreijns, Acker, Vermeulen, & Buuren, 2013; Roca & Gagné, 2008) among the key elements that leads to better academic results. Therefore, there has been a considerable concern over the use of emergent technology to support learning process. Indeed, there are many different technologies that have been integrated in the educational arena, among others such as the use of computer, multimedia, internet, e-learning, social web, simulations and more recently mobile devices and immersive environments such as games, virtual worlds and augmented reality (Dror, 2008; Martin, Diaz, Sancristobal, Gil, Castro & Peire, 2011).

Recent advances in technology have allowed rapid miniaturization of various computing devices. Mobile computing devices in various form factors such as tablets and smart phones have not only been a viable platform to carry out various tasks, but also being rapidly improved in terms of usability, processing power and connectivity. While tablets and smart phones have been around since 1990s, it is probably the introduction of Apple's iPhone and iPad that provided the major impetus for renewed industrial interests in mobile devices. The aim of creating usable and connected mobile devices is not a far-fetched vision anymore, it is already a reality. The availability of such convenient platforms brings about a new set of challenges for educators and trainers. Learners are getting more familiar with mobile gadgets, and as a result, their preferences and methods for knowledge acquisition and sharing will change too. Educators will have to face the challenge of not only knowing the technology, but also how it affects learners. In the INTI International University, Malaysia, the use of mobile learning is in its early gestation where very few lecturers have actually used it in class or research it deeply. This paper presents the findings of a survey carried out to gauge the readiness of lecturers for mobile learning. It is instructive to bear in mind that there are similarities between the fields of e-learning and mobile learning (m-learning) as they share the same roots within the umbrella concept of distance education (Gladiux & Swail, 1999). This means that institutions could leveraged their existing base of expertise and experience in e-learning to adopt and implement m-learning. The personal nature of mobile phones and their portability means that m-learning has a huge potential in education (Vogel et al., 2010).

The wireless handheld devices such as personal digital assistant (PDA), mobile phone, wireless laptop, tablet, and personal computer (PC); which are always on and always with the learner, allows learner to get information about courses. Learners can attend exams, download notes, share information, and also this process are track to the system then instructor can take reports toward learner process. They also facilitate 'just-in-time' learning; learners could often take advantage of unexpected free time as they frequently have their devices with them (Vavoula & Sharples, 2008). A deeper insight into theory-based research is required to better understand the underlying motivations that lead academics to adopting mobile learning elements and characteristics. It is necessary that the elements of mobile learning are organized correctly and the interactions between the various elements are combined in an efficient and optimum way so that the mobile learning is successful and the implementation is efficient. In addition, the characteristics of mobile learning should be organized, and the way they are applied to mobile learning activities and the application methods and the duration of the application time should be planned well in advance. These reasons have motivated authors to carry out this study.

2. LITERATURE REVIEW

Educators' technology acceptance is one of the issues being addressed by several scholars. Teo (2011) defined technology acceptance as a user's willingness to employ technology for the tasks it is designed to support. Thus, some of issues that relate to technology acceptance might be lecturers' acceptance in terms of their awareness and motivation towards the use of technology in teaching and learning process. Educators' awareness on pedagogical usage of technology plays important roles in determining whether they will use it in classrooms or not. In a research by (Ngozi et al. 2010), it was reported that, even though the lecturers could identify the specific technological tools which are useful for education, they however were not aware of in what way the tools can be used. Level of motivation among them was also seen to be related to a successful implementation of technology within education system. A lecturer's motivation is positively related to ICT use in the classroom (Karsenti et al., 2006). Sheingold and Hadley's survey (1990) suggested that educators who were exceptional users of computers for teaching were also highly motivated. Therefore, awareness and motivation relates to each other. When users are aware of the value of a tool, they will be motivated toward the use of it (Solomon, 2003).

Mobile learning has different characteristics. The core characteristic of mobile learning are ubiquitous, portable size of mobile tools, blended, private, interactive, collaborative, and instant information. Seppälä and Alamäki (2003) claimed that the core characteristic of mobile learning enables learners to be in the right place at the right time, i.e, to be where they are able to experience the authentic joy of learning. Many m-learning projects have been put into practice in Europe for teachers' education, pedagogical development, and educational support and research.



