

Students' Perceptions of Mobile Learning: Case Study of Kuwait

Rana AlHajri, Salah Al-Sharhan, Ahmed Al-Hunaiyyan

Abstract—Mobile learning is a new learning landscape that offers opportunity for collaborative, personal, informal, and students' centered learning environment. In implementing any learning system such as a mobile learning environment, learners' expectations should be taken into consideration. However, there is a lack of studies on this aspect, particularly in the context of Kuwait higher education (HE) institutions. This study focused on how students perceive the use of mobile devices in learning. Although m-learning is considered as an effective educational tool in developed countries, it is not yet fully utilized in Kuwait. The study reports on the results of a survey conducted on 623 HE students in Kuwait to a better understand students' perceptions and opinions about the effectiveness of using mobile learning systems. An analysis of quantitative survey data is presented. The findings indicated that Kuwait HE students are very familiar with mobile devices and its applications. The results also reveal that students have positive perceptions of m-learning, and believe that video-based social media applications enhance the teaching and learning process.

Keywords—Higher education, mobile learning, social media, students' perceptions.

I. INTRODUCTION

THE use of mobile devices has integrated into all aspects of life, not only in the developed countries, but also in developing countries. The rapid development and growth of mobile technology has motivated developers to reshape industries and businesses [1]; and has led to the introduction and use of mobile devices in education [2]. Mobile technology is providing us with a challenge that is how to be introduced and accepted in different cultures and traditions [3], [4]. M-learning is also providing us with opportunity that is to provide new learning strategies for the enhancement of the teaching and learning experiences.

Reference [5] defines mobile learning as a learning medium that allows learners to search and obtain learning materials anytime anywhere, using mobile devices [5]. Furthermore, [6] describes m-learning as using mobile devices for educational purposes. Mobile learning has a significant influence on education [7]. That urged researchers and academics to investigate the impact of using m-learning to support teaching and learning. Reference [5] listed some characteristics of mobile learning such as: ubiquitous, portable, immediate,

interactive, and collaborative [5]. Furthermore, [8] pointed out that mobile platforms allow learners to collaborate with their instructors, search information, find locations, and record notes [8].

Although m-learning is used in developed countries and is considered as an effective educational tool [9], there is a lack of studies that focus on examining students' perceptions of m-learning, particularly in the context of Kuwait HE institutions [10]. Since the authors are focusing on Kuwait HE, in which a case a study was conducted to examine students' perceptions of m-learning, here are similar studies conducted in Kuwait and in Saudi Arabia, a country which is very close to Kuwait in terms of culture, traditions, and social life. A recent study was conducted by [10] investigated students' perceptions towards the use of mobile learning at the College of Basic Education in Kuwait. Their results indicated that students' (80.3%) are happy with using mobile devices in the learning environment and believe that m-learning enhances their knowledge of English language [10]. Furthermore, [11] conducted a survey of 186 undergraduate female students at King Saud University in Saudi Arabia. The results of the survey demonstrated that mobile learning enhances students' learning experience and improves students' retention of knowledge [11]. Similar study conducted by [12] using a quantitative approach survey of 80 Saudi HE students. The results indicated that m-learning is appreciated and very well accepted by the students [12]. Another investigation by Vyas and [13], they conducted a survey of 100 HE students in India. The investigation examined students' attitudes and perceptions regarding the use of mobile learning. The results indicated that majority of the students consider mobile technology as an effective educational tool and most of them appreciate this new technology despite its challenges [13].

The Ministry of Education in Kuwait (MOE) has launched a national e-learning project in the country based on the Ministry's 2008 e-learning strategy. The MOE distributed 80,500 one-to-one mobile devices (Tablets) among students and instructors in the academic year 2015/2016 to activate mobile learning. The purpose of this study is to seek students' perceptions and attitudes toward mobile learning, to evaluate its effectiveness, and to investigate social challenges that affect the implementation of m-learning in Kuwait.

