Academics' Awareness Towards Mobile Learning in Oman

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Abstract: Mobile Learning (M-Learning) witnessed a booming evolution contributed to the evolvement of learning within the higher educational settings. M-Learning enhances the collaboration between the educators and their students on anytime anywhere settings. Attitudes towards the utilization of M-Learning help the decision makers in building the required infrastructure. Our literature review indicated that there are very few studies that address the issue of educators' awareness towards M-Learning which is a very significant factor for the success of smart education. In this study, a questionnaire survey has been administrated at Al Buraimi University College, Oman in order to examine the educators' awareness and attitudes towards the utilization of M-Learning. Findings revealed that female instructors were more positive than males towards the utilization of M-Learning. Moreover, results revealed that academics who indicated that mobile technology is an effective tool in education were highly optimistic towards the utilization of M-Learning than those who were not. Nevertheless, results were not pointed any significant differences with regard to the academics' perceptions towards the utilization of M-Learning in relation to age and academic qualifications factors, showing that M-learning can be embraced by all academics irrespective of the age and qualifications factors.

Keywords: Educational technology, Mobile Learning, Academics, Awareness.

1. INTRODUCTION

Nowadays, smartphone ownership has rapidly grown up along with the prompt development of mobile applications in the market [1]. Mobile technologies penetrate the digital information community by enabling the mobile users to surf the vast range of information anytime anywhere [2]. Mobile Learning (M-Learning) has become an emergent technology that is vastly expanded in proficiency and scope by offering various opportunities for the learning process. A study by [3] claimed that M-learning was efficiently employed in multi-contexts; one of such contexts is the higher education. M-learning facilitates the creation of an environment that provides personal and self-initiated learning for the learners through the utilization of small portable devices [4]. Another study by [5] argued that there is an increasing demand in integrating mobile technology into the teaching and learning processes. Accordingly, there is an emerging need to investigate the students' and academics' perceptions towards the utilization of M-learning into the higher educational classrooms. Understanding these attitudes will significantly help in building the appropriate procedures and policies for M-Learning infrastructure. A recent study by [6] revealed that 99% of the students and 58% of the educators in the Gulf region own mobile technology devices (smartphone/tablet) which in turn would reduce the costs of acquiring the required M-Learning equipment.

The study is applied to Al Buraimi University College (BUC), which is one of the evolving Colleges in Oman that is keen to support educational technologies, including Active board, E-Registration and E-Assessment [7], [8]. Due to that fact, our study has entirely focused on this educational institution as a part of the Arab Gulf region countries in order to examine the academics' awareness and perceptions towards the utilization of M-learning in the arena of education.

The other paper sections are organized as follows: section 2 presents the literature review. Section 3 demonstrates the study problem. Section 4 introduces the research methodology. Section 5 provides the findings, while section 6 concluding the entire paper.

2. LITERATURE REVIEW

Smartphone devices have become an essential part of many sectors through the spread of mobile applications

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[9], [10]. Incorporating technology into the educational sector is a process that requires a lot of efforts and time in order to succeed. M-learning as an educational technology has played a vital role in various educational institutions worldwide. Extensive studies have been conducted in order to answer different questions regarding the utilization and implementation of M-learning. The implementation of M-learning should not only concentrate on the development of mobile technological resources but also should focus on the human perceptions towards M-learning. This study focuses on the academics' perceptions towards the utilization of M-learning as a prior examination to the employment of this technology as less attention has been paid in this research context.

A study by [11] has been conducted in Cyprus for measuring the instructors' perceptions towards the utilization of M-learning. Findings revealed that above medium levels of educators' perceptions have been positively expressed towards the utilization of M-learning. Moreover, male educators were more positive in their perceptions towards the utilization of M-learning than females. Another study by [12] has been conducted within the same environment in Northern Cyprus. Gender and departments in relation to the academics' perceptions towards the utilization of M-learning, were the main two factors that the study has focused on. No significant differences were observed in relation to the academics' perceptions towards M-learning in terms of gender and departments factors. Low levels of educators' perceptions have been expressed towards M-learning.

