The Role of the iPad as Instructional Tool in Optimizing Young Learners' Achievement in EFL Classes in the Saudi Context

Tariq Elyas,
European Languages Department
Faculty of Arts & Humanities
King Abdulaziz University,
Jeddah, Saudi Arabia
telyas@kau.edu.sa

Basmah Al-Bogami,
English Language Institute
King Abdulaziz University
Jeddah, Saudi Arabia
basmah-mahdi@hotmail.com

Abstract
The iPad tablets have been introduced into various educational sectors to facilitate learning and engage students in the classroom. However, little is known about the empirical evidence with regard to iPad usage in enhancing language achievement**.** This study set out to examine the effects of integrating iPad tablets as an instructional tool into the second language (L2) curricula to enhance young learner's academic achievement in the English as a Foreign Language (EFL) classroom. It further endeavored to uncover the limitations that affect the utilization of the iPad in the classroom. To this end, forty Arabic first language (L1) young EFL learners enrolled in a middle school, were assigned as either an experimental group where they were exposed to study via iPad or a control group where they were taught in a traditional printed text across five weeks period. Language achievements were assessed through reading and vocabulary tests which were administered before the intervention and immediately after the intervention. To gauge the students' engagements during the intended task, their behaviors were assessed in both scenarios. Findings from quantitative and qualitative data revealed that the students who were exposed to iPad were found much engaged and significantly outscored their counterparts in language achievements in the post-tests. Furthermore, technical problems were found to be predominant impediments to the integration of the iPad usage followed by unfamiliarity with the application, and student distraction. These findings provide EFL teachers and policy makers with insight on how to better integrate the iPad into the EFL environment. Further pedagogical recommendations and research directions are also highlighted at the end of the article.

Keywords: Academic Achievement, iPad in education, mobile Learning, reading, vocabulary

1.0 Introduction
There has been a tremendous shift of new technological development from bulky desktop computers to handheld devices where mobile assisted language learning (MALL) approach which has induced the second language (L2) instructors and pedagogues to incorporate them into a curriculum to foster learning in general and language learning in particular.

Children are almost literary born with handheld devices, and most of them learn to use tablets before they even utter their first words. It is clear that this generation of "Digital Natives" needs a revolutionary, digitalized approach to teaching that matches their preferences and expectations (Prensky, 2001).

It is important to note that the spread of technology in the realm of education is not confined to a specific context, region or level of education. Technologies are being used in kindergartens all the way to tertiary level classrooms throughout the world. In the EFL context today, several technologies are used to enhance the way language is taught. Few studies have examined the impact of these technologies on language development (Brown, Castellano, Hughes and Worth, 2012; Itayem, 2014). However, little is known about the integration of iPad in L2 curricula in the middle school to foster language development in EFL context. Meeting the needs and different learning styles of EFL learners requires adopting a new and innovative teaching approach. With this in mind, the current study aims to shed light on the utilization of iPads in EFL classrooms to improve students' achievement.

2.0 Literature Review
The iPad is a handheld device that was first presented to the market by Apple in 2010. This revolutionary device offered the flexibility of surfing the web freely as well as ample use of applications, without the need for a desktop or laptop computer. The iPad was not initially intended for educational purposes. It has been, however, successfully integrated into several educational settings and as a result many educational applications (apps) have been launched to serve the needs of learners. The emergence of the iPad has ignited interest among educational researchers to explore its effectiveness in the classroom (Jain & Luaran, 2016), and revealed promising results. However, little is known about the integration of the iPad for young EFL learners in a middle school.

