Exploring the Impact of Using Tablet Devices in Enhancing Students Listening and Speaking Skills in Tertiary Education

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ABSTRACT
With the massive increase in using mobile devices among individuals of all social backgrounds, the question of how these mobile devices may enhance learning arises. Smart smartphones and the most recent tablet computers have all sustained the vision and potentials of using mobile devices in education and learning. The unprecedented popularity of these devices among teenage learners both in high schools and university level encourages all researchers and educators to explore their influence on learning among individuals and groups. In this research project, students will explore the potentials of using mobile devices and new tablet technologies to sustain students' acquisition of listening and speaking skills in English as a second language (ESL). They will highlight the key features in these modern devices that support these language skills. This investigation process aims to identify possible educational mobile features such as mobile applications developed by other users, mobile collaboration applications over wireless connection, language games, synchronous and asynchronous technologies for optimum use of these devices particularly by tertiary level students in a positive and rather educational manner.

SIGNIFICANCE
The development of smart Tablet/ pad technologies along with wireless/ 3G networks opens the door for a huge change in PC concept as well as computer-assisted learning. Smart smartphones equipped with wireless networks and 3rd party applications led to the invention of modern Tablet/ pad technologies. Because of their size, capabilities and affordability, they are threatening the existence of traditional old PCs as well as laptops. In terms of learning, several educational initiatives by individuals and research institutions have initiated programs to explore the educational potentials of these new popular devices in our youths' hands.

Because of the above technological development, the Foundation Program at Qatar University (QU) would like to be of the leading institutions in piloting this promising educational initiative. Represented by the three departments of English, Mathematics and Computer, we would love to see how using Tablets/ Pad technologies may change the whole educational vision and educational methods currently used in higher education.

The study of mobile and tablet technologies in enhancing English listening and speaking skills can be a good starting point for language learners and educators interested in integrating mobile learning and e-learning into their learning. Therefore, this study will highlight three main domains related to mobile technologies in education.

The first area to explore is related to the different educational mobile features (i.e., web 2.0 services, 3rd party applications, listening and speaking applications). This includes applications that learners can use to improve their language learning and fluency.

Second, the study investigates the potentials of designing a new mobile application for Qatar University (QU) Foundation Program students. This application may target the English Foundation program at QU with all its four levels. The purpose is to allow learners to install this application over a variety of mobile/ tablet devices or operating systems where they can choose from a big range of listening and speaking activities and other learning opportunities using their mobiles. This potential application is meant to provide an all-in-one nutshell for language learning and independent language practices beyond the classroom.

Third, the study explores learners' perceptions about such integration of mobile technologies in their language learning as undergraduate university students. In this way, the researchers might be able to highlight the key elements or applications that learners enjoy the most using a mobile/ tablet device. Hence, make recommendations in order to enforce learning and language fluency through these new devices.

OBJECTIVES
This study attempts to achieve the following objectives;

1. Explore learners' perceptions about using mobile/ tablet devices for learning; particularly in an ESL context.
2. Explore the influence of mobile/ tablet devices on learners' autonomy and motivation to learn English oral skills.
3. Identify possible language learning activities, applications or websites that could enhance both the listening and speaking skills in an English course.
4. Explore students' performance and overall progress in English oral skills after using these technologies and activities.

LITERATURE REVIEW

Smartphones can be integrated easier into language classrooms than desktops, (Moseley and Higgins, 1999). The flexibility, mobility and versatile nature of smartphones give it an advantage over other means of technology. Hence, the affordability of these devices opens the door for a dramatic change in classroom dynamics. Young leaners are considered as "digital natives," or smartphone natives, as smartphones are a part of everyday life of leaners (Naismith, 2004). Consequently, leaners have been using their smartphones instinctively, with or without the teacher's guidance, in terms of word search, browsing, accessing their courses etc.

Integrating ICT through Smartphones does not require any special computer labs that can prove to be costly. Using smartphones in the classroom increases the motivation level of students, especially those students who can interrupt the class (DISTANCE LEARNING FOR APPRENTICES 2009). One advantage of m-learning over other leaning technologies is that it personalizes learning, as it allows learning anytime and anywhere, (Passey 1999). The "3G" mobile technology enables students to access resources and information anywhere, the way they wish and at any time.