Table 1. Some Mobile Learning Projects in Europe (Unesco, 2012)

FIELD OF INTEREST	INSTITUTION	COUNTRY
Teachers' Education and Pedagogical Development	MoLeNET	England
Management Support	UnivMobile	France
	Mobilskole	Norway
	Yorkshire Coast College, Mobile Oxford	England
Instructional Support	Mobile in Salford, University of Leeds Medical School, Priory School, Apps for Good	England
	Distance Learning for Apprentices	Turkey, Spain, Portuguese germany and Denmark ,
	REACH	Turkey, Italy, Norway and Spain
	Presemo	Finland
	WapEduc	France
	ENVI GAME	The Czech Republic
	BlackBerry Academic Program	In many Countries
Research	MOTILL	Hungary, Ireland, Italy, England

For the case of Malaysia, the adoption of m-learning is still considerably at infancy. Though, some research has been conducted to study the potential of mobile technologies in enhancing classroom teaching-learning activities in Malaysian Universities & Schools. As examples, the potentials of mobile technologies were studied for English vocabulary learning in secondary schools, English language literature (Rahamat et al., 2011) and mathematics for primary schools (Mahamad et al., 2010). Even more interesting those students are allowed bringing their mobile phone to schools from 2013. Thus, these potentials signal the area of research that studies the potential of m-learning in enhancing the pedagogical practices for Malaysian education system. According to (Sharples, 2000), more the learning becomes student-centered and individualized, the better and the more personalized the new technologies will be. The implementation and realization of lifelong learning through new technologies are shown in Table 2.

Table 2. Comparing Communication and Information Technology to Lifelong Learning (Sharples, 2000)

Lifelong Learning	New technology
Individual	Personal
Leamer-centered	User-centered
Static	Mobile
Collaborative	Network
Available everywhere	Available everywhere
Lifelong	Permanent

Mobile learning provides students with individual study and online resource opportunities. Being easy updateable, assessed by the students and providing feedback can also be considered as some of its advantages (Jacob & Issac, 2008). It is possible to support the activities of students and teachers thanks to the developments in mobile technologies in (Trifonova & Ronchetti, 2004). It is a great freedom for the learners to start and stop or even interrupts learning process whenever and wherever he/she wants.

3. METHODOLOGY

The research aims to find out the extent to which and to identify educators' acceptance of technology and their readiness for m-learning via mobile phone to support learning. A quantitative research design is used in the current study using questionnaire based survey. According to Scheuren (2004) survey is a method to use information from the sample. Survey research is conducted to collect from a set of individual's on some set of organizationally relevant constructs (Bartlett, 2005). Furthermore the phenomenon used in the present study cannot directly be observed and required a survey. Thus, Gall *et al.* (2007) are of the view that survey is the best approach to collect information from large number of population at one time. Terre Blanche *et al.* (2006) are of the view that results derived from quantitative study show more generalizability. A self-administered questionnaire was used to achieve the goal. It was designed based on the criteria discussed and identified. To analyze the data, statistical methods were used to quantify the collected data. Additionally, findings from the survey were analyzed and discussed for further interpretations and recommendations.

4. RESULTS AND ANALYSIS

The survey on questionnaire was set with the title bearing the heading as, "Smartphone uses in Education (by University Educators/Teaching Staffs)". The survey had seven (7) questionnaires, which were: Use of any smart phone at present, smart devices have made communication with family & friends easier than ever before, use for preparation of lecture materials or to collect useful information for the subjects teaching, use of social media or any smartphone applications (Apps.) as one of the teaching supports, use to improve students' engagement, interaction & motivation in the class and overall learning, the increasing popularity of the smartphones and the sheer number of hours spent by students on the online social networks/smartphones; educators should attempt to tap on the potential of using these networks & smartphone for educational purposes, and the list of currently teaching subjects. The responses are received from 51 educators/staffs. The results and analysis of responses for each question are discussed separately in the following:

4.1 Are You Currently Using any Smartphone?

The question is aimed to estimate the user's current progress on use of smart phones/ mobile devices by the educators/staffs. Total count of 51 responders, both educators and staffs are involved in this survey. The results obtained for question 1 are shown in Figure 1. It is observed from Figure 1 that 76.5% of them are currently using smart phones and only 24.5% of them are not in use.