The iPad apps for vocabulary instruction have provided both L2 instructors and students with easy access to language inputs and have thus helped students build their vocabulary effectively (Park, 2013). Utilizing a case study research design, Park (2013) investigated the effect of iPad integration on enhancing the level of engagement in vocabulary learning of a third grade student. Prior to using the iPads, the student reported having no interest in reading and his score level in terms of vocabulary learning was below grade level. Park utilized five apps (Popplet, iBook, ShowME, Quizlet, Pictello) to help the student improve his vocabulary. Findings from the pre-post vocabulary tests, observation, and a pre-post attitude survey revealed that the intervention of the iPad aided student learning in terms of vocabulary gains and fostered his level of engagement while learning. In a similar case, Hilton and Canciello (2013) asserted that many students found it easier to read class material on an iPad rather than the traditional textbooks. The reason that lies behind it is that the digital text allowed them to immediately search for information in ways that were not accessible with a traditional printed text. For instance, the

hypertext tools presented in the *iBook* app provided students with different features that have enhanced their comprehension such as the opportunity to highlight unknown words and clicking on 'define' for the definition of words. Users could also click on the 'search' button to search for further information on the web. In addition, students found it easier to use the *iBook* than looking up the meaning of the words in a printed dictionary. Overall, these studies confirm the significance of using digital texts in the classroom.

2.1 iPad in EFL Teaching and Learning
There has been a paucity of research to implement iPad devices into language learning in middle school. Though the topic of technology in the classroom has been widely treated, lack of research on the iPad may be due to the novelty of the device (Itayem, 2014). However, the empirical studies that have been conducted in the field of EFL have concluded optimal results about the success of implementing iPads in the classroom.

For example, at an EFL department of a Japanese university, Brown, Castellano, Hughes, and Worth (2012) explore the integration of the iPad devices in an English language course to complete language learning tasks. They were used mainly as presentation tools, for browsing the web, as transcription recorders, for digital handouts, and as media playback tools. The case study findings comprised of both teachers and students' perspectives. The results indicated that iPads use was most feasible in collaborative tasks, which allowed students to embed their presentations with audio, photographs, and video in a faster and more convenient way in comparison to laptops and computer PCs. Due to the mobility and the screen size of the iPad device, it was found to facilitate group work among students. In a similar setting, at a Taiwanese university, Wang, Teng, and Chen (2015) carried out a research study with two groups, experimental and control, to look at the use of iPads to enhance English vocabulary acquisition among freshman English students. The *Learn British English WordPower* app was used to teach English vocabulary with the experimental group, while applying the traditional semantic map method when teaching the control group. The results showed that the experimental group scored higher in their post-test results. In addition, the survey results indicated that students' learning motivation as well as their perception of learning English vocabulary was heightened in the experimental group. Likewise, Wang (2017) investigated how EFL learners who were exposed to mobile apps presented in iPad helped learners improve reading comprehension and to examine how well they satisfy from exposure to learning through MALL. Learners' improvement in reading comprehension were significantly higher than those learned traditionally, and they showed greater satisfaction towards instruction via iPad than learning in traditional teaching methods.

The iPad has also been used in EFL classes to promote students' autonomy. Recently, Albadry (2015) conducted a mixed-methods case study at a Saudi university to explore how the use of the iPad devices can foster EFL learners' autonomous learning. Based on a questionnaire, learners' diaries, and group interviews, the findings reported that the iPad device could foster some learners' autonomy by providing opportunities for collaboration and communication inside and outside the classroom. Learners communicated and collaborated through different apps such as *Ask3* and *Voice thread* apps. Albadry (2015) reported that using the apps motivated learners and had a positive influence on changing their attitudes toward learning English. Although her study lacks empirical evidence, Demski (2011) report on the experience of two schools (middle

and high school) using the iPad and iPod Touch with English Language Learners (ELL). The most used apps were a dictionary, translation apps, iBooks, and Kindle. Use of these apps provided instant interactivity to students. As Demski (2011) reports, the students found it easier to look for the meaning of words through the iPad instead of a paper dictionary. The students also reportedly watched videos and English language movies and browsed the web at school and off school, thus, providing a wider range of input for practicing speaking and listening.

