Investigating the Perception and Acceptance Towards Smartphone and Its Application as Learning Tool among Universiti Teknologi MARA Dental Students

Nor Faharina Abdul Hamid[1,] *Nur Saiyidah Hanisah* Ali[2], and *Nadia Syahirah* Mohd Nazri[2]

[1]Centre of Restorative Dentistry Studies, Faculty of Dentistry, Universiti Teknologi MARA, Sungai Buloh Campus, Selangor, Malaysia

[2]Faculty of Dentistry,Universiti Teknologi MARA, Sungai Buloh Campus, Selangor, Malaysia

Background: The development of smartphones throughout the years had made it a very valuable tool in teaching and learning activities. The purpose of this study was to investigate the perception and acceptance towards the use of smartphones as additional learning tool among Universiti Teknologi MARA (UiTM) dental students. **Methods:** All undergraduate dental students were invited to participate in a self-administered questionnaire (content validated, pre-tested) survey, conducted online, involving students across all academic years. **Results:** Of the 215 respondents, (99.1%) owned a smartphone, with majority of them were iPhone and Android user. 94%, n=202 of the respondent had access to internet data via a third generation (3G) mobile carrier and WiFi connection. Most of the respondents gave positive remarks of all ten statements in regards the perception and acceptance towards smartphone and its application as learning tool. 96.7%, n=208 of respondents agreed that smart phone help them in finding resources related to their study while 74%, n= 159 of them stated that smartphone can help them to manage their study. **Conclusion:** In conclusion, the results of this study suggested that UiTM undergraduate dental students have positive perception and acceptance towards use smartphones in teaching and learning activities.

1. Introduction

Smartphone is an innovative and potential instrument in educational settings. It help to support on-campus teaching and enhance teaching and learning activities [1]. Besides, it offers new styles of student engagement that have significant impact to the current education systems. Smartphone can encourage discussion and sharing between students and educators apart from enabling the student to access course content and other related information [2]. Most of the research found mainly focus on student's perception and acceptance of smartphone usage from universities in the United Kingdom and Australia [1, 3] with very little work has been reported on student perspectives on smartphone especially in the Malaysia context. Therefore, the aim of this study is to investigate the perception and acceptance towards smartphone and its application as learning tool among Universiti Teknologi MARA Dental Student.

2. Material and Methods

All undergraduate dental students from Faculty of Dentistry Universiti Teknologi MARA were invited to participate in a self-administered questionnaire survey, conducted online involving all student across academic year. A link to the online Google Form questionnaire was emailed with an invitation letter to participate in the study. The questionnaire used in this study was developed based on an existing validated study instrument [4], which had been modified to suit the local conditions. The questionnaire consisted of three sections: 1) Socio-demographic characteristics, 2) Smartphone and its connection, 3) Respondents' perception and acceptance towards smartphone and its application as learning tool. Modification to the questionnaire was undertaken prior to its use in the main survey following a pilot study. Data were entered for computer analysis using the Statistical Package for Social Sciences software program version 25 (IBM Corp. Released 2013. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp).

3. Results

3.1 Demographic characteristics

215/363 (59.2%) student responded to the online survey between June 2018 until August 2018 with all academic year have significantly more female students than males. The details of demographic characteristic of respondent was shown in Table 1.

Table 1. Demographic characteristics

Demographic Characteristic	N(%)
Mean age	21.93
Gender	
Male	194(90.2)
Female	21(9.8)
Response rate according to academic year	
First year	37(17.2)
Second year	50(23.3)
Third year	70(32.5)
Fourth year	28(13.0)
Fifth year	30(14.0)

3.2 Smartphone Ownership and connection

214/215 (99.5%) of respondents have a smart phone with 119/215 (55.3%) of them owned an iPhone and remaining of them owned an Android smartphone. 202 (94%) of the respondent had access to internet data via a third generation (3G) mobile carrier and WiFi connection, while remaining of the respondents were either use WiFi connection only or 3G mobile carrier only.

3.3 Respondents' perception and acceptance towards smartphone and its application as learning tool.

Most of the respondents gave positive remarks of all ten statements (n=215) as depicted in Table 2.

Table2. Survey structure of students' perception and acceptance towards smartphone as learning tool (n=215).

Survey questions	Agree (%)
Smart phone is a useful tool for my study	93.5
Smart phone can offer opportunities for communication and team-working	93.5
Smart phone can help me in finding resources related to my study	96.7
Smart phone can bring many opportunities to the learning process	92.1
Smart phone can help me to access the course-material anytime anywhere	91.2
Smart phone can be an easy way to get feedback and notifications from my instructors	85.1
Smart phone can help me to exchange the course-material with my friends	93.1
Smart phone can help me to manage my study	74.0
Smart phone can help me to do my coursework	84.2
Smartphone can help me to develop my learning skills	83.7

4. Discussion

Most respondents have positive perception and acceptance towards the use of smartphone for learning tool in UiTM although the technology has not been formally included in the curriculum.[1] This is in similar to another study where the medical students demonstrated positive attitude toward the concept of smartphones as future educational tools [3]. However, although our study showed that smartphone support of student learning, but there is limited knowledge on the outcomes of using it within the educational settings. Nevertheless, this study provides a snapshot understanding of the utilization of smartphone by UiTM dental students in education. Hence, smartphone can be considered of one of the promising pedagogical technologies to be employed in future.

5. Conclusion

In general, our findings suggest the potential value of integrating smartphone in teaching and learning activities to enhance students learning experience.

6. References

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