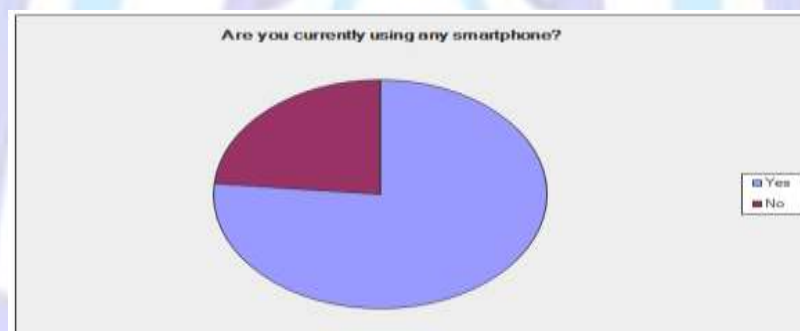


Figure 1 Results obtained for question 1

4.2 Smartphones or Smart Devices (i.e. iPad, Samsung tab etc) have made Communication with Family & Friends Easier than Ever Before?

This question is aimed to draw the information on how much the users are comfortable with the facility of advanced technologies in their day to day life. The results on obtained for question 2 are shown in Figure 2. The observation on results showed that 94% of the users are comfortable with the use of present technologies than ever before.

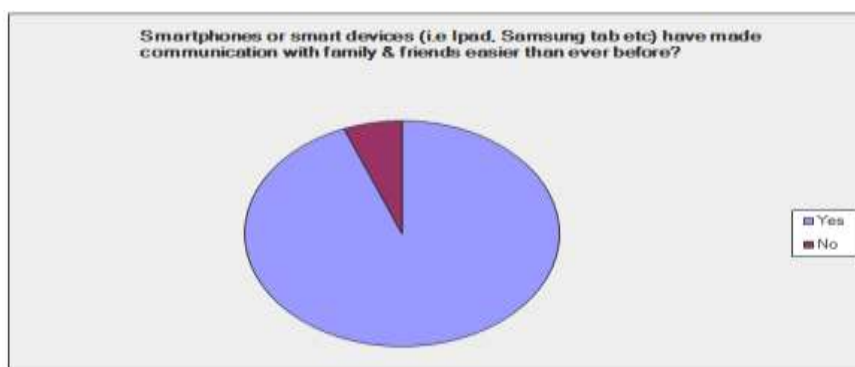


Figure 2. Results obtained for question 2



4.3 Have You Ever Used Smartphone or any Smart Device for Preparation of your Lecture Materials or to Collect useful Information for the Subjects you are Teaching?

This question is set to draw the information how much effectively staffs using day to day for their profession. The results obtained for question 3 are shown in Figure 3. The observation on results indicates only 36% of staffs are using for their professional activity.

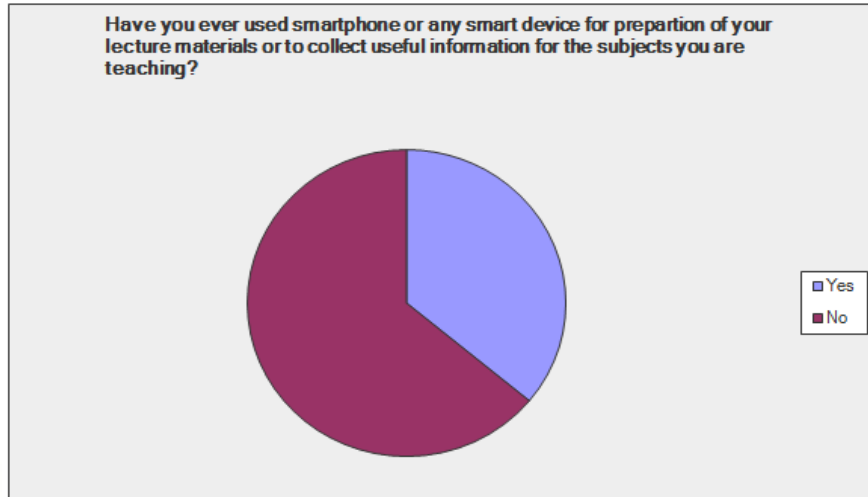


Figure 3. Results obtained for question 3

4.4 Have You Ever Used any Social Media (i.e.facebook,whatsappetc) or any martphone Applications (Apps.) as one of Your Teaching Supports

The objective of this question is to gather info how far the staff utilizing the advanced technologies as tools for their profession in their teaching activity. The results obtained for question 4 are shown in Figure 4. From Figure 4, it is observed that 52.9% are utilizing the facilities of advanced technologies.