2.2 The Limitations of Using the iPad in Education

Although the iPad tablet holds the promise of being a game changer in education and researchers have enthusiastically reported positive findings, there are still many challenges to integrating the iPad in classrooms that might hinder the learning and teaching process. One of the reoccurring issues with the iPad's is the issue of distraction or students' inability to stay on task while using the iPad. The source of distraction is referred to in terms of using the device for unrelated activities such as browsing the web, playing games, and visiting social networking websites (Geist, 2011; Henderson & Yeow 2012: Hoffman, 2013). Another barrier brought up by Brown, Castellano, Hughes & Worth (2012) is institutional technological infrastructure, mainly the availability of robust Wi-Fi support. A slow Internet connection impedes the effectiveness of the device and affects students' learning experience. One related point, which accompanies the use of any technology in class, is device limitations. This includes: the relatively limited size of the screen, lack of flash or Java plug-ins which restrict the use of many educational websites, and the absence of USB ports or CD readers (Jain & Luaran ,2015; Pegrum, Howitt, & Striepe, 2013). The cost of the iPad also raises concerns. As Henderson and Yeow (2012) contend, the high cost of the iPad may make it difficult to be provided to each student in schools given school budgetary restrictions. Cost also is evident in terms of maintenance of the devices and purchasing additional educational apps, as not all apps are free.

Generally, the limitations of using the iPad can be grouped in two categories: first and second order barriers. First-order barriers include issues such as technical problems, lack of applications that are directly relevant to the curriculum, and device limitations such as the relatively small size of the screen and the absence of a keyboard (Crompton, & Keane, 2012; Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012; Pamuk, Çakır, Ergun, Yılmaz, & Ayas, 2013; Pegrum, et al., 2013). Second order barriers become more apparent in teachers' beliefs and attitudes towards technology integration, lack of time, lack of technical knowledge and teacher's anxiety that students might be occupied with the device rather than listening or engaging in the lesson (Geist, 2011; Pamuk, et al., 2013; Pegrum, et al., 2013; Ertmer, et al., 2012).

2.3 The Gaps in the Literature
The current study is anticipated to address several gaps in the literature. First, due to the novelty of the device, the majority of previous studies were conducted on a whole school scale and around different content areas. Special focus on EFL teaching and learning at schools is relatively limited and therefore, more studies are needed to develop a thicker description. Second, most of the studies report findings only on the use of iPad at school without fully integrating the tool into the curriculum nor having a pedagogical plan on how to integrate it. Therefore, it is hoped that the current study will fill this gap by integrating the iPad into the existing English curriculum at a

private school, particularly within reading classes, supported by a clear pedagogical plan for implementation. The pedagogical plan adopted in this study is based on one source: namely, the Bloom's Taxonomy. Thus, selection of the iPad apps and the design of classroom activities were targeted toward activating all levels of thinking. Third, most of past studies were employed in the context of elementary education and higher education, while the area of middle school teaching still needs to be addressed. Fourth, the gap in research amplifies when considering the Saudi context since there is a dearth of studies that explore the utility of the iPad in middle schools in an EFL setting, with exception of Albadry's (2015) study that focuses on the realm of higher education. Alzannan's study (2015) was in the field of kindergarten education while Alsulami's (2016) study was deployed at the primary school level, and both studies were carried out without any specification to EFL/ESL. iPad usage in middle schools, and in particular, middle school EFL classes remains a relatively unexplored territory that needs further research. For these reasons, this study aims to integrate the iPad within a curriculum-based setting to explore the potential impact of the iPad use on students' achievement. Therefore, this study attempts to address the following questions:

1. How can the utilization of iPads as instructional tools in the Saudi EFL classes enhance young learners' academic achievement in reading skills and vocabulary?
2. What are the limitations of using iPads as instructional tools in the EFL classrooms in Saudi Arabia?

3.0 Methodology

3.1 Study Design

The study employs both quantitative and qualitative methods to answer the research questions. The quantitative data comprises of pre-post-test design to determine the impact of the iPad on students' achievement. The qualitative data is obtained to pinpoint the possible challenges of using the iPad in the EFL classes.

3.2 The Choice of Apps

The choice of apps was determined in the pre-experimental phase. The process for looking for, selecting and testing the apps that aimed to promote students' thinking skills. Three main categories were used to group the apps; the first category was to locate apps that would promote at least one level of thinking according to Bloom's Taxonomy. To achieve this criterion, the *Evaluation Rubric: Assessing the value of iPad applications for teaching and learning © Department of Education, WA (2012)* was utilized. Two main categories were included from the rubric namely; c*ognitive opportunities and student motivation.* Other categories in the rubric were excluded, as they were not relevant to the study goals.