What makes smartphones interesting for students and more conducive to learning is that they contain various tools and applications, which allow students to access their assignments and courses, get feedback and grading reports etc. (Kristoffersent1, S. and Ljungberg, F., 1989).

Students can improve their English language skills through smartphone applications. In fact, smartphones can surpass other means of technology in improving listening and speaking skills. They provide students with "extensive listening," which can be played anywhere and at any time (Pérez. B). He explains that podcast applications are one example of Web 2.0 tools that can provide extensive listening. (Pérez. B), Podcasts are audio files that can be stored on the World Wide Web. They consist of authentic programs, such as radio programs. Students are able to browse through podcasts, choose their topic of interest and then download them for free. Another example of extensive listening is using online and offline videos, such as Vodcasts and YouTube video clips. Vodcasts, similar to podcasts, can be downloaded for free and watched on demand. *YouTube* is one of the most popular Web 2.0 networks in terms of frequency (Business Spotlight 2012) Learners are interested in *YouTube* since it contains a wide variety of video genres that are of interest to language learners. *YouTube* is a valuable language learning tool that can teach multiple language skills, e.g. listening, conversation and pronunciation skills (Watkinds & Wilkins 2011).

Smartphones are used predominantly to access websites (Business Spotlight 2012). There are numerous English language websites that are dedicated for language learners, such as the BBC English Learning website. This learning website contains high quality activities for English learners. Students are able to access all the activities using their smartphones.

METHODOLOGY

The researchers used two representative groups of students in level 4 in the foundation English program at Qatar University as their research subjects. The purpose is to handle sample representative population from the Qatari students and to be able to answer one of the identified research question using different quantitative and qualitative data generated from the perceptions of the target population. This data instruments will measure the performance in two controlled and treated groups.

Data has been collected from a variety of sources using different data collection instruments such as:

1. A questionnaire of students' perceptions was piloted and then conducted to quantify learners' perceptions about mobile/ tablet use for language learning and oral fluency.
2. Two different pre-tests and post-tests for the populations' *speaking* and *listening* skills were used to measure their progress in the targeted orals skills for the same selected group(s).
3. Short interviews with random samples of students and teachers to examine their perceptions and experiences using these mobile devices.

To analyze the data, statistical methods were used to quantify the collected data. Additionally, findings from the class observations and interviews were analyzed and discussed for further interpretations and recommendations.

DATA COLLECTION

In the English Foundation Program of Qatar University, the researchers dedicated one full term for conducting this research. Two level 4 (L4) groups were identified for an experimental design using pretest and posttest of their listening skills in English. They both match in the target language level, the gender, cultural background and any other variables. Both groups were offered a listening pre-test in the beginning of the course.

The first group (G1) was the controlled group, which did not receive any mobile learning support, the "untreated" group. The second experimental or observed group (G2) was asked to use their smart mobiles in class. In regular weekly sessions, students who did not have smartphones were provided with six smart tablet devices during those weekly classroom activities. In (G2), the class teacher introduced the concept learning using mobiles in his class. In that case, students were encouraged to use their mobile phones to listen, access and record some English language activities. This was a unique experience for many of them who felt being exposed to a new policy that is not similar to the traditional trend of discouraging them from using mobile in class. After a period of 9 weeks, which is the course length, learners in both groups were introduced again to another listening test as a posttest. Students' achievements in both tests were treated and compared using SPSS statistical analysis software.

In addition, an online survey was developed aiming to review students' perceptions in terms of using mobiles and tablets for learning. The survey included demographic questions as well as questions related to individuals' usage of mobiles and their personal patterns in using mobile features and apps. Finally, short interviews were also conducted with a number of students studying in the same program at QU.

DATA ANALYSIS

A. Survey Findings

First of all, the online survey received responses from 105 students between 16-26 of years studying at QU. 40% of the respondents were female students. All respondents were Arabs, mostly from Qatar. 73% of these learners had a smartphone and 13% of them also had a tablet device (e.g., iPad, Galaxy, etc.) Interestingly, 28% of students had more than one smartphone.

