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Mobile Learning: Are We Ready?

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Abstract
Purpose: To provide a concise review of recent studies on the analyzing the factors at different stages of usage among instructors and students in tertiary education in Malaysia on mobile learning
Design/methodology/approach: This is a conceptual paper. The methodology of this research is by way of literature review. In this study, researchers' use secondary sources such as published research work, research articles, conference papers, dissertation and books.
Findings: The study found that there are several of issues and challenges faced by each level of educations in using mobile learning
Research limitations/implications: This research only provides an overview of the mobile learning implementation by way of literature review

Keywords: Mobile Learning, Educational Technology, Smartphone, Mobile Devices, Sustainability Education

Introduction

Education system throughout the world now is in fact, changing. Education has improved from being exclusive to the elite to being accessible to everyone. The mode of learning has also changed from learning solely in the classroom to distance learning and the virtual classroom. The quick growth in Information Communication and Technologies (ICT) nowadays has brought amazing changes various fields, including education. With the increase of technology that offers robust opportunities to educational fields, the learning environments are now becoming more innovative, interactive and effective. Presently, there is a substantial increase

of technological utilization for educational purposes. With the potentials ICT offers, educational institutions are now seeking for new standards to restructure their educational curricula and classroom facilities to bridge the existing technology gap education. This process however requires effective acceptance of technologies into existing environment in order to provide learners with the required knowledge as well as to promote meaningful learning (Tomei, 2005).

An emerging paradigm in educational technology is mobile technologies, which mostly referred as mobile learning. Mobile learning has been defined differently by different researchers and organisations. A commonly accepted definition of mobile learning is using mobile technologies to facilitate and promote learning anywhere and at any time (Hwang & Tsai, 2011; Shih, Chu, Hwang, & Kinshuk, 2010). Mobile learning (m-learning) is learning through wireless technological devices that can be pocketed and utilized wherever the learner's device can receive unbroken transmission signals (Attewell and Savill-Smith, 2005). Ally (2009) defines Mobile Learning as the delivery of learning content to mobile devices. According to Kukulska-Hulme and Traxler (2005), "Mobile learning is partly about learning and partly about the breakthroughs of mobile computing and global mobile marketing of mobile devices. It is rapidly becoming a credible and cost-effective component of online and distance learning and anyone developing courses in companies, universities and colleges must consider carefully what it has to offer". Simply defining, Wexler et al. (2007) refer to mobile learning as "Any activity that allows individuals to be more productive when consuming, interacting with, or creating information, mediated through a compact digital portable device that the individual carries on a regular basis, has reliable connectivity, and fits in a pocket or purse". It refers to any learning which takes place via wireless mobile devices such as smart phones, PDAs, and tablet PCs where these devices are able to move with the learners to allow learning anytime, anywhere (Naismith et al., 2006; Wang et al., 2009). The fast spread of mobile devices and wireless networks within university campuses makes higher education a suitable place to integrate student-centered m-learning (Cheon et al., 2012). Mobile learning that utilizes ubiquitous devices will be a successful approach now and in the future because these devices (PDA, tablet PC, smart phone) are more attractive among higher education students for several reasons; one of them is that the mobile devices are cheaper compared with normal PCs; also, they are satisfactory and economical tools (Mohamad et al., 2010). Mobile devices have become more affordable, effective, and easy to use (Nassuora, 2012). These devices can extend the benefits of e-learning systems (Motiwalla, 2007) by offering university students opportunities to access teaching materials and ICT, learn in a collaborative environment (Nassuora, 2012), and obtain formative evaluation and feedback from instructors (Crawford, 2007). M-learning can provide wireless communication between lecturers and students and between students themselves. It can work as additional support to complement and add value to existing learning models (Motiwalla, 2007). In addition, it is expected to become one of the most effective ways of delivering higher education materials in future (El-Hussein & Cronje, 2010). Mobile learning implementation has to consider various educational aspects, such as curriculum and pedagogy, institutional readiness, teacher competencies and long-term financing (Tinio, 2003). To handle with such drastic changes in education, not only students are expecting for supports of the new learning methodologies, teachers also need to be furnished with the acquired literacy and skills on the new educational technology.

There are several issues facing on the adoption of m-learning, and there are pedagogical issues regarding the use of mobile devices in classrooms; will it disturb the learning process? (Corbeil & Valdes-Corbeil, 2007; Park, 2011). Also, will users (both students and lecturers) adopt this technology? Users may not be willing to accept m-learning (Wang et al., 2009). In addition, some university lecturers do not want to apply this technology or might face difficulties in

trying to use it effectively as this new technology may require a lot of effort to implement (Abu-Al-Aish et al., 2012). With the regards of these questions, this paper is to provide a concise review of recent studies on the analyzing the factors at different stages of usage among instructors and students in tertiary education in Malaysia on mobile learning.