The second criterion was to find apps that could be reshaped and integrated into the curriculum. Therefore, apps that presented content without the option for reshaping its content to match curriculum objectives were excluded. The third criterion was to locate free apps. Paid apps were disregarded because the participants, young learners at the middle school would not have the income to purchase apps. To reduce any financial burdens and to ensure that the selection of the apps would not hamper the experiment, it was essential to select only apps that were free to use. See figure 1.
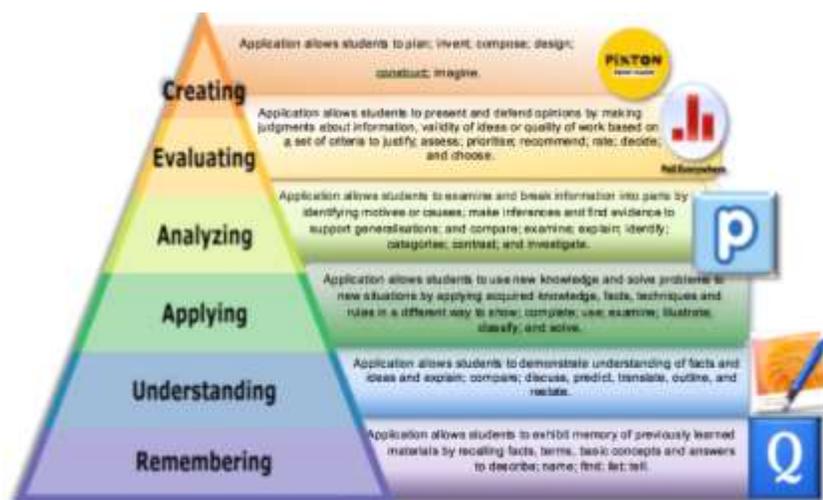
Figure 1. Criteria for selecting apps using Bloom's taxonomy

Five apps were chosen: Quizzlet, iBook +iBook Author, Popplet Lite, Polleverywhere, and Pixton Comic Maker. In an effort to clarify how the chosen app relates to the levels of thinking outlined in Bloom's taxonomy the following infographic (Appendix) was made.

The setting of this study was one private school for girls located in the city of Jeddah in Saudi Arabia. All classes were equipped with desktop computers, smart boards, and overhead projectors. The school did not provide each student with an iPad; however, each student was encouraged to bring her own personal iPad to school. Therefore, the students were familiar with the different features of the iPad. Some teachers at the school had used the iPad with their students during class instruction. However, there had been no manipulation of iPads in EFL teaching so far.

3.3 Participants and Sampling

The participants were a cohort of young learners at a private middle school for girls (aged 12-13). The sampling strategy adopted in the study was a convenience sampling strategy where "the researcher select[ed] participants because they [were] willing and available to be studied" (Creswell, 2012, p.145). The two sample groups that were selected, were: a control group and experimental group. Both groups were students enrolled in middle school (grade seven). The experimental group consisted of 20 students and the number of students in the control group was also 20. The two sample groups were chosen to compare the means of the pre-test and post-test scores and further, to quantify any improvement in the experiment group due to the use of the iPad.

3.4 Data Collection Instruments

Two data collection tools were utilized to answer the research questions. The data collection tools were Pre-test –post-test, and classroom observation.

3.4.1 Pre-test –post-test
The first method of collecting the data was a pre-test –post-test, design which was conducted with both the experimental group and the control group. To obtain the content validity of the test, it was adopted and compiled from the school's questions bank and aligned with the Ministry of Education rubric for testing reading skill. Further, it was also inspected by two associate professors (experts in the field of TESOL) and one expert teacher from the participant's school. The expert teacher was the coordinator's assistant and was responsible for testing administration and design in the English department of the private school. Based on her recommendations, modifications were made to the test. The distribution of the marks was based on the Ministry of Education rubric for reading tests.