The survey had five main sections, which were smartphones features/ usage, learning patterns, smartphones concerns and m-learning potentials/ challenges. In section one of the survey, most students mentioned that they use mobiles for communicating with their friends and family using calls and social networks. This included (texting, chatting, speaking to friends and surfing the internet) with 65%-80% for most of them. Documents and apps came as a second popular choice with almost 50% of them. A few of them used it for GPS navigation. Whereas, listening to audio files, writing notes and using the alarm clock were very popular features (81%) between "mostly" to "weekly" as a frequency response for most of them. "Taking photos" and "watching videos" were also popular features with almost 80% of their daily/ weekly mobile usage.

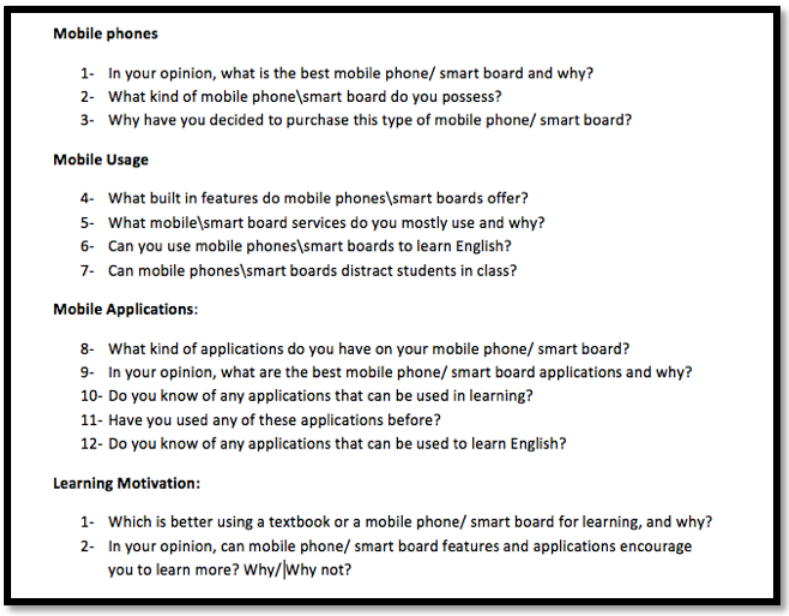
In terms of their learning patterns, "accessing the university LMS" as well as "completing assignments" and "looking up words in electronic dictionaries" were of the most common features used by most students (50% - 75%). Whereas, "chatting, practicing quizzes, participating in discussion forums" were less common features (47%-55%) done on "daily/ weekly" basis. However, most other learning features including using "polls", speaking to teachers, listening to lectures, watching video materials/ slides, games, reading study materials or sending messages to teachers were rarely used (50%-70%) with some rare exceptions (10%-25%).

Learners' overall perceptions about smartphones seemed to agree that smartphone technology is considered a relatively expensive technology. Many of them were not sure of the privacy/ security vulnerabilities found in some smart phones. Most of them indicated their ability to use a smart phone over high-speed Internet bandwidth 85%.

Despite the challenges faced by many of the samples in this population, it is clear they strongly understand the potentials of m-learning as a future alternative to e-learning 54%. The majority of them 47% believe it is going to develop their learning where 30% were not sure about this. It was obvious that they find it a good motivating tool 64%. Around 75% of them believe m-learning is going to develop more in the near future where it is going to be used more in education and teaching. They also believe teachers and educators need to develop more m-learning activities and resources 61% for their students.

B. Interview Analysis

Another data collection method used in this research was students' interviews. The interview questions (Figure 1 were consisted of four sections, which were smartphones, mobile usage, mobile applications and learning motivation. Section one includes three questions, section five questions, C four questions and D two questions. The analysis of responses for each section will be discussed separately with a summary and concluding remarks in the end of this paper.



Mobile phones

1- In your opinion, what is the best mobile phone/ smart board and why?
2- What kind of mobile phone\smart board do you possess?
3- Why have you decided to purchase this type of mobile phone/ smart board?

Mobile Usage

4- What built in features do mobile phones\smart boards offer?
5- What mobile\smart board services do you mostly use and why?
6- Can you use mobile phones\smart boards to learn English?
7- Can mobile phones\smart boards distract students in class?

Mobile Applications:

8- What kind of applications do you have on your mobile phone/ smart board?
9- In your opinion, what are the best mobile phone/ smart board applications and why?
10- Do you know of any applications that can be used in learning?
11- Have you used any of these applications before?
12- Do you know of any applications that can be used to learn English?

