

Obstacles and Opportunities for Yemeni Students to Use Mobile Learning

Nawal Al.Ragawi and Ammar Zahary

Department of Computer Information Systems,
The Arab Academy for Financial and Banking Sciences,
Sana'a, Yemen.

nawalalragwi@gmail.com

aalzahary@gmail.com

ABSTRACT

These days we are witnessing a rapid development in technology, especially in the areas of information and communication technology (ICT) and distance learning. Mobile learning uses mobile devices such as digital cell phones, personal digital assistants and laptops. Traditional learning process faces many troubles in Yemen because of the lack of resources and the management issues. We have remarked that most of students and teachers have smartphones and they often access the Internet frequently during the day hours, especially the higher education students. Thus, we thought that using M-Learning may add a great value and provide a kind of assistance for the learning process stakeholders in Yemen, and this is the motivation of this research. This paper attempts to give a vision for the future of education in Yemen by using M-learning to support the education in order to keep pace with the global development. The main aim of this paper is to identify the possible obstacles and opportunities of using M-learning in Yemen. The field survey of this paper focuses on different categories of universities and schools in Yemen. The study sample was applied to 148 male and female students. Data was collected and analyzed using SPSS, and the results show that a percentage of 74.4% of the study sample has a strong desire to use M-learning in learning process. Results also show the benefit from opportunities is about 80.5%, and the emergence of some difficulties that hinder the use of smartphones in learning process is about 76.4%.

KEYWORDS

Mobile learning (M-learning), Electronic learning (E-learning), Information and Communication Technology (ICT), distance learning, Smart phone.

1 INTRODUCTION

The rapid development of E-learning, mobile computing, wireless communication technology and the communication channel of distance education has great effects on learning. Unlike

many traditional methods of learning, M-learning has not so far been studied as a phenomenon in the world; rather, it has been introduced as a new technology-led practice that will potentially lead to new learning phenomena. Various schools, universities and distance education institutions at each level are using lots of learning modes through various media ways in teaching, assessment ways and supporting students around the world [1][2].

Deployment of 3G/4G mobile technology is speeding up. Research activities on mobile platforms for supporting mobile learning have emerged in the academic community. Sometimes students cannot approach classrooms because of some issues. It can decrease the study quality in these specific areas. Therefore, M-learning should be applied for supporting student access to virtual-laboratory - environments at anytime from anywhere by simply using their own computers, laptops, smartphones, or any other electronic equipment [3].

The rapid in computer technology and the Internet has contributed to an increase in using different media for education. Instructional technologies can range from using software like PowerPoint and word, to hardware like laptops and smartphone in the classroom [4].

The well-designed educational apps are very effective for M learning. Current research shows that, in mobile learning, interface design and attention to usability will lead to better mobile learning [5].

Mobile applications increasingly affect the diffusion of information as well as business activity. They gain broad acceptance due to the increased need for supporting the mobile workforce and the rapid improvement in the devices and wireless technologies for communication. Many mobile applications provide personal services such as sending and viewing email, browsing the World Wide Web

(WWW), viewing traffic and weather reports, watching movies and chatting with others [6].

The development telecommunication capabilities have led to the concept of anytime and anywhere education. However, these are not without limitations. The so-called Internet educational transaction, popularly termed an e learning, contrary to it, the mobile devices have become part of the learner and hence it demolishes the notion of distance and boundaries [7].

Teaching and learning in the 21st century has shifted from a teacher-centred to a learner-centred, because of using ICT tools for teaching and learning. Integrating ICT into teaching and learning does not only bring changes to the teachers' role in the classroom. ICT brings chances for students in their learning activity since it triggers them to collect and share ideas and information that they found with others. Applying ICT also helps students to be independent in learning and promotes student-centered learning settings but also creates a dynamic learning environment where learners can become more self-directed and motivated towards learning[8][9].

M-learning in Yemeni universities has not been applied or implemented in Yemeni universities until now. Therefore, this study proposes that universities are required to use the M-learning applications between teachers and students.

This paper presents an overview of obstacles and opportunities for Yemeni students to use M-Learning, and it discusses the results of the study. The paper explores the integration of mobile technology in distance learning or in traditional classroom environments. Learning on mobile devices will never replace classroom or other electronic learning approaches. However, if mobile technology is used properly, it can complement and add value to the existing learning on mobile devices [10].

