

The Readiness of using Mobile-Learning for Malaysian University Students When Facing the COVID-19 Pandemic

By

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Abstract

The education sector also received a significant impact during the outbreak of COVID-19 epidemic, including in higher education institutions. A study on the level of readiness of students of Malaysian institutions of higher learning towards the use of mobile application has been measured in this study. This is because the face-to-face teaching and learning process needs to be changed to virtual to ensure the process continues throughout the social imprisonment period. A total of 79 students of Malaysian institutions of higher learning in 2020 have been the subject of the study. Using a questionnaire instrument distributed online through google form, this study has received feedback from respondents. During the implementation of the online teaching and learning process, researchers have studied the level of readiness to use mobile learning application among students. Data were analyzed with the help of descriptive statistical techniques by IBM SPSS Statistics software version 26.0. The results of descriptive analysis show that respondents have a high level of readiness for using mobile learning based on the three constructs that have been studied, namely knowledge, attitude and motivation. The analysis of the study showed that the overall mean of the three study constructs was high with

a mean score value of 3.09. Thus, the results of the study also show that students do not have constraints at home to apply mobile learning application in the teaching and learning process during the COVID-19 epidemic.

Keywords: M-Learning, COVID-19, Malaysian University Students, student readiness

Introduction

Education is the social mechanism by which society provides essential information to its members, including basic facts, work skills and cultural norms. The importance of education is the person can helps the society and improves their personal lives. Despite the massive expansion of educational opportunities, the whole country is currently hit by an outbreak of Coronavirus (COVID-19) which affects all sectors including the education sector. These unprecedented times required the individual especially a student to accustomed with the new norm and learning environment that will affect their learning process. The off-campus learning application using computers and the Internet has allowed educational institutions to run various online educational services to their students and staffs.

The recent development of technology are emerging to provide services via mobile devices such as mobile phones, smart phones, handheld tablets, laptops and Personal Digital Assistants (PDAs) (Wagner, 2005). With the mobile phone application, it can possibly bring great convenience for the students since students do not always have time to use online computers for data sharing and to access the information. The learning process will be easier by simply using the wifi or broadband service provided by subscribed mobile phone service provider. It enable the student to download the lecture note anywhere and anytime with the availability of mobile phones. Dhital (2018) states that technology plays a powerful role in making teaching and learning activities more meaningful. It brings one of the most effective tools for developing knowledge and skills.

Traditional or conventional teaching methods that are practiced in teaching and learning today cannot meet the demands of 21st century education. Learning is no longer concentrated in the classroom, but teaching methods are also evolving with the rapid pace of Information and communications technology (ICT). Advances in mobile-learning or m-learning technology continue to be used with the existence of smartphones based on Android platforms. The platforms was growing rapidly at this time and will continue to grow in the futures. In fact, Android applications have served as an open source that is easy to use and available in mobile operating system that supported by Google Corporation (Ramli & Yusoff, 2018).

The use of ICT seems to have a positive effect on the student learning process. The use of technology in educational institutions should not be subject to limits or barriers that can impede the teaching and learning process. Therefore, the constraints in the information and communication technology infrastructure in schools or institutions of higher learning must be addressed immediately. Thus, the advantage of integration through m-learning can spread involvement and further increase students' interest in teaching and learning process.

Background study

Ownership of smartphones has increased with most people owning more than one mobile device (Statista, 2016). According to Crompton & Burke (2018), 18–29 years of age are the highest group of mobile app users, and is also the average age of college attendants.

Therefore, m-learning is an alternative communication between teachers or lecturers and the students. Evidence in the literature shows that m-learning can be used to promote learning for students in higher education (Ke & Hsu, 2015; Al-Emran, Elsherif, & Shaalan, 2016). M-learning also offers good portability through the replacement of books and notes with small devices, loaded with optimized learning material. Compare to conventional media for example books, CDs, DVDs, etc., m-learning was very cost effective since the price of digital tablet was fall dramatically when a new model released (Alsop, 2020).

As long as there is internet access, the teaching and learning process can be easier since the learning information can be obtained regardless of time and place. Praveen dan Vasimalairaja (2019) believes that it would be possible to build new, more contemporary styles and cultures when using smartphones in the teaching and learning and process. With the outbreak of Coronavirus (COVID-19) worldwide, the teaching and learning process would be difficult if lecturers do not use existing applications and technologies to replace the classroom learning process. There is a constant flow of new knowledge in today's society. In accordance with Vision 2020, human capital development is an important agenda for Malaysia to become a developed nation (The Sun Daily, 2015). Therefore, having the ability to learn by applying innovations that provide real-time information and resources is a skill that needs to be acquired. To realize the 21st century skills among the students, educators need to maximize the use of m-learning to connect with students so that the potential of students who are mostly tech-savvy can be highlighted.