Learning Motivation:

1- Which is better using a textbook or a mobile phone/ smart board for learning, and why?
2- In your opinion, can mobile phone/ smart board features and applications encourage you to learn more? Why/Why not?

Figure 1. Figure captions should be centred below figures.

1. Smartphones Analysis

As table 1 below shows, the responses to the three questions in this section generally show respondents' preference of iPhone devices (six out of seven). The reasons why they prefer the iPhone to other types of smartphones are generally the same. That iPhones are smart, have lots of services, useful, with high technology and they are more practical.

Questions	Respondents						
Respondent/ Questions	1	2	3	4	5	6	7
1	IPhone	IPhone	IPhone	IPhone	Blackberry	IPhone	IPhone
2	No	Nokia 8	Blackberry	Samsung	Blackberry	IPhone	Blackberry
3	Smart & several services	Good, useful	High tech	The best	Communication	More practical	It makes communication with my friends easier

Table 1. Responses to questions about smartphones used by students.

2. Mobile usage Analysis

The questions in this section were about the functions that smartphones have and the services they offer. Respondents suggested a variety of functions such as (Whatsap, Touch, Internet and communication). They also came up with a number of services rendered by smartphones. Examples of these include e-mail, Whatsap, games and many more (see table 2). In question six, respondents were asked whether they used smartphones to learn English, five out of seven said yes only two gave "maybe' as a response to this question. In question 7 respondents were asked to give their opinion as to whether the smartphones/ tablets distract students in the classroom. Here we get a different picture. The majority answered with "yes" that the smartphone can distract students' learning in the classroom. However, two respondents answered that it may or may not distract students depending on the students themselves and their teachers.

Questions	Respondents						
Respondent/ Questions	1	2	3	4	5	6	7
4	WhatsApp , touch	New software, new tech	Touch, WhatsApp, useful programs	Touch, WhatsApp, useful progs,	Internet, communication	Education and research	Communic ation, research
5	WhatsApp	Calling	e-mail/ chatting	Games	Internet / communication	Communicati on	The Internet
6	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes
7	Sure	Depends on students/ teacher	Yes	Yes	Maybe/ maybe not	Yes	Yes

Table 2. Responses about smartphones suggestions functions/ services.

3. Mobile Applications Analysis

This part was the most important section in this interview. It includes five questions 8, 9, 10, 11 and 12 all about applications such as their types and the best ones in respondents' opinions as shown in table 3 below. Regarding types of applications, respondents mentioned (*WhatsApp, Youtube, internet, twitter and others*). Regarding the best of these applications, they mentioned (*iPhone and Samsung Galaxy, WhatsApp, Nokia and others*).

Respondents were also asked in question 10 to indicate which of these applications can be used in learning. They suggested applications like calculator, VOA English and the Internet. Many of them gave no suggestions. Nearly all respondents, however, have actually used some of these applications before. Finally respondents were asked to suggest applications that can be used for teaching/ learning English, they mentioned (*IQ &mans, VOA Grammar, Conversation English and the Internet*).

Questions	**Respondents**						
Respondent/ Questions	**1**	**2**	**3**	**4**	**5**	**6**	**7**
8	WhatsApp, Twitter, YouTube	Games, entertainment programs	All kinds of progs.	VOA English	Internet	Communi cation	WhatsApp
9	iPhone, galaxy, blackberry & Nokia	--	--	--	--	--	--
10	iPhone.	--	--	--	--	--	--
11	--	No answer	IPhone and galaxy	Internet for information	--	--	--
12	--	Educational applications, important to me	WhatsApp, easy to communicate with	--	--	--	--

Table 3. Responses about smartphones applications used by learners.

4. Learning motivation Analysis

This section is equally important as it shows the relationship between smartphones and students' motivation. It has only two questions 13 and 14 and the responses are shown in the table below. In question 13, respondents were asked to indicate which is better in the learning process: books or smartphones/tablets. Again nearly all respondents think that smartphones are better than books in the learning process. In question 14 they were asked about the impact of smartphones on their motivation in learning more. They unanimously gave positive responses that smartphones really motivate them to learn, as they are easy to use any time anywhere.