The learning process is mainly based on students and teachers. So it is necessary to identify their attitudes towards using M-learning in learning. Hence, it is important to identify the attitudes of the students and teachers at some colleges of Yemeni universities towards using M-learning in learning and to identify the effect of the independent variables on those attitudes and then the difficulties of applying M-learning in Yemeni universities.

The main objective of the study is to illustrate the development of methods of traditional learning, learning by M-learning in order to keep up with technology and development in the world of communication in order to serve E-learning and educate students and teachers. This study is an attempt to answer the following questions:

1. What are the perceptions and opinions of the respondents regarding the usefulness of M-learning to support learning?
2. Are there significant differences in (opinions, obstacles, opportunities acceptance) to the gender, age group, level of learning, educational institution, current job, and learning institution ?
3. What are the opportunities and obstacles of applying M-learning?

2 LITERATURE REVIEW

2.1 Overview of E-learning

E-learning depends on the computer, the internet, and electronic education such as the CD Rom and, watching an educational television program would be counted as E-learning.

E-learning is one of the most important types of education at the present time. Technology is the language of the times. It has become one of the basic necessities for the development of educational systems. The use of information and communication technology (ICT) such as interactive Internet, TV channels, e-mail, computers, and teleconferencing way is synchronized or asynchronous [11].

E-learning provides the opportunity for students to interact electronically with each other as well as with their teachers. This interaction can be via e-mail, on discussion board, or in chat rooms. ICT can be used along with traditional face-to-face education. However, its use can also create mixed mode or even full online mode [12]. So mobile devices have the power to make learning even more widely available and accessible. Mobile devices are considered by many to be a natural extension of E-learning [13] as illustrated by Figure

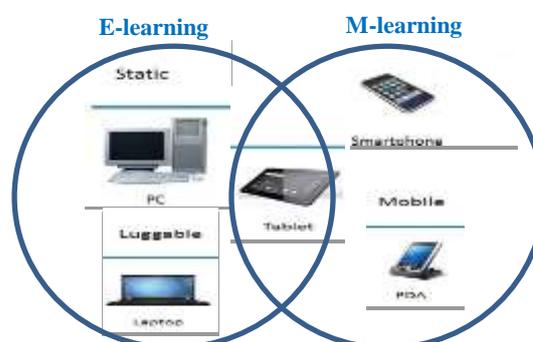


Figure 1: E-learning vs. M-learning

2.2 Definitions of Mobile Learning

Due to the development of technology, M-learning has a set of definitions. The M-learning is described as distinct from traditional E-learning because mobile devices include camera, voice recorder, the Internet, and programs that help in education [14].

M-learning is a means of learning using mobile devices that allow students to learn in different environments. M-learning is a subset of e-learning, but it refers much more specifically to these laptops, mobile devices, and wireless devices such as iPads, Smartphone, and tablets, and more sophisticated mobile phones such as the iPhone and Android [11].

M-learning involves the use of mobile technology in combination with other information and communication technology (ICT) to enable learners anytime and anywhere contact with others. Mobile learning also includes efforts to support educational goals such as communication between students and teachers and to improve communication between schools and families [15].

The use of mobile devices such as Smartphones and PDAs in the learning process and the delivery of electronic learning materials supported solely or mainly by handheld, that work on a wide range of mobile devices, and we can carry and use for accessing content for learning [7].

2.3 Advantages of M-learning

There are many advantages of M-learning to help the students and the teachers. These advantages will be addressed by authors to clarify the benefits that can be gained from using tablets, mobiles and other mobile devices in the classroom.

-Educational Support

Makes connection between the lecturer and his students and communication between schools and families [13].

-Mobility

It provides easy access to learning in any place and at any time, which is more comfortable for learners [13].

-Wider Access

Besides having access to educational tools, courses, and teachers, the students can use their smartphones and tablet computers online and gain more benefits [16].

-Without Noise

M-learning provides a noise-free learning environment. Since these devices offer touch-screen option, there is no need to connect keyboard or mouse. This can result in a learning environment that reduces noise [16].

-Self Learning

With M-learning, learners are now able to learn in their own style at their own pace without a teacher [13].

2.4 Disadvantages of M-learning

The major obstacles to tablets use are also highlighted and include the following: frequent breakdowns, small screen size, slow processing power and short battery life [17].

There are many disadvantages of M-learning [16].