Mobile learning is still beginning to take its first steps in colleges and universities in Malaysia. Although still at the initial stages, there were some studies that proved the potential of mobile learning at higher education institutions in Malaysia. Ismail et al., (2010) conducted a research to study the satisfaction of distance learners in university towards mobile learning and found that most respondents were satisfied with mobile learning, where they highly agreed that mobile learning was helpful in assisting their learning process. Furthermore, Abas et al., (2009) also shown that the distance learners generally viewed mobile learning as beneficial, as well as being ready to embark on mobile learning. Most respondents agreed that mobile learning helps them to manage their time and be focus, flexible, motivated and interested in their learning (Abas et al., 2009). According to Keong et al., 2013 revealed that recent advancements in technology have brought positive changes to the selection of a preferred path for learning in higher education. Given technological innovations and the affordability of mobile devices, students are able to learn successfully through mobile learning and whenever respondents have at least a smartphone or tablet shows that the university is ready for a larger scale implementation of mobile learning.

Malaysian Government Initiatives towards Mobile Learning

The growth and usage of Internet has transform the education is delivered and conducted around the globe. Malaysia has taken few steps ahead in recognizing the potential of the technology improving their education system. In 2011, National e-learning Policy (Dasar e-Pembelajaran Negara- DePAN) was launched by the Minister of Higher Education as a guiding principles for e-learning deployment among Malaysia higher education institutions (HEIs). The Policy is in line with the vision and mission of the Critical Agenda Projects (CAP) and the National Key Result Areas (NKRA) by the Ministry of Higher Education. The purposed of DePAN is for Malaysia HEIs to use the information communication technology to enhance the quality of teaching and learning. In order for these objective to take effect, a comprehensive guideline called "E-Learning Guidelines for Malaysian HEIs" was introduced in 2014 by the Ministry of Higher Education in collaboration with the Malaysian Public Universities e-Learning Council (MEIPTA). This guideline serve as a benchmark of good practices for the implantation of e-Learning in Malaysia HEIs. DePAN 2.0 later introduced in 2015 to improve the earlier plan. DePAN 2.0 is divided into three phase, Phase 1 (2015), Phase 2 (2016-2020) and Phase 3 (2021-2025). Unlike the early version of DePAN, DePan 2.0 emphasize on the quality and innovation in Malaysia education, branding, reduced the cost of expertise and in the same time bringing Malaysian skills and professionals to the global standard.

Realizing the important use of technology in today's learning environment, Malaysia government has taken an initiatives through the development of Malaysia Education Blueprint 2013-2025 by highlighting the application of information communication technology (ICT) in Malaysia's education system. One of the project is call "1BestariNet" where The Ministry of Education agreed to equip primary and secondary public schools in Malaysia with 4G internet access and a Virtual Learning Environment (VLE). To support this project, the ministry will ensure that all teachers, instructors and trainer are high skilled and competent in the use of VLE. Other than that, The Ministry also decided to boost online content to share best practices starting with a video library of the best teachers delivering lessons in Science, Mathematics, Bahasa Malaysia and English language. The government also decide to maximize use of information communication technology for distance and self-pace learning to expand access to

high-quality teaching regardless of the location or student skill level. All this initiative is to ensure that Malaysia could move to a forefront of information communication innovation in education.

With all the initiatives provided by Malaysia government it is clearly shows that Malaysia is taking mobile learning as a serious matters. Now, with an unprecedented pandemic where it forced the closure the schools and higher learning institutions including in Malaysia, mobile learning has really only become common among Malaysia students where the connectivity, functionality via mobile device become the new normal.

Issues and Challenges in Mobile Learning

Pre-school

The use of mobile learning is known as an instrument that can encourage the awareness and experiences of preschool level and, from an educational perspective, help particular areas (Kokkalia, G., et al, 2016). But there some challenges raised up when using mobile learning for preschool students.

Firstly, children health from being exposed to the wireless gadget. According to Dr Zulkifli, the best duration for those who are two to five years old, can be exposed that is around 30 minutes for a period of two to three days once. If exceed the children will face weaken the child's immune system if they are exposed to high radiation cause be exposed by radiation the be produce by wireless gadget such as tablet and smartphones as study by the World Health Organization (WHO) (Alias, A. et al, 2015).

Secondly, addictive toward wireless gadget (Kasnoon, K., 2016). This would also influence their way of thinking, most children who are only interested in a platform to be overwhelmed with numerous exciting games. Many games restrict their creativity and imaginations and slow down their motor and optical sensory development (Imafidon, C.,2015). Besides that, the children will face eye problem and had to wear glasses in early age because direct exposure to screen light for a long time.