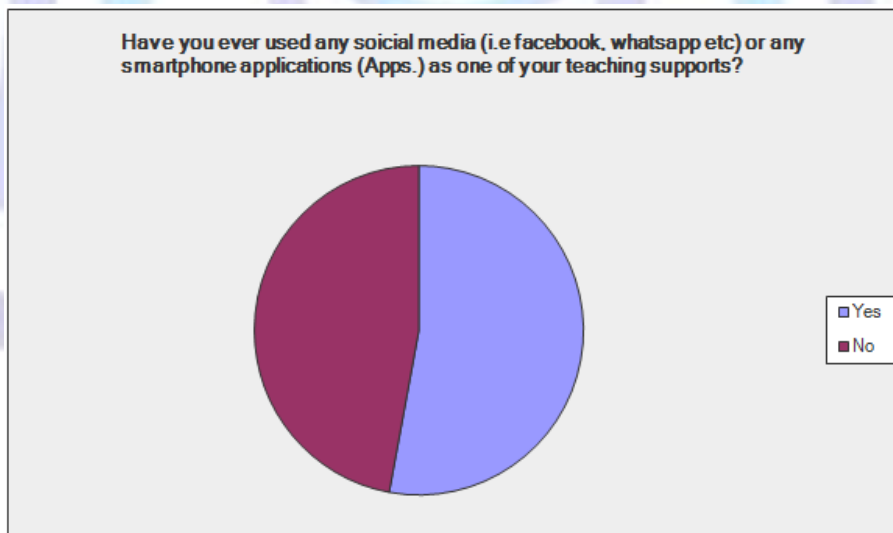


Figure 4. Results obtained for question 4

4.5 Smartphones or Smart Devices can be used to Improve Students' Engagement, Interaction & Motivation in the Class and Overall Learning Rather than a Distraction.

The question is set to obtain the opinion/info from staffs that the use of smatphones how effective in teaching and learning activity processes. The results obtained for question 5 is shown in Figure 5. The observation of results showed that 76.5% are giving positive opinion.

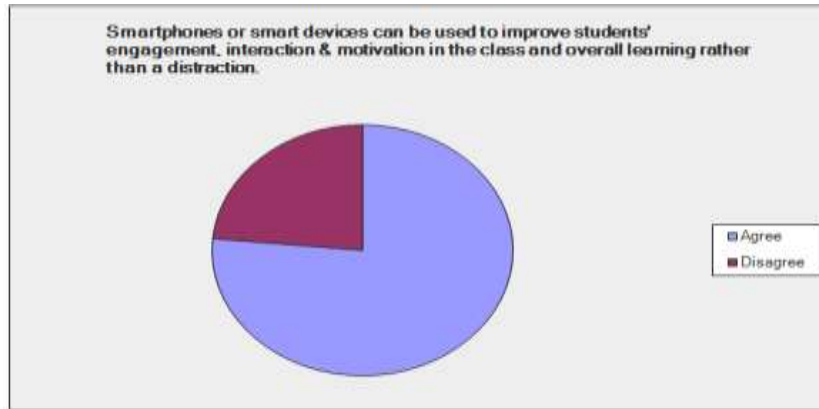


Figure 5. Results obtained for question 5

4.6 With the Increasing Popularity of the Smartphones and the sheer number of Hours spent by students on the Online Social Networks/Smartphones.

The question is to acquire information how far or number of hours spent on the utilization of advanced technologies for their various activities. The results obtained for question 6 are shown in Figure 6. The results obtained from the graph of Figure 6 shows that 80.4% users are utilizing the social networks/smartphones; therefore we conclude that utilization is more effective.

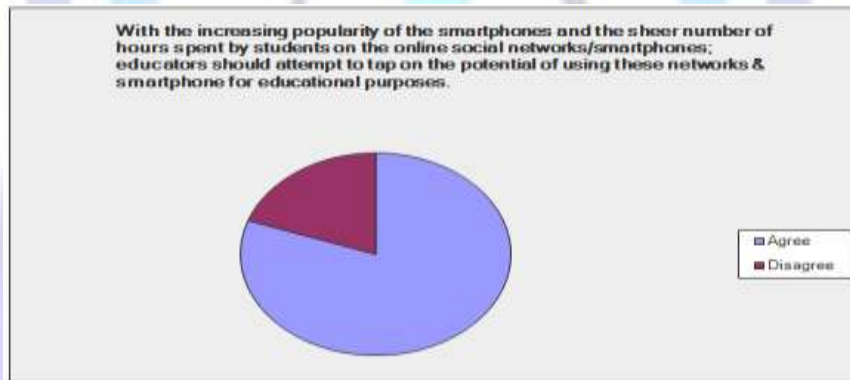


Figure 6. Results obtained for question 6

4.6 What are the Subjects You used to Teach?

The question is to find out the how many staffs teaching subjects belong to engineering/non engineering and both engineering and non-engineering subjects. The results obtained for the question 7 are shown in Figure 7. The results of observation showed that the majority of staff 62.7% is teaching engineering, 33.3% of them are teaching non engineering, and only 5.9 % of them are teaching both types of subjects.