-High Cost

Cost is a vital disadvantage of M-learning. It is very difficult for students to be part of M-learning if they do not have a mobile device because of its cost.

- Screen size

Small screen and small buttons make the device difficult to manipulate.

-Battery Life

Battery life does not serve education continuously because most gadgets only have about 4 to 6 hours of productivity.

-Dispersion

While accessing the path through mobile phones, if the learner gets a call, an SMS, or social media updates, they must have to get distracted.

2.5 Related Work

Many studies were conducted and addressed the use of mobile technologies in education. This section provides some previous studies related to this paper.

Alfahd [18] studied the students' attitudes and perceptions towards the effectiveness of mobile learning in King Saud University. The sample of the study consisted of (186) female undergraduate students majoring in arts and medicine. The researcher used a questionnaire as an instrument for his study. The results indicated the students' preference for using the mobile phone in their learning regardless of time and place. The mobile phone enabled them to communicate easily with each other and to exchange information and data related to their instructional materials. .

Jebreen and his co-authors [19] studied a sample which consisted of (363) students selected randomly cluster from the colleges of education at the Jordanian universities: The Hashemite University, Yarmouk University and University of Jordan for the academic year 2010-2011. The instrument was a questionnaire developed by the researchers. The results showed that the percentage of students who indicated positive attitudes towards mobile phone use in university education is high.

Amer and his co-authors [20] studied a sample conducted in three educational institutions Sadat Academy for Management and Sciences (SAMS), computer Information System (CIS), Faculty of Commerce Transport College of International Transport and Logistics (CITL), Arab Academy for Sciences, Technology and Maritime at Alexandria, Egypt. A sample of undergraduate male and female students (n=218), between the ages of 17 to 24 years, was asked to fill a questionnaire which measures the extent to accept students to the concept of mobile learning and its effectiveness.

Assuora [21] tried to examine the possibility of acceptance in mobile learning (M-Learning) and study main factors that affect using M-Learning that focuses on higher education students in Saudi Arabia. The researcher used a quantitative approach survey of 80 students. The modified acceptance framework that based on the Unified Theory of Acceptance and Use of Technology (UTAUT) model is adopted to determine the factors that influence the students' intention to use M-Learning. The results from statistical analysis show that the acceptance level of students on M-Learning is in the high level.

Cassim and his co-authors [22] tried by this study to achieve through qualitatively analyzing interview data from three second grade teachers

from urban and rural schools in the Kea-Zulu Natal Province in South Africa. These teachers were interviewed after the participation of their learners in an experiment in which M-learning was used for word problems homework. The results of this experiment indicate that M-learning improves learners' performance, attitudes and excitement with regard to word problems. All the teachers interviewed were satisfied with the use of M-learning in teaching word problems, and they all agreed on its usefulness, effectiveness, and efficiency.

Quinn [23] presented survey results. The use of M-Learning for social networking and communication is more prevalent than it is for the development of custom applications, with 38.1% of organization implementing, designing or building the business case for social networking and only 25.7% for custom application development. The research showed much personal use, and 70.2% of respondents are using their personal mobile devices for business use. Of those who have conducted M-Learning implementation, 50% is showing positive returns.

Jiranantanagorn and his co-authors [24] studied preliminary survey conducted at Rajamangala University of Technology Rattanakosin, Thailand has shown that there are both social and technological issues to consider when developing mobile learning system in Thai public universities. A preliminary survey was conducted with eight participants, who are lecturers in the Faculty of Computer Engineering at Rajamangala University.

Brand and his co-authors [25] tested and reported the learning outcomes, technology orientations, attitudes, and times on task, exposure frequencies with iPad, tablet computers and make comparisons of these groups using other mobile devices and groups not using mobile devices. Participants were 150 students over 2 semesters randomly assigned to rotating a comparison group using a traditional bound textbook and regular access to a blackboard subject site, another comparison group using their existing mobile devices, and an experimental group using iPads to access equivalent content through enhanced Blackboard content and an enriched e-text .

Pal [26] focused on developing countries such as India, having a huge student presence and a large number of universities and institutions, though gradually shifting towards Information

Communication and Technology (ICT) enabled education system. The paper made feasibility analysis by making market, technical and economic analysis of M-learning in universities and institutions in India running higher education like engineering and scientific research. The feasibility analysis was added with a survey on 301 students from an Engineering institute for their acceptance of the technical and usable issues of mobile based learning. The survey results showed a positive indication, but with many issues to be taken care of.