Another study by [13] conducted a study regarding the students' and academics' perceptions towards the utilization of M-learning in the higher educational contexts of the Arab Gulf region with two neighboring countries (Oman & UAE). Two questionnaire surveys have been used for data collection. Results indicated that there is no significant difference among the academics' perceptions with relation to their gender towards the utilization of M-learning. As a limitation, this study has been conducted in order to compare the students' and academics' perceptions towards the utilization of M-learning within two countries (Oman and UAE) by examining only two factors (gender and country). Due to the reason that there is a limited number of available articles related to educators' attitudes towards the utilization of M-learning in the higher educational universities around the world in general and specifically within the Arab Gulf countries, and as an extension to the work published by [13], this study has been conducted.

3. RESEARCH QUESTIONS

In this paper, we are looking for answering the subsequent research questions:

RQ1: Is there any significant difference among the educators' perceptions towards the usage of mobile technology with favor to their **gender**?

RQ2: Is there any significant difference among the educators' perceptions towards the usage of mobile technology with favor to their **age**?

RQ3: Is there any significant difference among the educators' perceptions towards the usage of mobile technology with regard to their **qualifications**?

RQ4: How do educators feel about the usage of mobile technology into their classrooms?

RQ5: What is the most commonly usage of mobile technology by **educators**?

RQ6: What is the most commonly mobile technology brand used by **educators**?

4. RESEARCH METHODOLOGY

A. Population and Instrument

Different faculty members from different departments (English Department, Business Administration and Accounting department, IT department, and Law department) from Al Buraimi University College, Oman, were randomly selected to participate in this study. The total number of participants was 27 academics; 19 males and 8 females. A survey questionnaire method was conducted for collecting the data. The survey was prepared in English language and it has been distributed randomly among those academics as a hard copy during their office hours. The survey consists of three main sections. The first section was mainly focused on the educators' personal information (8 items). The second section was dedicated to gather information regarding educators' mobile technology (11 items). The third section was devoted to collect data regarding the educators' perceptions towards the utilization of Mobile technology into their classrooms (10 items).

A five-point Likert scale ranging from strongly agrees (5), agree (4), neutral (3), disagree (2) to strongly disagree (1) have been utilized to measure the academics' awareness towards the utilization of mobile technology in teaching (mainly in Section 3 of the survey).

B. Reliability

According to the studies ([14], [15], [13] and [6]), reliability measurement test was performed for the ten variables that characterize the academics' perceptions via measuring the Cronbach's Alpha. The Cronbach's Alpha value for the academics' perceptions (Alpha = 0.918) is greater than 0.7.

5. FINDINGS

RQ1: Is there any significant difference among the educators' perceptions towards the usage of mobile technology with favor to their *gender*?

An independent samples *t*-test has been utilized in order to investigate if there is any significant difference among the academics' perceptions towards the utilization of M-learning with favor to their gender. As demonstrated in Table 1, results revealed a statistically significant difference among the academics perceptions ($p = 0.003$, $p <= 0.05$), females are more positive than males towards using mobile technology inside the classrooms. This is due to the fact that female educators are younger in age than males and definitely they have the enough technological background that enables them to use the technology.

TABLE I.   DIFFERENCES AMONG ACADEMICS IN TERMS OF GENDER.

	Gender	N	Mean	Std. Dev.	t	Df	Sig.
Attitudes	Male	19	3.5895	0.815	-3.012	25	**0.003**
	Female	8	4.4875	0.274			

Similarly, the study by [16] indicated through the use of an independent *t*-test that female educators' perceptions were more positive than males towards the use of M-learning. In contrast, a study by [11] found that male educators' perceptions were more positive towards M-learning than females, while findings by [13] and [6] didn't reveal any significant difference among the academics' perceptions towards the utilization of M-learning with regard to their gender.