Questions	**Respondents**						
Respondent/ Questions	**1**	**2**	**3**	**4**	**5**	**6**	**7**
13	*Don't know*	*Smart tablets because they're better*	*With new tech learning is much easier*	*I think all are good*	*The mobile bec. it's easier*	*The mobile, easy to use*	*The mobile as it's easy to use anywhere*
14	*Yes, because it will be an instructional entertaining device at the same time.*	*Yes, Because it is fun and interesting*	*Yes, because you can send emails, download prog's in your computer, & use Word doc or Excel sheet*	*Maybe*	*Yes good opportunity*	*Yes, easy to use, can stand in place of many books*	*Yes, easy to use*

Table 4. Responses about relationship between smartphones and students' motivation.

In summary, although the number of participants who responded to the interview was only seven, yet their response reflect positive indicators that the smartphones/ tablets have now become integral part in the learning process specially learning English as a foreign language mainly the speaking and listening skills. This is happening for a variety of reasons related to the nature of smartphones and the functions/ services they offer. Perhaps they may replace books in the "near" future.

3. Pre-test and Post-test Analysis

In an attempt to check data reliability, a statistical pretest and posttest were conducted during the course of the study for two groups as clarified earlier. Paired t-Test performed to compare pre-test and post-test scores for "B" group. The result

of the average score for the pre-test marks is 6.7 and for the post-test marks is 8.7. The difference is statistically significant since p-value is 0.00 (less than 0.05).

Independent sample t-Test performed to compare post-test scores for the A and B groups. The average score result for the post-test score for group A is 8 and for group B is 8.8. However the difference in that case was not statistically significant since p-value is 0.132 (not less than 0.05). Hence, both groups have students with similar abilities.

SMARTPHONES POTENTIALS AND RECOMMENDATION

There are key features in most Tablet/ pad devices that mostly attract teenagers and learners in general. Interestingly, these features meet in most cases with the new dynamics in education and independent learning approaches. Such key features and benefits can be summarized in the following aspects:

1. They open the door for the introduction of smart classroom concepts in a reasonable and affordable manner for most institutions.
2. They simply replace the need for expensive, printed and heavy books and resources that learners usually need to carry in their classrooms. However, their cost still needs to be considered by developers and institutions.
3. They provide a huge variety of educational and non-educational smart applications with a huge variety of services that replace traditional expensive software packages.
4. They mostly have this tendency to hook applications to online resources and database search engines/ websites.
5. The ability to use all sorts of media including (sound, recording, videos, streaming, flash animation) in one handy interface is very interesting and encouraging to m-learning researchers.
6. The ability to integrate many Tablet/ pad applications with higher education e-learning systems/ LMS such as (Blackboard, Moodle, etc.) is of great importance.
7. The ability to provide better opportunities for online assessment through online quizzes, tests and other assessment methods through online applications or websites opens the doors for more online interaction and personalization of learning.
8. Transferring our classrooms into more environmentally friendly settings by reducing mass photocopying and printing needs.
9. Provide better opportunities for networking and collaboration among learners and their teachers both in class and beyond using (emails, web browsers, chat and Wi-Fi connectivity).
10. Provide opportunities for autonomy and independent learning beyond the classroom.
11. Provide students with more real-life examples through measuring applications, listening/ speaking tasks, video recordings, video streaming sessions and practical animated experiments.
12. They offer better support to most students with special needs through certain applications such as (text-to-speech, speech recognition, e-readers, etc.) In addition to the main apps in most tablets, examples of apps for learners with special needs are:
13. Easily applies the outstanding features of social networks and Web 2.0 technologies such as Twitter, Facebook, Bb widgets, and many others.
14. As popular devices for most learners, these devices add a great deal of motivation and excitement to learners and their perceived learning experiences.

Based on the above potentials and benefits, many traditional and modern teaching methods and practices will need to be reviewed. Eventually, many opportunities for interaction and collaboration in learning will be made available using several of these mobile services and features (e.g., painting on touch screens, polls and online quizzes, e-resources, collaborative projects and online engagement, e-dictation, online and mobile games, desktop and media sharing, media presentation, virtual classrooms and webinars, sound recording, min-maps and mini-whiteboards, etc.)