Third, lack awareness and supportive of parents towards their child in education (Utusan Borneo, 2016). In past research, children be more learning development and tends to excel when their involvement of parents in studies (My Compass, 2020). But good involvement may able to deliver good learning to their kids but there are also had irresponsible parents that give bad influenced to their child that such watch pornography (Azma ML ,2018). The unappropriated content that can easily access through smartphones can give directly affect their mental health and behaviour (Abdul A., N.A. et al, 2011; Alias, A. et al, 2015).

Fourth, parents face extra financial pressure to cover the cost of financially sending their kids to caregivers as kindergarten cannot operates as usual, and they also have to pay kindergarten fees at the same time to allow kids to participate in online learning (Abdul Manan, C., 2020).

Lastly, mobile learning online is also not appropriate if the child is taken care of by a nanny because of convenience factors such as the internet or necessary tools. Furthermore, children studying online require guidance from adults, attention and assistance in the study process (Abdul Manan, C., 2020).

Primary and Secondary School

The use of smartphones is increasingly becoming a persuasive learning method used in distance education to boost teaching and learning. Its use guarantees flexible delivery of courses, enables learners to access online learning channels, access course tools and connect digitally (Adjei N.D., 2019). Movement Control Order (MCO) that been issue by government give significant changes in Malaysia education which switch from physical classroom to virtual

classroom (mobile learning) especially primary and secondary school. There are several challenges cause from these changes.

Firstly, main challenge is the availability for access internet facilities. Students will need to purchase the latest software to access their online programs, or pay extra to upgrade to high-speed internet (Kementerian Sumber Manusia, 2020; Berita Harian, 2020). Besides that, the availability and strength of signal internet access at rural area were very poor (Admin[1], 2020) and the family situation to prepare the internet (Bernama[1], 2020; Buang, S. & Lee, A., 2020).This may make it difficult for students who are less able to learn effectively due to the lack of internet access facilities compared to those who can afford all the software and high speed internet .Furthermore, teacher had difficult to bring the best outcome and communication due to lack of internet problem (Berita Harian, 2020).

Second, no computer or mobile phone facilities (Kementerian Sumber Manusia, 2020). According to study result of MOE, 36.9% of students nationwide do not have any electronic devices (Berita Harian, 2020). For underprivileged students who do not have this gadget facility(Bernama[1], 2020), it will make it difficult for them to pursue all the instructors' online learning efforts and, in turn, cause them to be left behind compared to other peers (Kementerian Sumber Manusia, 2020; Buang, S. & Lee, A., 2020). Besides that, failure of technological equipment such as outdated smartphone model, cannot support some applications be use by teachers for online learning .Limited source technology cannot fullfill to big family members that still study in primary and secondary school which need them to share and take turn to use (Admin[1], 2020)

Third, an environment for learning which is not conducive to learning (Kementerian Sumber Manusia, 2020). When performing homework, students who underprivileged will certainly face this problem. These issues involve a noisy setting, small rooms, and no tables and chairs that are appropriate. Besides that, lack of parental support (Berita Harian, 2020; Admin[1], 2020). The role of parents at home should changing, in specific role of parents whose children are still in year one into year three. This student is certainly not capable of performing online tasks on their own (Berita Harian, 2020).

Fourth challenge is learning effectiveness (Kementerian Sumber Manusia, 2020). According teachers, student involve just around 30%-40%(Admin[1], 2020). Online learning often does not discipline students and is reckless since the appropriateness of their time is contingent on learning. Next, since they don't face to face and speak individually, the teacher won't know his students' skill. During online presentations, contact is often not successful because internet speeds cannot be very satisfactory (Kementerian Sumber Manusia, 2020; Berita Harian, 2020). Limited source technology also influences in learning effectivess because the lack of gadget to fullfill the big family members that still study in primary and secondary school which need them to share and take turn to use (Admin[1], 2020).

Lastly, abuse of the internet (Kementerian Sumber Manusia, 2020). Since virtual learning is based on the use of the internet, students would be exposed to various of true and false, good and bad information that is exchanged through the internet. There is no doubt that so much good and positive information is accessible that students can use to develop their knowledge and skills. However, there are many things that can be neglected and fun, especially for young people. Among them are games of various forms and can be downloaded for free, as well as online chat that discusses useless things such as gossip, entertainment and so on. If students are too preoccupied with the internet or internet addiction, it will have a negative impact on social relationships in society (Kementerian Sumber Manusia, 2020; Utusan Borneo, 2019) even can cause stroke and death (Agency, 2019).

Tertiary education

The closing of schools and higher education institutions, extended until April 14, in compliance with the order of the Movement Control Order (PKP), will give educators new challenges to ensure that their students will continue to learn (Bernama[2], 2020). 27 May 2020, Minister of Education Malaysia (MOE) had issued "*Pengajaran dan Pembelajaran*" (PdP) to implement as online base learning until 31 december 2020 (Admin[2], 2020).