The rest of this article is organized as: Section II introduces the methodology used for this study presenting the results, while the results of this study are discussed in section III. Section IV concludes the study and suggests future directions.

Rana Al Hajri and Ahmed Al-Hunaiyyan are with the Computer Science Department, Public Authority of Applied Education and Training, Kuwait (e-mail: Rana_alhajri@yahoo.com, hunaiyyan@hotmail.com).

Salah Al-Sharhan is with the Computer Science Department, Gulf University for Science and Technology, Kuwait (e-mail: alsharhans@gust.edu.kw).

II. METHODOLOGY

A quantitative methodology was used in this article which is explained in this section.

A. Sample

The participants of this study are male and female students from various HE institutions in Kuwait from both private and government educational sectors, as shown in Table I.

TABLE I
 CHARACTERISTICS OF THE STUDENTS

Characteristics	Percentage %
Q1. Gender	
Male	32.1%
Female	67.9%
Q2. Marital status	
Single	71.3%
Married	28.7%
Q3. Age	
16-24 Years	67.3%
25-35 Years	23.2%
Over-35 Years	9.4%

B. Evaluation Tool

An online questionnaire was developed and adapted from several previous studies [11], [10], [14]. However, questions and scales used in the questionnaire were appropriate to the scope of the present study. The questionnaire consisted of three parts. Part 1 collects demographic data and gathers information about the frequent use of mobile devices, type of mobile device, and students' frequent use of mobile applications. Part 2 investigates the frequent use of the common social media applications. Part 3 of the questionnaire measures students' perceptions and attitudes towards the effectiveness of mobile learning and social media learning tools. The questions in Part 3 consisted of 5-point Likert-type scale where: 1 for Strongly Disagree, 2 for Disagree, 3 for Neutral, 4 for Agree, and 5 for Strongly Agree. A pilot study was conducted on students in a class section to assess the feasibility of the survey, and to validate the initial results. Minor improvements were made to the questionnaire for the study.

C. Results

The online questionnaire was randomly distributed to 623 undergraduate students. Data were quantitatively analyzed using SPSS to calculate percentages, means, and standard deviations (SD). This section presents results of the study including: students' demographic data and background information, students' frequent use of social media applications, and students' perceptions and attitudes about m-learning.

1. Respondents Background Information

This section represents the characteristics of the students (623 responses). The outputs of the first three questions (gender, marital status, and age), are displayed in Table I.

Table II categorizes the frequency of use. In addition, Fig. 1 illustrates the type of mobile device owned by students, and Fig. 2 illustrates students' frequent use of mobile applications.

TABLE II
 THE FREQUENCY OF USE GIVEN TO THE INSTRUCTORS

Frequency	Usage duration
Always	1-3 hours a day
Sometimes	1-3 hours a week
Seldom	1-3 hours a month
I don't use it	Not using at all

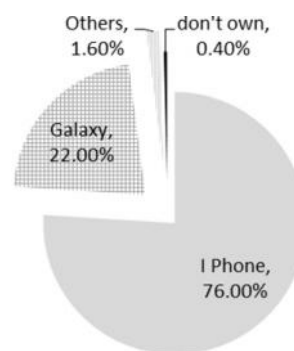


Fig. 1 Type of Mobile Device Owned by the Students

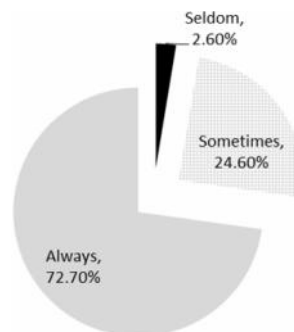


Fig. 2 Frequency of using Mobile Applications

2. Students' Frequent use of Social Media Applications

Part 2 of the questionnaires examines students' frequent use of some social media applications such as: Twitter, Instagram, Facebook, YouTube, Snapchat, and LinkedIn, which are shown in Table III and Fig. 3.