Rabail and his co-authors [5] focused on providing a measurement model for evaluating the interface of mobile educational apps designed for children. The research attempts to review the existing interface design guidelines and consequently develop a measurement model. The model serves as basis for comprehensive usability evaluation consisting of guidelines, usability characteristics, goals (interface design criteria), questions, and usability metrics (objective and subjective). Moreover, two evaluation instruments (task list and satisfaction questionnaire). To ensure the effectiveness and reliability of the model, it was validated by applying the proposed metrics and evaluation instruments in a usability study conducted on two android educational apps for children. Results gathered from usability testing proved that the Model is applicable for evaluation of mobile educational apps for children.

Khajitpan [3] presented utilization of mobile technologies for supporting distance learning system in open universities or online courses. The architectural framework of learning module is proposed specifically for constructing engineering and scientific remote laboratories. Affordances of mobile technologies are presented herein concerning usability, functionality, portability, consistency, and security. Furthermore, conceptual design of the proposed modules consists of mobile internet/software platforms, remote controller, and user interface and portable-multimedia-device sensor network. It showed that implementation of mobile technologies regarding their affordances can accomplish student's comprehension in remotely conducting engineering and scientific measurement and in participating in activities from different locations. Finally, the paper presented the ideal platform development and practical usage initiated by the

proposed collaborative mobile system in order to achieve the academic standard in these areas.

3 THE RESEARCH METHOD

The descriptive survey method was adopted in conducting this study. The descriptive analysis was used in analyzing the data of the study. The means, standard deviations, t-test and analysis of variance in analyzing data were used (SPSS) [27].

3.1 Questionnaire Design

The questionnaire is one of the ways to collect data from large sample. The Researcher can get useful and clear information and clear about the problem of the study. The aim of this questionnaire is to clarify opinions of the Yemeni community in the use of M-learning in learning as well as to identify obstacles and opportunities possible when using M-learning to learn. The questionnaire was based on five scale options: Strongly agree, agree, not sure, disagree, and strongly disagree. It contained the necessary data for the study that was sent to all participants, and it consisted of two sections.

Section A:

Personal information of the respondent to the questionnaire.

Section B:

In this study, the survey questions are divided into three axes.

- Opinions about the use of M-learning in learning.
- Obstacles that prevent the use of M-learning in learning.
- Opportunities for the use of M-learning in learning.

3.2 The Community(subjects) and the Sample

In this part, we will explain the community and the sample of the research

❖ Community study

The researchers chose people from schools, universities, and institutes for training and education. Most of them were randomly chosen in Sana'a and Hodeida, and those quarters are:

❖ -The City of Sana'a.

- University of Science and Technology and College of Commerce, Sana'a University
- Schools (Upgrading of private, and New Generation and Cooperation of Government).

- Institute for Training and Education
- ❖ **The City of Hodeida.**
- College of Dentistry, Hodeida University.
- Bilquis Governmental School.

❖ **Sample**

The target Sample was students, teachers and academics. The number of questionnaires was 148 distributed to schools, universities, and the institute for training and education- governmental and private.

3.3 The Survey Distribution Methods

The questionnaires were distributed through a Variety of methods in an attempt to save time and money and get a wide range of participants, both geographically and by the type of organization. The first method to distribute questionnaires was via electronic device, where the electronic questionnaires were sent by e-mail and through Facebook. The second way of distribution was through field visits to places where papers of the questionnaires was distributed. The questionnaires were distributed in Hodeida and Sana'a governorates in several sectors of public and private universities and schools.

4 QUESTIONNAIRE ANALYSIS AND RESULTS

The Questionnaire Analysis shows the basic part of the categories of the research variables and analyze field study. The first section is an axis study variables to get the general information for respondents. The second section is the descriptive analysis including the attributes of the respondents, and the results of the measurement variables.

4.1 The profiles of Respondents

This part of the study aims to present the personal information of the respondents, to whom the questionnaire was distributed and then to provide descriptive statistics for personal data. Data has been summarized in a table showing the values of each variable and explaining the values inside the variant in form of numbers and percentages. Features of the study sample variables are illustrated in Table 1.