M-LEARNING ACTIVITIES, WEBSITES AND APPS

One of the interesting achievements of working on this research was exploring the nature of modern smart phones/ tablet devices and how they are used. With the help of several online tools and web 2.0 applications, we managed to develop a beta English learning mobile application "***QU LEARN***", which is compatible with most smart phones. Although it is still a simple initiative, we learned a lot of both technical and general details about mobile applications and their educational potentials. It is also worth mentioning that our mobile application "QU Learn" has been recently featured in Qatar University main website, (see Figure 2). This simple Andriod application is approaching a 1,000 users in the first year of publishing this app in the Google Play Market. A direct download link can be found here: http://bit.ly/HnPhXK . This video demonstrates how to use the app: www.youtube.com/watch?v=jtk17Cy7KQ0 .

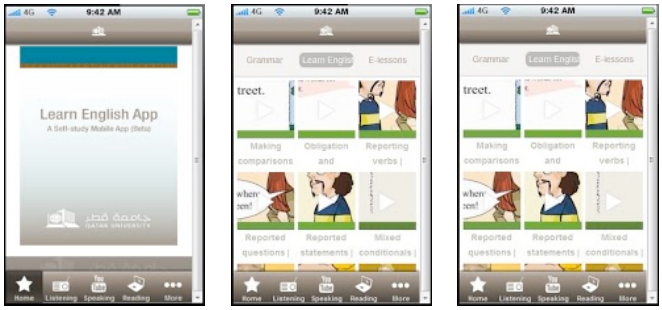


Figure 2: QU Learn Mobile App Screenshots.

UNDERGRADUATE RESEARCHERS EXPERIENCE IN THIS PROJECT

The main goal was of involving here was to involve the undergraduate researchers in a meaningful and practical research experience. In order to achieve this goal, the students' research team was involved in regular training sessions for more than two months. During their training sessions they were introduced to the different research methods and approaches both quantitative & qualitative research, how to choose the research population and data collection tools and how to analyze the collected data as required. Over time, students developed a research culture and motivation for more involvement and contribution to this experience by giving their insights and suggestions regarding the methodology and ideas explored in this research.

Additionally, all investigators and supervisory team were asked to identify relevant articles and other literature that can be used in both our further investigation and publications. Students were also assigned certain articles and research papers for their own critical reading and comments. The researchers planned to report the findings in our research investigation and publish a report about this experience.

Another achievement was to identify some reliable representative data collection instruments in order to respond to the research questions. Through discussions and meetings, the researchers managed to identify some of the key areas to investigate. These areas were each represented with a set of statements in the forms of interviews/ questionnaires as well as language proficiency tests that were prepared, reviewed and screened by the research team and observers in order to be later used to conduct this study. Later, the investigation team was asked to prepare those instruments in a bilingual form and submit for approval by Qatar University Institutional Review Board committee (QU-IRB).

The participating undergraduate researchers partially participated in different stages of the project including:

- attending initial training on research methods, ethics, information sharing and scholarly communication.
- participating in making divisions about the design of the research phases and the data collection instruments designing since they come from the same population and share similar experiences and backgrounds.
- helping in the design of the survey and interview questions.
- helping in conducting the survey and interviews and collecting data items.
- sharing their insights and recommendations for the data analysis, research findings and final conclusion.

CONCLUSION

Many websites offer up-to-date materials that can be accessed from ordinary smartphones. Most of these websites were used more than any other mobile learning tool during class, as the resources provided by the World Wide Web are free, abundant and diverse. During class the students have accessed ready-made lessons from their smartphones and watched videos, learnt the meanings of words and their pronunciation and enjoyed interesting discussions. The wide range of resources available on the Internet gave the teacher a chance to choose the desired length, time and suitability of mobile language activities. Many interesting websites were used in the class, such as the ***BBC Learning English***. This website offers many English resources that can be accessed from any smartphone. Some of these resources include English language episodes that teaches words and phrases, grammar, idioms, discussion of topics of interest, podcasts etc.

Mobile applications play an important role in entertaining and educating young users and learners. Language teachers have benefited from mobile applications in terms of creating specialized English language applications or utilizing some of the existing ones. There are numerous English language applications that can be useful to students and cater for different language skills. As an example, the British Council has provided a number of free applications, such as, ***Learn English Elementary***. This app includes a series of podcasts that are aimed to develop ESL leaners' listening and comprehension skills. The greatest advantage of such applications is that it can be downloaded then used 'offline', which means that users are able to use these applications anywhere because the applications do not require any Wi-Fi or Internet connection. Language teachers can also benefit from application tools, such as, ***Whatsapp***. As this tool aids teachers in communicating with students and sending them the necessary information needed to access a website or download an app.