According Al-Hunaiyyan, A., Al-Sharhan, S., & Alhajri, R.,(2017), in the process implementation of mobile learning programmes, one of the most significant issues facing high educational institutions is the management of transition within the organisation. Managing such changes would impact the procedures, operations and components of the educational organisation, as well as individuals such as administrators, decision-makers, content designers and creators, staffs, students and instructors. Especially teaching staff, cause in order to support their delivery, they need to specify the requirements, audience, resources and digital infrastructure (Mustapha, R., 2020).

Secondly, there had limitation in hands-on. Cause, online assignment or learning and universities intend to hold lectures online until the end of the year. Since, computer-mediated communication is seen to be less productive because it lacks body language, facial expression and speech said student statement from English Literary Studies at the International Islamic University of Malaysia, (Rafidi, R., 2020; University of Illinois Springfield, 2020). Especially, students who require clinical practise, practical training, laboratory, workshop, design studio or need special equipment for complete their certificate, diploma or bachelor's degree studies (Admin[2], 2020).

Third, lecturer commitment toward online education. According Nabilah Syafiqah Sulaiman Universiti Teknologi Malaysia Bachelor of Education Technology (mechanical engineering) student, the support of lecturers is crucial to online learning. They are constantly asking about our ability to attend their classes and systematically assign assignments. But there are a few lecturers who do not pay much attention to students and only delegate work to be submitted on certain dates, (Rafidi, R., 2020).

Fourth, according to several international studies have found that between 0.7 percent to 27.5 percent is the percentage of online video game addiction. In Asian countries and among men between the ages of 12 and 20 years, the proportion of online video game addiction is estimated to be higher. Students will devote longer time for online video games to the incentives of free internet usage by telecommunications companies in PKP season. Students may become so absorbed in playing that they forget to eat, study and sleep. If played in abundance, video games may have harmful effects for student wellbeing and video game addiction or gaming disorder has been identified as a mental health concern by the World Health Organization (WHO) (Mohd Sidik, S., 2020). Besides that, the drastic changes in environment of study make the student be more stress. Cause some of them be in campus or home for too long until the universities had to provide online counselling (Dolah Aling, Y., 2020)

Lastly, the adaption and readiness of students. According Kellin Wong, chairman of the student representative council of Universiti Malaysia Sabah (UMS), noted that online teaching methods or e-learning are generally already in place and used in public universities every semester, but said some problems would emerge from a complete move to online learning. Maybe due to a lack of self-discipline or because they prefer face-to - face instruction, some students can lack motivation and have less interest in following through with lessons conducted online. There is a real internet coverage problem, especially for students living in rural areas in Sabah, noting that the line is very poor and that it would be difficult to reach them by phone (Lim, I., 2020). So, they had miscommunication during online learning and effect their studies (Sani, R., 2020).

Strategies for Success in Mobile Learning

As can be seen from the discussion above, despite of all issues and challenges faced by higher or educational institutions in implementing mobile learning, there are a few studies which have actively assessed the critical success strategies in mobile learning. Table below summarized on the strategies:

Authors	Year	Strategies for success in mobile learning
Alrasheedi M. & Capretz LF.	2018	Depends on the views of the users; good content and user friendly design of the content are essential to learners.
Andrews et. al	2010	Technologies such as podcasts and vodcasts are viewed as useful ways of expanding access to teaching and learning activities in higher education in a sustainable manner.
Vlad Krotov	2015	Three areas to be focused on for mobile learning success strategies which are: (1) The technology behind mobile learning, (2) Managing individual differences and perceptions of people involved, and (3) The pedagogy behind mobile learning
Naish R.	2005	Technologies behind mobile learning should be standardized to ensure that it operates smoothly.
Guralnick D.	2008	Developers of mobile learning must take into account the environment in which the applications will be used.
Naismith & Corlett	2006	There are five critical success strategies: (1) Access to technology (2) Ownership (3) Connectivity (4) Integration (5) Institutional support
Gyeung-Min & Soo Min	2005	All academic institutions introducing mobile learning methods should focus on system quality, content quality and service quality.
Delone & McLean	2003	Assumes that the system quality, information quality and service quality of the mobile learning technology will affect its users' perceived usefulness and ease of use.

Discussion and Conclusion

In conclusion, mobile learning is a part of educational system in today's world and has a great potential to facilitate sustainability education. In a few years' time, a smartphone could be the only computer that used by majority of people. Mobile learning is easier as people can learn whatever they want anytime, anywhere. People also can save time, energy and money as they can learn at home, office and even during travelling. Even though there might be certain issues

and challenges to be deal with, but, the ease of implementation for mobile learning can enhance learner engagement and interaction.

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