Table 1: the majority of respondents

Study Variables	Classification	Fre que	%
Gender	Male	50	33.8%
	Female	98	66.2%
Age Group	under 18	32	21.6%
	18 to 25	57	38.5%
	26 to 40	58	39.2%
	above 40	1	0.7%
Level of Learning	High School	45	30.4%
	Diploma	6	4.1%
	Bachelor	77	52.0%
	Masters	16	10.8%
	Ph.D.	4	2.7%
Institution of Learning	School	39	26.4%
	Institute for Education and Training	17	11.5%
	University	91	61.5%
Current Job	Manager	7	4.7%
	Administrative Officer	39	26.4%
	Teacher	25	16.9%
	Student	74	50.0%
Learning Institution	Government	39	26.4%
	Private	109	73.6%

As show in Table 1, it is clear that the majority of respondents was females with percentage of (66.2%), age group range between 26 to 40 with percentage of (39.2%). Regarding the level of learning we get that (52.02%) of the respondents have Bachelor degree. (61.02%) of the respondents are in universities. Regarding to the current job we found that (50.0%) of the respondents are students. Regarding to the learning institution we get that (73.6%) of the respondents are in private.

4.2 Questionnaire Analysis of Axes

The results shown by the questionnaire are shown by analysing the data of the axes.

4.2.1 Results of First Axis

Table 2 represents the first axis that shows opinions of the respondents about the use of M-learning in learning.

Table 2: Results of the questionnaire on variable (First Axis)

Rank	Q. No	Statement Text	Mean	Standard Deviation	% Mean	Recognition
						14 Q7 The use of M-learning in learning a waste of money. 2.466 1.121 49.3% I do not agree
						15 Q4 The use of M-learning in learning a waste of time. 2.405 1.118 48.1% I do not agree
						Average 3.722 0.327 74.4% Agree
1	Q 10	I would like to use M-learning for the numerous services. Services such as Translator, calendar, calculator, access to the Internet.	4.649	0.582	93.0%	Agree fully
2	Q 11	Make it easier to communicate with anyone at any time and any place.	4.649	0.658	93.0%	Agree fully
3	Q2	Mobile are considered a means of e-learning.	4.236	0.891	84.7%	Agree fully
4	Q 15	You must use M-learning to learn in order to keep up with technology.	4.196	0.994	83.9%	Agree
5	Q5	Easier for the student to more knowledge and experience.	4.169	0.811	83.4%	Agree
6	Q9	Useful to use M-learning to learn on a personal level.	4.115	0.892	82.3%	Agree
7	Q3	You must use the techniques of M-learning for learning purposes.	4.108	0.905	82.2%	Agree
8	Q6	Mobile for increase quality of e-learning.	4.047	0.898	80.9%	Agree
9	Q 13	Best use of M-learning in the internet and social networking sites.	3.851	1.127	77.0%	Agree
10	Q1	It is necessary to owning a student to devices M-learning.	3.797	1.201	75.9%	Agree
11	Q 12	I am afraid to use it to learn and because of the misuse by some students.	3.432	1.179	68.6%	Agree
12	Q8	M-learning have more advantages than disadvantages.	2.986	1.088	59.7%	Not sure
13	Q 14	M-learning in non-core needs of the Yemeni	2.716	1.240	54.3%	Not sure

As shown in Table 2, the percentages of (11) items were above 60% and the percentages of (5) items were below 60% which indicates that the sample has the big desire for the use of the services available on mobile. The percentages of eleven items were above 80%. (Items 10, 11, 2, 15, 5, 9, 3, 6, 1, and 13). The highest percentage was (93.0%)

4.2.2 Second Axis

Second Axis shows the obstacles to the use of M-learning in learning.

Table3: Results of the questionnaire on variable (Second Axis)

Rank	Q No	Statement Text	Mean	Standard Deviation	% Mean	Recognition
1	Q 12	Lack of sufficient awareness in the Yemeni government to M-lealearning .	4.453	0.819	89.1 %	Agree fully
2	Q 2	The cost of buying devices M-learning for in come students	4.304	0.862	86.1 %	Agree fully
3	Q 5	Internet is considered slow and bad do not support the process of mobile learning.	4.209	1.058	84.2 %	Agree fully
4	Q 6	Internet is not available in places of learning.	4.169	1.006	83.4 %	Agree
5	Q 1	Non-availability of M-learning with a large number of students.	4.054	1.022	81.1 %	Agree
6	Q 9	Lack of sufficient awareness among parents of the importance of M-learning in learning.	4.020	1.007	80.4 %	Agree