TABLE III
 STUDENTS' USE OF SOCIAL MEDIA APPLICATIONS

No.	Application	Always	Sometimes	Seldom	I don't use it
1.	Twitter	28.1%	29.1%	18.8%	24.0%
2.	Instagram	44.9%	38.1%	11.0%	6.0%
3.	Facebook	5.4%	8.0%	14.6%	71.9%
4.	You Tube	61.1%	32.5%	4.8%	1.6%
5.	Snap Chat	70.9%	11.8%	4.6%	12.6%
6.	LinkedIn	1.2%	4.0%	5.6%	89.2%

TABLE IV
STUDENTS' PERCEPTIONS OF MOBILE LEARNING

No	Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD
Q1	The use of social media applications helps in educational attainment.	23.8%	44.1%	19.0%	9.6%	3.4%	3.75	1.030
Q2	The use of social media helps to strengthening the communication with others.	41.3%	40.1%	10.8%	4.6%	3.2%	4.12	.991
Q3	Learning by mobile helps me learn anytime, anywhere.	40.5%	36.7%	13.2%	6.4%	3.2%	4.05	1.040
Q4	Learning by mobile opens many ways to learn and provide various learning fields.	35.3%	40.7%	14.4%	6.4%	3.2%	3.98	1.02
Q5	Learning by mobile increases students' motivation to learning.	25.5%	30.1%	28.1%	12.8%	3.6%	3.61	1.110
Q6	Having media files of my course content on my mobile helps me learn more.	31.7%	38.9%	17.8%	6.4%	5.2%	3.85	1.110
Q7	Mobile helps to follow up on grades and student records.	54.5%	33.3%	8.8%	1.8%	1.6%	4.37	.844
Q8	Learning by mobile is a good idea.	28.9%	32.3%	23.4%	10.0%	5.4%	3.69	1.148
Q9	M-learning helps me to share information with other students.	47.7%	36.9%	11.0%	1.6%	2.8%	4.25	.918

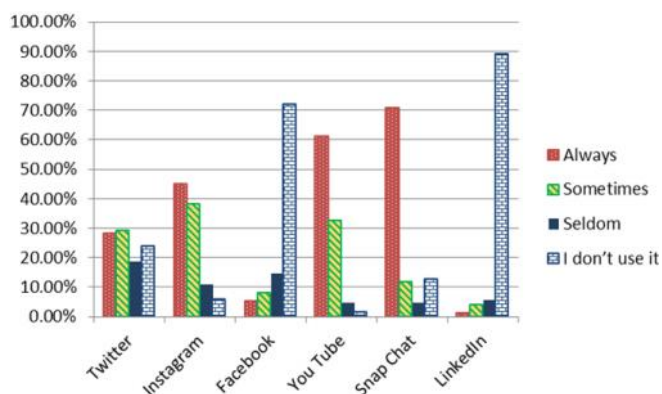


Fig. 3 Students' use of social media applications

3. Students' Perceptions of M-learning

Part 3 of the questionnaire is used to measure students' perceptions and attitudes about m-learning. These results are shown in Table IV. Percentage is used to know the proportion of selected choice (5 strongly agree to 1 strongly disagree). In addition, mean is used to give the general average of students' answer, while standard deviation (SD) is used to provide an indication of how far students' responses to a question vary or "deviate" from the mean. We noticed in Table IV that the value of SD is around 1, which indicates that the answer of each question is close to the average.