It is obvious that university students and teenagers in general are getting very interested in using smartphones. This usage is eventually going beyond the normal communication or fun activities to include learning features. Learners, as well as teachers, need to learn how to use this new technology. Digital materials, websites, features, and lesson ideas need to be introduced for all partners including university managements.

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Appendixes

Group A		
Student name	**Pre-Test (10)**	**Post-Test (10)**
Amr	7.5	10
Yousuf	6.0	10
Anas	5.0	9
Saeed	6.0	9
Rami	7.0	8
Mohsen	6.0	9
Nawaf	5.0	7
Amer	7.0	10
Yousef	5.0	7
Majd	6.0	8
Ahmed	7.0	7
Mustafa	6.0	9
Ali	4.0	0
Diaeldin	7.0	6
Mustafa	6.0	9
Muhanad	6.0	9
Chakib	4.0	7
Moosa	7.0	9
Mahammad	7.0	0
Ahmed	5.0	8
Mohamed	6.0	9
Omar	6.0	7
Mohamed Amine	6.0	9
Saad	6.0	8

Group B		
Student name	**Pre-Test (10)**	**Post-Test (10)**
Yazan	9	7
Ayman Abduhamied	6	6
Sakib	5	9
Odai	6	9
Ahmed	7	9
Abdulaziz	6	9
Khalid	8	8
Abdilaziz	7	10
Khalid	2.5	8
Mohammed	7.5	8
Mohamed	7.5	10
Abdalla	8	9
Nawras	7.5	10
Ahmed	7.5	10
Islam	7.5	9
Yasseen	7	8
Maaz	6	8
Abdulhakim	7.5	9
Abdulaziz	6	9
Osama	7	9
Ahmed	7	10

Appendix 1: Pretest and posttest for the two groups

Appendix 2: Survey questions and categories

Smartphone Features &Frequency of Use	Most of the time	Daily	Weekly	Rarely	Never	Total
Call friends and family	44.90% 44	43.88% 43	9.18% 9	2.04% 2	0% 0	98
Access social networks (e.g. Facebook, twitter, etc.)	41.84% 41	32.65% 32	11.22% 11	12.24% 12	2.04% 2	98
Download documents	5.38% 5	31.18% 29	27.96% 26	24.73% 23	10.75% 10	93
Download apps (e.g. games, services, etc.)	10.31% 10	14.43% 14	35.05% 34	31.96% 31	8.25% 8	97
Get information from search engines	13.68% 13	38.95% 37	29.47% 28	15.79% 15	2.11% 2	95
Find locations over GPS -	5.15% 5	12.37% 12	21.65% 21	29.90% 29	30.93% 30	97
Listen to audio files (music, songs, lectures, etc.) -	25.51% 25	37.76% 37	24.49% 24	7.14% 7	5.10% 5	98
As a calendar	14.58% 14	39.58% 38	22.92% 22	18.75% 18	4.17% 4	96
As an alarm clock	32.63% 31	45.26% 43	9.47% 9	7.37% 7	5.26% 5	95
Write notes and reminders	26.04% 25	35.42% 34	11.46% 11	16.67% 16	10.42% 10	96
Play games	17.53% 17	15.46% 15	24.74% 24	29.90% 29	12.37% 12	97
Read news feeds/ newspapers	11.46% 11	25% 24	23.96% 23	22.92% 22	16.67% 16	96
Texting friends and SMS	23.47% 23	30.61% 30	27.55% 27	17.35% 17	1.02% 1	98
Chat to friends	48.42% 46	32.63% 31	9.47% 9	7.37% 7	2.11% 2	95
Receive/ send emails	28.57% 28	29.59% 29	14.29% 14	17.35% 17	10.20% 10	98
Surf the internet	40.82% 40	34.69% 34	15.31% 15	8.16% 8	1.02% 1	98
Speak with family/ friends	40.63% 39	42.71% 41	11.46% 11	5.21% 5	0% 0	96
Take photos & videos	22.68%	32.99%	30.93%	13.40%	0%	

