Evaluating Readiness in Using Mobile devices for Educational Purposes among Educators and Students

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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 before it can be employed effectively. One of the most logical early steps is to understand the perception of lecturers and the students. This paper presents the results of a survey at INTI International University, Malaysia. The findings will help in formulating a well-planned and user-centric approach on application of mobile technology. The respondents also indicated a favorable perception of m-learning although 64% of them have never used it. The majority (76.5%) of responders also believes that m-learning would be useful for their students, and 86.4% of responders were agreed to attempt to tap on the potential of using the networks and smartphones for educational purposes. The survey was also carried out on 85 engineering students (both Degree and Diploma level) through questionnaire at INTI International University, Malaysia. The result showed the positive potentials and capabilities of the smart phones used in the engineering education. This indicates that engineering education could advantage from utilizing these new technological tools.

Keywords

Mobile technology, Mobile learning, Teaching and learning

Introduction

In his book "Rewired", Larry D. Rosen, Ph.D, (2010) notes that *"From iPods to smartphones to Facebook, today's youth are more plugged in than ever before, and it's increasingly clear that they do not respond to traditional teaching methods – textbooks and lectures – in the same way as previous generations."* Just a few years back, smart phones were more of a status symbol, but now they have become a must-have productivity aid, literally carrying a lot of information all in pocket. Studying from a smartphone allows those same students to multitask and get in 10 or 20 minutes of studying here and there throughout the day to make more productive use of down time between

activities. 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; 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). The internet technologies and the smart phone leads to the mobile learning and can be realized independently of time and place. Hence with the development of smart phone technologies, the educators teaching and students' learning activities in higher institution in engineering education can be initiated for lectures, quiz and assignments etc.

Methodology

This research explores the students' and lecturers' interest in using their own smartphones to support their learning and teaching. The study was being conducted in a form of questionnaire survey among teaching professionals, undergraduate and graduate engineering students. The essence of survey method can be explained as "questioning individuals on a topic or topics and then describing their responses" (Jackson, 2011). In order to gain a better understanding of student smartphone use and of lecturers, a survey was administered among them attending the INTI International University, Malaysia. We aim to have two main findings. Firstly, we will have a thorough understanding of what the current situation is with respect to mobile devices/software/apps and how students and teaching staffs currently exploit them for learning in different engineering educational activities. Secondly, we will be able to see where the gaps are in terms of supporting staff and students in these activities.

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Results and Discussion

Results have been presented below in two sections i.e. lecturers and students. The responses are received from 51 educators/lecturers for first section. The results and analysis of responses for each question are discussed separately in Table 1.

The data collection was focused towards engineering students between the age of 18-26 years. The survey had eight (8) questionnaires, which were length of use of smart phone, usage in the time of the day, is useful with social media to connect and communicate, frequency of usage to access lecture notes and other subject related topics, find more interest and fun than traditional methods of studying, have 24 –hour internet connection with your smart phone, currently studying program/course, and current level of study. The responses are received from 85 students. The

results can be seen in the Table 2 below. For example, the question 3 is answered by 100% of students. The results obtained shown in above clearly indicates that the smart phone devices are use full in day to day life of students about 96.5% for communication. Only 3.5% are disagreed the support of smart phone in their day to day life. From answers of question 4, it is observed that students are using more time (46.8%) during run time of semester and every day about (40.5%). Also 38% for their group study through face book and once in a week 11.4%. And from the result of question 5 shown, it is understood that 67.1 % of students are expressed that smart phones with social media is easy way of study than traditional methods, but 1/3 rd of students (32.9%) are preferring the traditional methods of study. In another study conducted by Mohammed Amin (2014), indicates that 51.6% agreed, 23.1% strongly agreed of the students in using mobile device for teaching and learning making the learning process easier and enjoyable.

Table 1. Results of survey among educators

Survey Questions to Lecturers	Yes	No	Agree	Disagree	Remarks
Are You Currently Using any Smartphone?	76.5%	24.5%			
Smartphones or Smart Devices (i.e. iPad, Samsung tab etc.) have made Communication with Family & Friends Easier than Ever Before?	94%	6%			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.
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?	36%	64%			This question is set to draw the information how much effectively staffs using day to day for their profession
Have You Ever Used any Social Media (i.efacebook,whatsappetc) or any martphone Applications (Apps.) as one of Your Teaching Supports	52.9%	47.1%			The objective of this question is to gather info how far the staff utilizing the advanced technologiesas tools for their profession in their teaching activity
Smartphones or Smart Devices can be used to Improve Students' Engagement, Interaction & Motivation in the Class and Overall Learning Rather than a Distraction.	Agree-76.5%, Disagree-23.5%				The question is set to obtain the opinion/info from staffs that the use of smatphones how effective in teaching and learning activity processes. . In a study conducted by Hendra Yulisman (2017), 53.9% of participants voted strongly agree and agree, who consider mobile learning an alternative to conventional learning, 33.3% of participants

		considered mobile learning not an alternative to conventional learning.
With the Increasing Popularity of the Smartphones and the heer 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.	Agree-80.4%, Disagree-19.6%	The question is to acquire information how far or number of hours spent on the utilization of advanced technologies for their various activities
What are the Subjects You used to Teach	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.	