							Table4: Results of the questionnaire on variable (Third Axis)					
Rank	Q No	Statement Text	Mean	Standard Deviation	% Mean	Recognition						
7	Q 13	Limited battery life in M-learning does not comply with the requirements of learning.	4.014	1.003	80.3 %	Agree						
8	Q 4	Subscribe to the high prices of Internet facilitates the participation of the student is not in the internet.	3.986	1.023	79.7 %	Agree						
9	Q 11	The low level of skills I possess the students in the field of M-learning.	3.865	0.952	77.3 %	Agree						
10	Q 10	The low level of skills I possess teachers in the field of M-learning.	3.845	1.015	76.9 %	Agree						
11	Q 3	The difficulty of keeping up with the rapid development of technology of M-learning.	3.635	1.114	72.7 %	Agree						
12	Q 16	Memory limited storage requirements for mobile learning.	3.541	1.203	70.8 %	Agree						
13	Q 7	The use of M-learning has consume a lot of time.	3.466	1.192	69.3 %	Agree						
14	Q 8	The use of M-learning consume a lot of money.	3.446	1.032	68.9 %	Agree						
15	Q 15	Devices M-learning has Small size of the screen.	4.453	0.819	89.1 %	Agree fully						
16	Q 14	Devices M-learning has Difficulty typing on the keyboard.	4.304	0.862	86.1 %	Agree fully						
Average			3.722	0.327	74.4 %	Agree						

As shown in Table 3, ranking refers to the most important obstacles for using the M-learning. It was found that Q12 (Lack of sufficient awareness in the Yemeni government to M-learning in learning.) got the highest percentage with (89.1%). It is considered the most crucial obstacle that needs processing speed or the biggest priority in process for implementing M-learning in learning. The percentages of (7) items were above 80% and the percentages of (9) items were below 80%. The seven items whose percentages were above 80% are items 12, 2, 5, 6, 1, 9, and 13.

4.2.3 Third Axis

Third Axis shows the opportunities of using the M-learning in learning.

Rank	Q No	Statement Text	Mean	Standard Deviation	% Mean	Recognition
1	Q4	Easily take and save images and recording lectures and lessons.	4.446	0.794	88.9 %	Agree fully
2	Q5	The use of sound, images and video clips to better learning.	4.318	0.857	86.4 %	Agree fully
3	Q17	Easier for students to communicate with teachers.	4.264	0.820	85.3 %	Agree fully
4	Q 3	Uses educational methods attractive to attract the attention of the student.	4.250	0.872	85.0 %	Agree fully
5	Q15	Contribute to the achievement of the student academic research easily.	4.189	0.844	83.8 %	Agree
6	Q 16	Easy access to forums and social networking sites among students for the exchange of experiences and information among the students.	4.189	0.811	83.8 %	Agree
7	Q1	Achieve the objectives of e-learning better.	4.155	0.847	83.1 %	Agree
8	Q 14	Download and upload all learning useful lessons through the Internet.	4.122	0.925	82.4 %	Agree
9	Q2	Motivate students to learn.	4.115	0.993	82.3 %	Agree
10	Q 18	Easy for parents to communicate with teachers to follow up on the performance and the level of their children.	4.000	1.069	80.0 %	Agree
11	Q8	Mobile learning helps a lot in the arrival of subjects.	3.966	0.884	79.3 %	Agree
12	Q6	Helps to complete and faster deliver the daily Duties for a student	3.959	0.947	79.2 %	Agree
13	Q 11	A convenient way for the learner to follow subjects.	3.946	0.974	78.9 %	Agree
14	Q 13	Quick access to the Internet at any time and any place.	3.858	1.094	77.2 %	Agree
15	Q9	Helps in better understanding of the subjects.	3.851	1.013	77.0 %	Agree

16	Q7	Mobile learning can improve the performance of daily Duties	3.791	0.971	75.8 %	Agree
17	Q10	Make students more interested to review the course material.	3.723	1.105	74.5 %	Agree
18	Q12	The use of M-learning is substitutes from a private teacher in a home.	3.264	1.247	65.3 %	Not sure
Average			4.023	0.566	80.5 %	Agree

which refers to harmony between the views of males and females in these three axes.