III. DISCUSSIONS

Mobile learning is a suitable and effective choice in the Arab world due to the widespread penetration of mobile devices among Arab young students [15]. The mobile market in Kuwait experienced strong growth in mobile penetration to over 200 percent in 2015 [16]. The high mobile phone availability among students in Kuwait plays important role that can maximize the opportunity for shifting to mobile learning. Table I shows students' background information, in which 71.3% of the students are single, and 67.3% are aged 16-24 years. Although mobile devices ownership is very high among students' (99.6%), and most (72.7%) of them always use mobile applications, m-learning remains in its infancy in Kuwait HE [10]. However, research indicates that the use of mobile technology in learning is not as widespread as the devices themselves [17]. As seen in Fig. 1, 76.0% of students

own an iPhone; this help to highlight the relationship between mobile ownership and the distribution of mobile devices to learners as part of the m-learning national implementation strategy.

Social media applications have made mobile devices more dynamic and pervasive, promising more educational potential, and offering opportunities to enrich students' collaboration, engagement, and interactivity. Reference [18] believed that social media applications create collaborative teams that advance students' participations and engagements. Table III and Fig. 3 shows students' use of social media applications which can help to identify which application can be adapted when implementing m-learning. It is interesting to find that Snapchat is the most frequently used application by students (70.9%), followed by YouTube (61.1%) and Instagram (44.9%), while students did not show much interest in LinkedIn and Facebook. Instructors and developers should note that video-based social media applications are widely used among the students such as Snapchat and YouTube.

Table IV shows that the students have positive opinions about m-learning. The results strongly suggest that most of the students (77.2%) perceived mobile learning as attractive learning tool because it allows the freedom to learn anytime and anywhere. The value of mobility in mobile learning is appreciated by the students who believed that m-learning has the potential to provide various ways of learning (76.0%) and to follow up on students' records and grades (87.8%). In addition, students felt positively towards mobile learning by using social media applications. About 67.9% of the students believe that social media applications enhance learning and 81.4% of them show a positive perception on using mobile as a social learning tool, because it allows collaboration with instructors and other students. Furthermore, 55.6% of the students stated that learning by mobile increases students' motivation, while 61.2% of them believe that learning by mobile is a good idea. Our findings are supported by several regional studies. Additionally, most of the students had a positive perception about using m-learning which help them to share information with other students (84.6%).

The study of [10] showed positive perceptions of using mobile learning among Kuwaiti HE students; provided unique opportunities from the perspective of Saudi students [19]; and

demonstrated a high level of acceptance on m-learning level among HE Saudi students [12]; indicated that majority of the students consider mobile technology as an effective educational tool [13].

IV. CONCLUSION & FUTURE DIRECTION

Within the Kuwait educational sector there have been outstanding initiatives to incorporate Information and Communications Technologies (ICT) into education at the national level, including the use of mobile technology in learning. The motivation in conducting this study is to understand students' perceptions and attitudes about mobile learning and online social media tools. The study demonstrates that students' perception to mobile learning is positive, and that most of them believe that m-learning is appealing, regardless of their gender and age. The findings of this study also suggest that mobile technologies have the potential to provide new learning experiences; students can engage more frequently in learning activities inside and outside of the classroom; students can obtain resources and multimedia learning materials on their mobiles; and that m-learning can improve communications between students and instructors. Students believe that online social media applications enhance learning, and improve communications between students and instructors. Video-based social media applications are widely used among the students including Snapchat and YouTube. M-learning remains in its infancy in Kuwait, and it is hoped that with adequate awareness of the requirements of m-learning and its challenges, academic policy makers in Kuwait should consider the possibility of creating true mobile learning programs taking into consideration the social and cultural issues in the country.

As for a future work, it is interesting to compare male and female students regarding Mobile Technology Acceptance in education (MTA). In addition, investigating instructors' perceptions of m-learning will add another dimension for the investigation. Furthermore, research on how to design educational content for mobile learning that can accommodate Arab learners, and their culture, traditions and norms, is valuable.