Table 2. Results of survey among students

Survey Questions to Students	Yes/No-Agree/Disagree-Remarks	
How long you are using a smart phone?	6 months & above-	18.8%
	1-2 Year-	27.1%
	2-3 Year-	17.6%
	3-4 Year-	14.1%
	4-5 Year-	7.1%
	>5 Year-	15.3%
When do you use your smart phone or social media or any mobile app?(Please tick more than one)	Just after wake up in the morning	50.6%
	Before going to bed at night	56.5%
	During any free time when not doing any important task	78.8%
	While driving car, if it stopped at traffic signal	14.1%
	While travelling and sitting in a seat	45.9%
	When I felt I should use & needed only	37.6%
Smart phones with social media (i.e whatsapp, facebook, weChat etc) help us to connect and communicate with our friends and family very easily.	Agree- 96.5%, Disagree-3.5%	

Have you ever used your smart phone to access to lecture notes or read smoothing about your subjects of study for preparing yourself?	Everyday when needed- During semester- Used facebook group for study- Everyweek once at least-	40.5% 46.8% 38.0% 11.4%
Will you find it more interesting and fun than traditional studying if you are using smart phone specially Apps or social media such as facebook and whatsapp for study purpose(Collecting lecture notes, attending Test/quiz, communicating with lecturer and class mates?	Yes- 67.1%, No – 32.9%	
Do you have 24-hour internet connection with your smart phone?	Yes No Wi-Fi only Wi-Fi Prefered	52.9% 17.6% 24.7% 8.2%
What course/ program are you studying currently?	Engineering- Non-Engineering- Related to Engineering-	81.2% 3.5% 15.3%
Which level of study you are in?	Bachelor or above Diploma or Below	61.2% 38.8%

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. The results of the survey conducted 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. The study identified a significant correlation between respondents' awareness and motivation towards mobile technology with their readiness for the pedagogical usage of mobile phone.

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Acknowledgements

References

Di Serio, Á., Ibáñez, M. B., &Kloos, C. D. (2012). Impact of an augmented reality system on students' motivation for a visual art course. *Computers & Education*, 1-11. Elsevier Ltd.

Dror, I. (2008). Technology enhanced learning: the good, the bad, and the ugly. *Pragmatics Cognition, 2*(2), 215 – 223, John Benjamin's Publishing Company

Gall, M.D., J. P. Gall and W.R. Brog,2007. Education Research: An Introduction. 8th Edn., Allyn and Bacon, Boston.

Gladieux, L. E., &Swail, W. S.(1999).The virtual university and educational opportunity - issues of equity and access for the next generation. Washington, D.C.: The College Board.

Hendra Yulisman (2017). Perceptions of Education lecturers in the Implementation of Mobile learning. - International E-Journal of Advances in Education, Vol. III, Issue 9, December 2017.

Jackson, S.L. (2011) "Research Methods and Statistics: A Critical Approach", 4th edition, Cengage Learning, p.17

Karsenti, T., Villeneuve, S. & Goyer, S. (2006). The impact of motivation on prospective teachers' use of information and communication technologies (ICTs). In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2006* (pp. 1659-1666). Chesapeake, VA: AACE.

Kirkley, B. S. E., & Kirkley, J. R.(2004). Creating Next Generation Blended Learning Environments Using Mixed Reality, Video Games and Simulations, *Tech Trends 49*(3). 42-53

Kreijns, K., Van Acker, F., Vermeulen, M., & van Buuren, H. (2013). What stimulates teachers to integrate ICT in their pedagogical practices? The use of digital learning materials in education. *Computers In Human Behavior, 29*(1), 217-225

Larry D. Rosen. Rewired- Understanding the iGeneration and the Way They Learn, Palgrave Macmillan, March 2010.

Martin, S., Diaz, G., Sancristobal, E., Gil, R., Castro, M., &Peire, J. (2011). New technology trends in education: Seven years of forecastsand convergence. *Computers & Education*, *57*(3), 1893-1906. Elsevier Ltd.

Mohammed Amin Almaiah, Masita @ Masila Abdul Jalil (2014). Investigating Students' Perceptions on Mobile Learning Services**.** International Journal of Interactive Mobile Technologies (iJIM) – eISSN: 1865-7923 http://dx.doi.org/10.3991/ijim.v8i4.3965 .

Roca, J. C., & Gagné, M.(2008). Understanding e-learning continuance intention in the workplace: A self-determination theory perspective. *Computers in Human Behavior, 24*, 1585–1604.