Smartphone Features &Frequency of Use	Most of the time	Daily	Weekly	Rarely	Never	Total
	22	32	30	13	0	97
Watch online videos/ movies	13.68% 13	32.63% 31	27.37% 26	18.95% 18	7.37% 7	95

Learning Patterns	Several times a day	Once a day	Weekly	Rarely	Never	Total
Check my university BB.	34.41% 32	40.86% 38	11.83% 11	5.38% 5	7.53% 7	93
Chat about classes/ courses with colleagues.	18.09% 17	26.60% 25	30.85% 29	13.83% 13	10.64% 10	94
Practice online quizzes/ exams.	3.26% 3	23.91% 22	35.87% 33	21.74% 20	15.22% 14	92
Discuss learning topics with colleagues.	11.83% 11	33.33% 31	29.03% 27	15.05% 14	10.75% 10	93
Speak to class-mates.	15.38% 14	24.18% 22	23.08% 21	16.48% 15	20.88% 19	91
Speak to teachers.	7.53% 7	10.75% 10	17.20% 16	17.20% 16	47.31% 44	93
Complete an assignment.	26.88% 25	24.73% 23	18.28% 17	15.05% 14	15.05% 14	93
Look up words in an electronic dictionary.	51.11% 46	24.44% 22	13.33% 12	6.67% 6	4.44% 4	90
Respond to polls about my learning.	9.68% 9	11.83% 11	36.56% 34	20.43% 19	21.51% 20	93
Listen to recorded lectures.	4.40% 4	9.89% 9	18.68% 17	27.47% 25	39.56% 36	91
Watch videos related to learned materials/ topics.	3.26% 3	10.87% 10	41.30% 38	18.48% 17	26.09% 24	92
Read slides about learned concepts.	3.26% 3	16.30% 15	29.35% 27	20.65% 19	30.43% 28	92
Play educational games.	5.38% 5	8.60% 8	13.98% 13	29.03% 27	43.01% 40	93
Download and read documents related to a course of study.	8.79% 8	15.38% 14	27.47% 25	20.88% 19	27.47% 25	91
Read books I study.	7.69% 7	17.58% 16	23.08% 21	25.27% 23	26.37% 24	91
Search for ideas related to learned topics.	10.87%	17.39%	31.52%	15.22%	25%	

Learning Patterns	Several times a day	Once a day	Weekly	Rarely	Never	Total
	10	16	29	14	23	92
Sending messages to teachers.	4.44% 4	14.44% 13	24.44% 22	27.78% 25	28.89% 26	90
My teachers encourage me to use my mobile/ tablet for learning.	18.28% 17	15.05% 14	19.35% 18	19.35% 18	27.96% 26	93

Concerns related to Smartphones	Strongly agree	Agree	Not sure	Disagree	Strongly disagree	Total
Smart mobiles are very expensive.	22.22% 20	45.56% 41	22.22% 20	8.89% 8	1.11% 1	90
Smart mobiles privacy & security are threatened.	11.36% 10	25% 22	31.82% 28	19.32% 17	12.50% 11	88
I don't know how to use a smart phone.	0% 0	2.27% 2	11.36% 10	21.59% 19	64.77% 57	88
We don't have enough internet bandwidth/ wireless connection to use a smart phone properly.	3.57% 3	14.29% 12	23.81% 20	29.76% 25	28.57% 24	

M-Learning Potentials & Challenges	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree	Total
Mobile learning is the future of e-learning	29.03% 27	29.03% 27	30.11% 28	8.60% 8	3.23% 3	93
Mobile learning will not help me develop.	3.26% 3	18.48% 17	30.43% 28	25% 23	22.83% 21	92
Mobile learning motivates me to learn more wherever I am.	26.67% 24	37.78% 34	20% 18	12.22% 11	3.33% 3	90
Mobile learning is going to develop more in the near future	30.43% 28	45.65% 42	19.57% 18	2.17% 2	2.17% 2	92
More courses need to adopt mobile learning solutions in order to facilitate our learning	28.26% 26	32.61% 30	25% 23	9.78% 9	4.35% 4	92
Teachers need to develop more mobile learning activities and resources	29.35% 27	32.61% 30	21.74% 20	8.70% 8	7.61% 7	92
Mobile learning is more personalized sort of learning for me personally than the activities done in the classroom.	17.39% 16	38.04% 35	22.83% 21	14.13% 13	7.61% 7	