RQ2: Is there any significant difference among the educators' perceptions towards the usage of mobile technology with favor to their *age*?

Mean and standard deviations for academics' estimates with favor to their age have been calculated (as shown in Table 2) in order to find out if there is any significant difference among the academics' perceptions towards the utilization of M-learning. A one-way analysis of variance (ANOVA) was calculated to investigate if there is any significant difference in means (as shown in Table 3). Results in Table 3 indicated that there was no statistically significant difference among the academics' perceptions with regard to their age towards the use of M-learning with ($p = 0.429$, $p > 0.05$) and (F = 0.959).

TABLE II.   MEAN AND STANDARD DEVIATION FOR EDUCATORS' PERCEPTIONS WITH REGARD TO THEIR AGE.

Age	N	Mean	Std. Deviation
26 to 35	11	3.7273	0.81375
36 to 45	13	3.9077	0.84208
46 to 55	2	4.6000	0.14142
Above 55	1	3.1000	.
Total	27	3.8556	0.80972

TABLE III.   ANOVA RESULTS FOR EDUCATORS' PERCEPTIONS WITH REGARD TO THEIR AGE.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.896	3	0.632	0.959	**0.429**
Within Groups	15.151	23	0.659		
Total	17.047	26			

RQ3: Is there any significant difference among the educators' perceptions towards the usage of mobile technology with regard to their *qualifications*?

Mean and standard deviations for educators' estimates with regard to their qualifications were calculated (as shown in Table 4) in order to determine if there is any significant difference among the academics' perceptions towards the utilization of M-learning. A one-way analysis of variance (ANOVA) has been calculated in order to examine if there is any significant difference in means (as shown in Table 5). Results in Table 5 revealed that there was no statistically significant difference among the academics' perceptions with regard to their qualifications towards the use of M-learning with ($p = 0.662$, $p > 0.05$) and (F = 0.419).

TABLE IV.   MEAN AND STANDARD DEVIATION FOR EDUCATORS' PERCEPTIONS WITH REGARD TO THEIR QUALIFICATIONS.

Qualification	N	Mean	Std. Deviation
BSc	7	4.0857	0.77337
MSc	12	3.8250	0.75333
PhD	8	3.7000	0.97395
Total	27	3.8556	0.80972

TABLE V.   ANOVA RESULTS FOR EDUCATORS' PERCEPTIONS WITH REGARD TO THEIR QUALIFICATIONS.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.576	2	0.288	0.419	**0.662**
Within Groups	16.471	24	0.686		
Total	17.047	26			

RQ4: How do educators feel about the usage of mobile technology into their classrooms?

An independent samples *t*-test was performed in order to examine if there is any significant difference among the academics' perceptions towards the usage of mobile technology in teaching. As demonstrated in Table 6, results revealed a statistically significant difference among the academics' perceptions ($p = 0.033$, $p <= 0.05$), academics who indicated that mobile technology is an effective tool in education were more positive towards the usage of technology inside classrooms than those who were not.

TABLE VI.   DIFFERENCES AMONG ACADEMICS IN TERMS OF MOBILE TECHNOLOGY USAGE IN EDUCATION.

	Usage of Mobile Technology in Teaching	N	Mean	Std. Dev.	t	Df	Sig.
Mobile technology is a useful and effective tool in Education.	Yes	15	4.73	0.458	2.898	25	**0.033**
	No	12	3.75	1.215			

RQ5: What is the most commonly usage of mobile technology by **educators**?