Almutairy et al., (2014) has conducted a survey study to explore the possibility of integrating m-learning in Saudi Arabian institutions. The results show that m-learning provides great opportunities to improve knowledge acquisition. It shows that the use of mobile phones in teaching and learning process was very reliable. With 131 respondents, they are very confident in the use of mobile devices in their learning activities. In addition, Chaka & Govender (2017) was conducted a survey on institution of higher education in northern Nigeria. The study focuses on the readiness of students in three (3) institutional clusters with a total of 320 respondents. The results show that respondents' desire for using m-learning approaches is greatly influenced by environmental factors. Due to inadequate learning facilities and less conducive infrastructure constraints in institutions, students in Nigeria have a positive perception of m-learning and are willing to accept it.

The implementation of m-learning has actually existed for a long time for public institutions of higher learning in Malaysia but it is only partially and not comprehensive (Chong et al., 2011; Mahat et al., 2012; Al-Emran et al., 2018). However, when COVID-19 attack, Naciri et al. (2020) say that the m-learning approaches is the only option and was an unavoidable alternative for the students to continue their study by emphasizing its role as a method of distance learning. With m-learning, the closure of schools and colleges is not a reason to hinder the teaching and learning process.

Problem statement

Changes in learning patterns in the Malaysian education system during the COVID-19 pandemic can provide opportunities to increase students' motivation. However, the implementation of m-learning at Malaysian University has only been fully implemented to continue the education system as the COVID-19 pandemic spread. Conventional learning methods without the use of smartphone applications and mobile technology are temporarily suspended in Malaysian universities in particular. Thus, researchers found that m-learning are

suitable for the current situation. However, the data and information on m-learning from the point of view of Malaysian students is insufficient in the literature. Therefore, through this study, the researcher will see the extent to which m-learning applied in this teaching and learning process can have implications for students' knowledge, attitudes and motivation.

Methodology

To obtain data from respondents, a survey using questionnaires method was conducted in this study, by referring to previous researchers (Md Yusoff et al., 2016). This study was conducted to identify the readiness of using m-learning in terms of knowledge construct, attitude and motivation of students. This quantitative study used random sampling by collecting data from 79 students at Malaysian universities as respondents. A set of questionnaires covering information such as (i) Respondent Demographics, (ii) Knowledge Construct, (iii) Attitude Construct and (iv) Motivation Construct, became the measuring tool for this study. Table 1 shows the study instruments according to the measured constructs.

Table 1: *Instruments study.*

Construct	No.	Items
knowledge	A1	I have skills in using m-learning application
	A2	I did not encounter any obstacles while using m-learning application
	A3	I realize that m-learning platform needs to be applied during this COVID-19 pandemic.
	A4	I realize that m-learning application in teaching and learning has many advantages.
	A5	I know that I will miss the teaching and learning input if I do not use m-learning application nowadays.
	A6	I know that a lot of learning materials and information can be obtained through m-learning application
	A7	I realized I need to use m-learning platform for distance learning during the COVID-19 pandemic.
Attitude	B1	I am ready to use m-learning application platform at any time.
	B2	I am always upgrade my knowledge on using m-learning platform.
	B3	I am prepared to face any challenges in using m-learning application platform during the COVID-19 pandemic.
	B4	I assume that distance learning method is my choice of learning process.
	B5	I use m-learning application for all subjects.
	B6	I use m-learning application to communicate with my classmates.
	B7	I use m-learning application to communicate with my learturers.
Motivation	C1	I like using the m-learning application method.
	C2	Using m-learning application method was fun.
	C3	I get encouragement from the lecturer to use m-learning application.
	C4	I get encouragement from the peers to use m-learning application.
	C5	I get encouragement from the university to use m-learning application.
	C6	I feel that using m-learning application can save money and time.
	C7	I feel comfortable using m-learning application.

To ensure that a questionnaire can be used, the validation process on the content must be made first. The validity of the questionnaire was been determine by the three (3) experts

which are one (1) language expert and two (2) content experts. Using SPSS version 26.0, the reliability index is ensured by Cronbach's Alpha Coefficient. Analysis of the findings of this pilot study showed a high reliability value of $\alpha = 0.75$. Based on the reliability values obtained, this measurement tool can be applied in real studies. Based on the results of a study by Sekaran (2009), Cronbach's Alpha value greater than 0.6 has a high reliability value.

The data collected will be classified using mean arithmetic, according to the purpose so that meaningful and relevant conclusions can be reached. Data were analyzed with the help of descriptive statistical techniques. The questionnaire items were developed by providing with 5-mark scale measurement which are 1- strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. Grades are then classified into low, medium and high with indicators based on Mean scores as shown in Table 2. Low, medium and high are classified as student readiness levels.

Table 2: *Indicator of student readiness*

Grade	Score Mean
low	0.00 - 1.66
moderate	1.67 - 3.33
high	3.34 – 5.00

Result and Finding

A total of 79 respondents answered the questionnaires distributed. In the 79 respondents, 37 respondents were male (46.8%) while 42 respondents were female (53.2%). This shows that the number of respondents for female is more than the number of male respondents. Table 3 shows the frequency and percentage of respondents by gender.