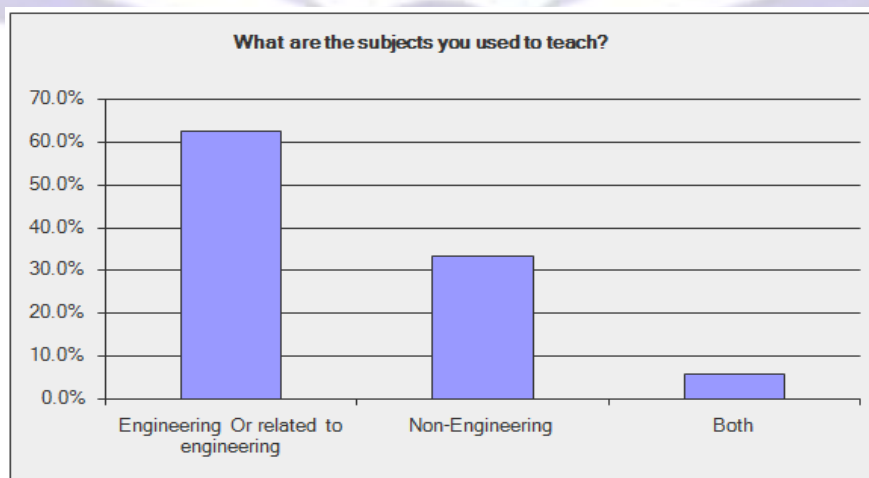


Figure 7. Results obtained for question 7



5. Conclusions and Recommendations

The growing demand of smart phone and high speed mobile browsing is ready to change the basics of higher education delivery system. People feel a bonding towards their mobile phones. The services and functionalities provided by a mobile phone are available at all times in both everyday routines and in our special moments. However, the cost of a smart phone, network coverage in remote areas and awareness of the educational contents on web may be few barriers in education perspective. The pace at which the mobile subscribers are growing, it is evident that mobile phone usage in education is here to stay. The smart phones could be one way to engage and motivate student learning.

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Authors' Biography



Mr. Md. Munir Hayet Khan has completed Master degree (MSc) in Environmental Engineering (by research) from University Putra Malaysia in 2007 and the outcomes of the research has been published in International Journals and presented in International and Local Conferences. He had been fortunate enough to serve as lecturer in two other private universities in Malaysia before joining Faculty of Science, Technology, Engineering & Mathematics (FOSTEM) of INTI International University. He has industrial experiences as a civil engineer for eight years and participated in EIA (Environmental Impact Assessment) consultancy. Mr. Munir is a CPESC (Certified Professional in Erosion & Sediment Control) and Included in "Marquis Who's Who in World" for Engineering Educator. He has developed confidence and an interest in teaching, research and consultancy and looking forward for the opportunities of collaboration with other

researchers for the betterment of our society.



Dr. Devi Kavuri received M. Tech. Degree in Advanced Electronics with specialization in Satellite communication & Computer Engg. and PhD degree in Engineering. She has 15 years of industrial experience at manufacturing organizations particularly in R & D depts. In Electronic and Communication Industry. Received an appreciation award from the Ministry of Defence India in 1989, for her contribution in the design and product approval of HF Manpack for soldiers in accordance with the requirements of the Indian Ministry of Defence. Interleaved with her Industrial experience, has 15 years of academic experience in the field of Electrical and Electronic Engineering discipline. Received the following academic awards:

Certificate of award **Gold Medal** for the invention/ innovation of, "RF Energy Harvesting System" from the Malaysia Technology Expo 2012, Kuala Lumpur. Certificate of Appreciation is awarded by the Universiti Tenaga Nasional, with the invention of, "RF Energy Harvesting System" for participation & winning the **Gold Medal & Special Prize** from **POLAND Patent office** in the Korea International Woman's Invention Exposition 2012, in Seoul, Korea May 3-6, 2012. She has been working as faculty member in various capacities & currently Associate Professor, Faculty of Science, Technology, Engineering and Mathematics, at IINT International University, Malaysia.