Table 5: The difference between sample views in gender variable

Factor	Male		Female		T-Test	Sig. P Value
	Mean	Standard Deviation	Mean	Standard Deviation		
Opinions	3.716	0.318	3.724	0.333	-0.149	0.882
Obstacles	3.896	0.443	3.783	0.471	1.410	0.161
Opportuni	3.999	0.572	4.035	0.565	-0.362	0.718

As shown in Table 4, the percentages of (10 items were above 80% and the percentages of (8 items were below 80%, considered to Q4 (Easily take and save images and recording lectures and lessons) of the most important opportunities by (88.9%), which indicates the importance of the opportunities and benefits used M-learning in learning. The ten items that have a percentage above 80% are items 4, 5, 17, 3, 15, 16, 1, 14, 2, and 18.

5 RESULTS AND DISCUSSIONS

Using analysis of variance duo T-Test to see if there were differences in the sample answers on the questionnaire axes has been caused by the duo pair variable (contains only two categories) such as gender (male answers differ from females). It also uses a multi-way analysis of variance F-One-Way ANOVA to see if there were differences in the sample answers on the questionnaire phrases that have been caused by variable containing three or more classes (such as variable age and qualification ... etc.) as pointed by an asterisk (*) on the right of the number in the box (significance level Sig. or also called P-Value) indicates the presence of these differences [22].

5.1 Results of Section A

Characteristics of personal information of the respondents to the questionnaire.

1- As shown by Table 5, variable of gender for most of the sample was female and this can be attributed to the distribution in places where there were more females than males as well as for the writer communicates easier with females than males. Gender differences did not affect the result,

2- Considering the existence of substantial variable of age group differences and the statistic significant in the response of the sample to the axis (obstacles), as shown by Table 6, we can find that the participants between (26 to 40 years old) get the highest average (3.963) and the degree of approval (79.3%).

Table 6: The Difference between sample opinions of the age group

Factor	One-Way ANOVA					
	Between Groups		Within Groups		F-Test	Sig. P Val
	Degree of Freedom	Mean Square	Degree Of Freedom	Mean Square		
Opinions	144	0.10	2	0.084	0.7	0.46
Obstacle	144	0.20	2	1.014	4.9	0.00
Opportun	144	0.32	2	0.494	1.5	0.21

3- Regarding the existence of substantial differences in the response of the sample to the axis (constraints), it is found that participants with (PhD) got the largest average (4.078) and the degree of approval is (81.6%) as illustrated by Table 7. This means that they most agree to the existence of obstacles. While we found the axis (opportunities) that, the participants of (high school) are the most agree to provide opportunities average (4.165) and the degree of approval 83.3%.

Table 7: The difference between the sample views in the level of learning

Factor	One-Way ANOVA			
	Between Groups	Within Groups	F-	Sig.

	Degree of Freedom	Mean Square	Degree Of Freedom	Mean Square	Test	P Value
Opinions	143	0.108	4	0.079	0.7	0.571
Obstacles	143	0.202	4	0.659	3.2	0.014
Opportunities	143	0.303	4	0.938	3.100	0.018*

4- The existence of substantial differences and statistically significant in the response of the sample to the axis (obstacles) in the educational institutes is shown by Table 8. It is found that the Institute for E&T is the most approval compared to the other groups concerning to the existence of obstacles. Mean of 4.146 and approval of 82.9% are the most agree values to the presence of obstacles.

Table 8: The difference between sample views in the educational institution

Factor	One-Way ANOVA					
	Between Groups		Within Groups		F-Test	Sig. P Value
	Degree of Freedom	Mean Square	Degree Of Freedom	Mean Square		
Opinions	144	0.107	2	0.160	1.50	0.227
Obstacles	144	0.209	2	0.676	3.23	0.042*
Opportunities	144	0.322	2	0.102	0.315	0.730

5- The existence of substantial differences and statistically significant in the response of the sample to the axis (obstacles) when considering the current jobs, those who hold other functions that are the most approval compared to the other groups on the existence of obstacles, highest Mean 4.146 and 82.9% as shown by Table 9.

Table 9: The difference between the sample views in the current job

Factor	One-Way ANOVA					
	Between Groups		Within Groups		F-Test	Sig. P Value
	Degree of Freedom	Mean Square	Degree Of Freedom	Mean Square		
Opinions	143	0.108	4	0.073	0.678	0.608
Obstacles	143	0.202	4	0.651	3.220	0.014*
Opportunities	143	0.325	4	0.148	0.456	0.768

6- As shown in Table 10, there is no fundamental differences and statistically significant due to the Variable Learning Institution Type which refers to the harmony of opinions, Government and Private, in these three axes.