As shown in Fig. 1, around 55.5% of the educators have indicated that they are using their mobile technological resources (mobile devices/tablets) for surfing the web and accessing their emails. 22.2% of the educators mentioned that they are using their mobile technological resources for learning and education. 14.8% of the educators stated that they are using their mobile technological resources for sending and receiving SMS. Only 7.4 % of the educators revealed that they are using their mobile technological resources for accessing social media networks like (Facebook, Twitter, and Google+). None of the educators indicated that they are using their mobile technological resources for games and music.
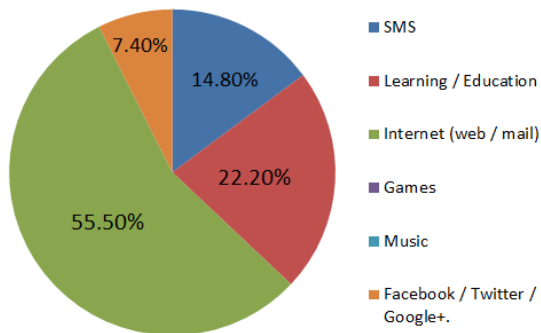

Figure 1.   Educators' usage of Mobile technology.

RQ6: What is the most commonly mobile technology brand used by **educators**?

As shown in Fig. 2 regarding the mobile technology brands used by educators, it can be noticed that 74% of the educators are using *Samsung* mobile technology brand. The relatively high percentage may refer to the availability of Samsung mobile devices in the marketplace with different prices that could suit all the community members. 14.8% of the educators mentioned that they have *Apple* mobile technology brand, while 11.1 % of them stated that they are using different mobile technological brands that were not listed within the distributed questionnaire survey. None of the educators mentioned that they are using (Nokia, Blackberry, and Lenovo) brands in their daily usage of mobile technological Apps.
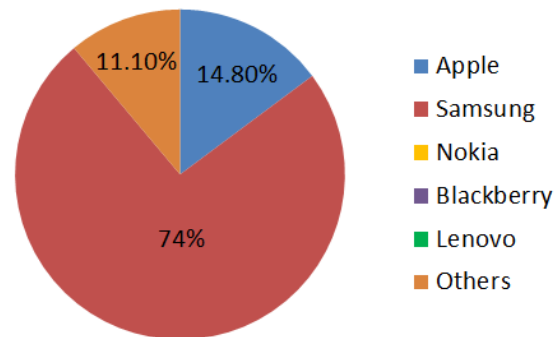

Figure 2.   Usage of Mobile Technology brands by educators.

6.   CONCLUSION

The integration of different technological programs into the higher educational environments has become an inevitable issue. M-learning as one of such technological tools serves in facilitating the learning delivery at various institutions globally on anytime anywhere settings. Examining the academics' perceptions toward the utilization of M-learning will assist the higher educational sectors to determine the weaknesses and strengths. Understanding these perceptions will definitely help in building the applicable strategy in implementing M-learning. In the literature, it has been observed that less attention has been paid to the academics' perceptions toward the use of M-learning. Al Buraimi University College (BUC), is considered as one of the pioneered university Colleges in Oman in applying different technologies into the learning environment. Such technologies include the Active board, E-Registration and E-Assessment. A questionnaire survey has been distributed among the academics at BUC to investigate their perceptions. 27 instructors participated in this study.

Results indicated that female instructors were more positive than males towards the utilization of M-Learning in the classrooms concluding that decision makers should carry out M-learning seminar for male educators in order to enhance their awareness, prior to the implementation of M-learning system. Moreover, results revealed that academics who indicated that mobile technology is an effective tool in education were more positive towards the utilization of M-Learning in education than those who were not. Furthermore, findings indicated that 55.5% of the faculty members were using their mobile technological resources (mobile devices/tablets) for surfing the web and accessing their emails. Moreover, results shown that 74% of the educators were using *Samsung* mobile technology brand; this will help in choosing the mobile technology brand in implementing the M-Learning system. Nevertheless, results were not pointed any significant differences with regard to the academics' perceptions toward the utilization of M-Learning in terms of age and academic qualifications, indicating that M-learning can be adopted by all academics regardless of their age and qualifications.

As a limitation of this study, only 27 academics participated within the study. Moreover, a questionnaire method was only used for collecting the data. As a future direction, we are intended to implement the M-Learning system into Al Buraimi University College and all the aforementioned limitations will be considered such as instrument and sample. Interviews besides questionnaires will be conducted for the reason of data collection.

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