Table 3: *Frequency and percentage of respondents by gender*

Gender	Frequency	Percentage
Male	37	46.8
Female	42	53.2
Total	79	100.0

As for the age demographic, most respondents are in the age group between 19 to 25 years (88.6%), while 10.1% are 26 years old and above and only 1.3% are 18 years old and below. Table 4 shows the frequency and percentage of respondents in the study showing the distribution of respondents by age.

Table 4: *Frequency and percentage of respondents by ages.*

Umur	Frequency	Percentage
18 years old and below	1	1.3
19 - 25 years	70	88.6
26 years old and above	8	10.1
Total	79	100.0

The analysis of the study showed that the respondents who answered the questionnaire were from various races. The majority of respondents who answered the questionnaire are Malays, 59 students (74.7%) of the respondents and the Chinese nation of 9 patients (11.4%). The Indian race has 3 students (3.8%) and 8 other races (10.1%) involved as respondents. Table 5 shows the frequency and percentage of respondents by race.

Table 5: *frequency and percentage of respondents by race.*

Race	Frequency	Percentage
Malay	59	74.7
Chinese	9	11.4
Indian	3	3.8
Lain-lain	8	10.1
Total	79	100.0

Next, for the analysis of the year of study, the majority of respondents who answered the questionnaire were year 2 which is 44 students (55.7%), followed by year 1 which is 22 students (27.8%), year 3 which is 9 students (11.4%) and the least was year 4 which is 4 students (5.1%). Table 6 shows the frequency and percentage of respondents by year of study.

Table 6: *Frequency and percentage of respondents by year of study.*

Year of study	Frequency	Percentage
Year 1	22	27.8
Year 2	44	55.7
Year 3	9	11.4
Year 4	4	5.1
Total	79	100.0

Analytical data for the frequency of using mobile application for teaching and learning process in a week shows that the majority of students use it is 1-5 times a week, 37 students (46.8%) followed by 6-10 times 28 students (35.4%) and 11-20 times 14 students (17.7%). Table 7 shows the frequency and percentage of respondents according to the frequency of use of m-learning in a week.

Table 7: *Frequency and percentage of respondents according to the frequency of use of m-learning in a week.*

Frequency of use of m-learning in a week	Frequency	Percentage
1 – 5 times	37	46.8
6 – 10 times	28	35.4
11 – 20 times	14	17.7
Total	79	100.0

The study data in Table 8 shows that the level of readiness for the use of m-learning is high among Malaysian university students with an overall mean score of 3.09.

Table 8: *Mean Score*

	Knowledge	Attitude	Motivation
Mean	3.2604	3.0000	3.0108
N	79	79	79
Std. Deviation	.45393	.54710	.47917

Lastly, an independent sample t-test analysis was used to measure the usage readiness levels in m-learning by student gender. Between male and female, there is no significant difference between the two gender in the level of readiness to use m-learning ($t(79) = 0.83$ sig $0.411 > 0.05$). The analytical data of this study are in line with the findings of the study of Al-Hunaiyyan et al. (2017) involving 132 samples of IPT students in Kuwait. This is because male and female students have a similar interest in finding information through smartphone

applications. Table 5 shows the analysis using independent t-test for differences in m-learning usage readiness level by gender.

Table 9: *Sample t-test analysis of m-learning usage availability level by Gender*

Gender	N	mean	sd	df	t	sig
Male	37	3.134	0.283	77	0.827	0.411
Female	42	3.052	0.5384			

Discussion

The result from the study show that the readiness to use m-learning platform was high among the Malaysian students. This was show that they are ready to used Mobile platform in teaching and learning process. In addition, through the data findings it can be seen that students do not have knowledge constraints in the mobile application. High technology-oriented learning methods have high suitability and acceptance among Malaysian University Students. Through this study, the student seem to indirectly encouraging the learning and learning process with the help of smartphone and laptop applications.

M-learning using smartphones have proven to attract young people and are an important tool in student life as a tool to communicate (Ahad & Anshari, 2017). However, the level of student acceptance was also vary according to the individual and background. It is possible that less technology oriented students will be left behind if there is no clear understanding of the input they received (Ahmad et al., 2020). The results of this study show that students' confidence level to master what their learnt can be increased with the help of m-learning.

The information and data of the study is to study the level of readiness of IPT students in Malaysia on the use of m-learning during the COVID-19 pandemic. Indirectly, this study has the impact of the use of mobile materials for knowledge sharing and no longer depends entirely on lectures in the classroom (Daud dan Khalid, 2014). The findings of this study can be extended to the top management for improving the quality of online teaching and learning process delivery in line with the development of the Industrial Revolution 4.0.

Conclusion

In conclusion, this study focuses on the level of readiness of Malaysian IPT students to use the m-learning application while facing COVID-19. The study data shows that the three constructs, namely the knowledge, attitude and motivation of students towards the use of m-learning are at a high level. Overall, Malaysian IPT students welcome the idea to integrate applications in smart phones in the teaching and learning process. Thus, the study data obtained can be presented to the top management to be refined in providing financial support for the provision of wireless technology facilities widely in educational institutions throughout Malaysia. Therefore, this is expected to be a catalyst to increase the use of m-learning application for Malaysian students.

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