Table 10: The difference between the samples views the learning institution Type

Factor	Government		Private		T-Test	Sig. P Value
	Mean	Standard Deviation	Mean	Standard Deviation		
Opinions	3.738	0.329	3.716	0.328	0.374	0.709
Obstacles	3.829	0.405	3.819	0.484	0.112	0.911
Opportunities	3.905	0.542	4.065	0.570	1.524	0.130

5.2 Results of Section B

They represent a summary of the previous results that can be shown in one table as Table 12 and Figure 2.

First Axis: opinions about the use of mobile in learning.

After analysing the survey results and questionnaire of the study, it is concluded that the sample has strong opinions desire for a percentage of 74.4 % for the use of M-learning.

Second Axis: Obstacles to the use of mobile in learning.

The emergence of some of the difficulties that hinder the use of phones in learning increased by 76.4%, despite the analysis shows a great approval on the use of mobile in learning.

Third Axis: Opportunities of using the mobile in learning.

The opportunities of about 80.5% show that M-learning can provide good opportunities and benefits for learners and teachers. Thus, you should take advantage of these opportunities to learn.

Table 11: Summary of the survey factor results

Rank	Survey Factor	Mean	Standard Deviation	% Mean	% Mean Confidence 95%		Verbal Recognition
					Upper	Lower	
1	Opinions	3.722	0.327	74.4%	75.5%	73.4%	Agree
2	Obstacles	3.821	0.463	76.4%	77.9%	74.9%	Agree
3	Opportunities	4.023	0.566	80.5%	82.3%	78.6%	Agree
Mean		3.852	0.319	77.0%	78.1%	76.0%	Agree

Table 11 and Figure 2 represent a summary of the previous tables in a single table by the average arranged the more and less. It can be used to compare the results of all axes of the questionnaire. It can be observed that the sample indicates that the chances of the use of M-learning in learning process are good which accordingly indicates that the application of M-Learning is very important and it is almost a necessity in today's world.

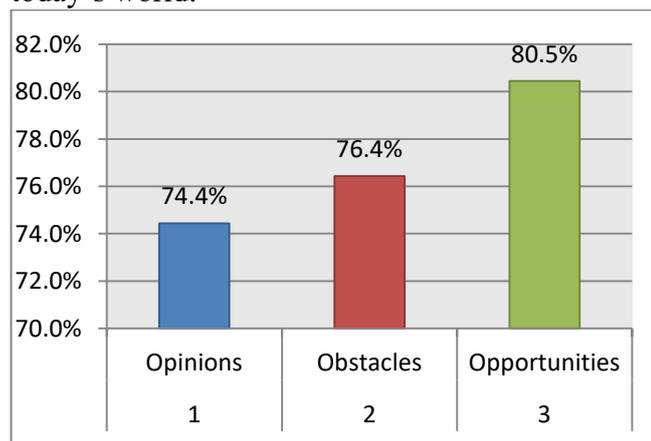


Figure 2: Summary of survey factor results

5 CONCLUSION

The use of Mobile technologies as M-learning approaches in education institutional courses developed to support the data research is needed to determine which students' outcomes should be tracked and how this information is best used for individual educational purposes.

Researches reporting the results of case studies using mobile for learning indicate that developing students' abilities to use the technology for learning requires special attention and time. Although students may be adept at using digital technologies for entertainment, the demands [increased collaboration and networking] that are

placed on them when using these same technologies are very different.

Our results showed that M-learning can be used to provide in learning for students who have any type of Mobile. However, the successful use of the Mobile in the classroom ultimately depends on the efforts to involve the preparation of lectures or other teaching methods using technology in the software mobile, which is based on the interaction between the students in the lecture. Such technologies can have a great impact on learning. Learning will move more and more outside of the classroom and into the learner's environments, both real and virtual.

Additionally the research results showed that the existence of difficulties for the application of the M-learning must be disposed of, so that the beneficiary can take advantage of the services offered by mobile. Regarding the later, the lack of standards in mobile devices as well as the limited capabilities of such devices, poses difficulties in integrating mobile devices into learning environments. In this paper, we have analyzed, from both learning and technological perspectives, the development of M-learning in learning applications using mobile devices.

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