REFERENCES

- [1] N. Cavus, "Investigating mobile devices and LMS integration in higher education: student perspectives," *Computer Science*, vol. 3, pp. 1469-1474, 2011.
- [2] H. S. Ebrahim, K. Ezzadeen and A. K. Alhazmi, "Acquiring Knowledge through Mobile Applications," *International Journal of Interactive Mobile Technologies (IJIM)*, vol. 9, no. 3, 2015.
- [3] R. Alhajri, S. Al-Sharhan, A. Al-Hunaiyyan and T. Alothman, "Design of Educational Multimedia Interfaces: Individual Differences of Learners," Kuwait, 2011.
- [4] R. A. Alhajri, S. Counsell and X. Liu, "Accommodating Individual Differences in Web Based Instruction (WBI) and Implementation," Iceland 29-31 July, 2013.
- [5] F. Ozdamli and N. Cavus, "Basic elements and characteristics of mobile learning," *Social and Behavioral Sciences*, vol. 28, pp. 937-942, 2011.
- [6] S. Kinash, J. Brand and T. Mathie, "Challenging mobile learning discourse through research: Students perceptions of Blackboard Mobile

- Learn and iPads," *Australian Journal of Educational Technology*, vol. 28, no. 4, pp. 639-655, 2012.
- [7] A. Klassen, M. Eibrink-Lunzenauer and T. Glogler, "Requirements for mobile learning applications in higher education," Published in *Multimedia (ISM)*, 2013 IEEE International Symposium, pp. 492-497, 2013.
- [8] B. Chen, R. Seilhamer, A. Sugar and M. Jin, "User Acceptance of Mobile Technology: A Campus-wide Implementation of Blackboard's Mobile Learn Application," *Journal of Educational Computing Research*, vol. 49, no. 3, p. 327-343, 2013.
- [9] S. Fuegen, "The Impact of Mobile Technologies on Distance Education," *TechTrends*, pp. Volume 56, Issue 6. p. 49-53, 2012.
- [10] F. Dashti and A. Aldashti, "EFL College Students' Attitudes towards Mobile Learning," *International Education Studies*, vol. 8, no. 8, pp. 13-20, 2015.
- [11] F. N. Al-Fahad, "Students' attitudes and perceptions towards the effectiveness of mobile learning in King Saud University, Saudi Arabia," *The Turkish Online Journal of Educational Technology*, vol. 8, no. 2, pp. 111-119, 2009.
- [12] A. Nassuora, "Students Acceptance of Mobile Learning for Higher Education in Saudi Arabia," *International Journal of Learning Management Systems*, vol. 1, no. 1, pp. 1-9, 2013.
- [13] N. Vyas and V. Nirban, "Students' Perception on the Effectiveness of Mobile Learning in an Institutional Context," *International Association of Research in Foreign Language Education and Applied Linguistics ELT Research Journal*. 3(1), pp. 26-36, 2014.
- [14] E. Georgieva, A. Smrikarova and T. Georgieva, "Evaluation of mobile learning system," *Procedia Computer Science*, vol. 3, p. 632-637, 2011.
- [15] S. Al-Shehri, "Contextual language learning: The educational potential of mobile technologies and social media. (Doctoral Dissertation)," The University of Queensland, Australia, 2012.
- [16] Kuwait Telecommunications Report Q4, from <http://www.researchandmarkets.com/reports/3388100/kuwait-telecommunications-report-q4-2015>, Kuwait, 2015 (Accessed August 2016)
- [17] E. Dahlstrom and J. Bichsel, "ECAR Study of Undergraduate Students and Information Technology," ECAR, Louisville, CO, 2014.
- [18] A. K. Alhazmi and A. A. Rahman, "Facebook in Higher Education: Students' Use and Perceptions," *AISS: Advances in Information Sciences and Service Sciences*, vol. 5, pp. 32 - 41, 2013.
- [19] S. Almutairy, T. Davies and W. Dimitriadi, "The Readiness of Applying M-Learning among Saudi Arabian Students at Higher Education," *International Journal of Interactive Mobile Technologies iJIM*, vol. 9, no. 3, pp. 33-36, 2015.