3.4.2 Test Administration
After consulting with the class teacher, both the pre-test and the post-test took place during reading class. The same test was administrated twice as a pre-test and post-test within an interval of five weeks with the same students, at the same place.

3.4.3 Classroom Observation
The researcher (the second co-author) adopted the role of both an outside observer and an inside observer (participant observer). The role of the outsider observer occurred prior to the integration of the iPad in the class. The rational being that an outside observer is to have insight on the way the teacher conducts the lessons without the use of the iPad tablet. Field notes were taken to describe the teacher's instructions.

The researcher then adopted the role of a participant observer in which she acted as both the teacher and the observer at the same time. As Creswell (2012) states, a participant observer actively "take[s] part in activities in the setting they observe" (p. 627).

Students were informed that the researcher would be their teacher during the experiment only and the experiment would not affect their grades. Since observation is an extensive procedure that is time consuming (Cohen, Manion & Morrison, 2013), an observation sheet was developed and was validated by an expert in the field of Teaching English to Speakers of Other Languages (TESOL). The observation sheet contained three main sections related to the research questions, the type of the activity used with the iPad, the limitations faced while integrating the app in class, and teacher reflection.

To ensure that observation would not affect teaching practice during the class, the observational data was recorded after the class. According to Cohen, Manion and Morrison (2013), observation notes should be written during or immediately after the observation to reduce the effect of "selective or faulty memory" (p. 410). For this reason, the observation sheet was filled in on the same day in a Microsoft Word® document to guarantee that important findings and details would not be jeopardized by the effect of memory fading.

3.5 Procedure
This experiment was conducted within five weeks during regular school hours. Two periods a week were allocated for reading class according to school policies. Each period lasted approximately 40 minutes.

3.5.1 Prior to the Intervention

A chapter has been selected first after consultation with the students' instructor. Then, the selected reading passage was converted into an electronic version via using the app iBook Author. The electronic version of the student reading passage was embedded with interactive images, photos and videos to aid student comprehension (see Figure 2). To control the prior knowledge, the pre-test has been administered to both groups (No. 20 each) during reading classes on the same day. After that the apps were introduced to the students to the experimental group where the iPad apps were introduced and explained. Students were quite familiar with the use of the iPad in general because they had been using them in classes other than English.
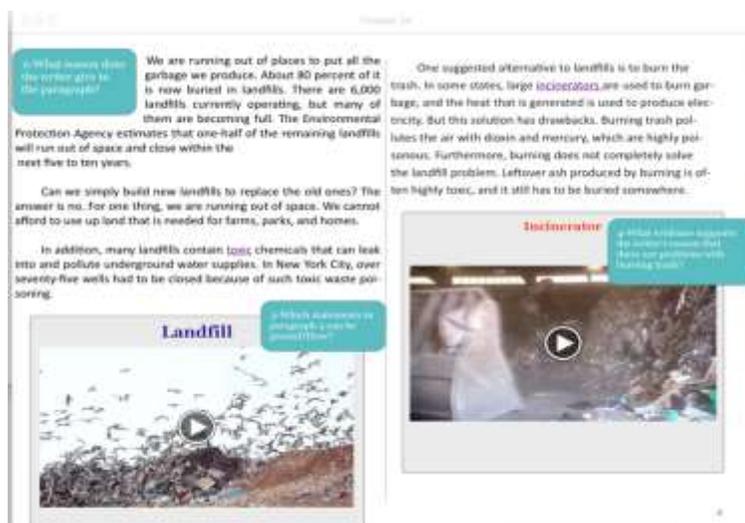

Figure 2. iBook version of the student reading passage

3.5.2 During the Intervention

The class teacher provided the researcher with the PowerPoint presentation she made for the chapter being taught. The slides began by ~~with~~ identifying the objective of the chapter. The focus of the reading chapter was to read a persuasive article. Modifications of the teacher's PowerPoint presentation were made to include the iPad activities. It is important to mention that the students' workbook exercises were also completed alongside the iPad activities. Students in the experimental group were exposed to the electronic version of the reading passage. Meanwhile, students in the control group received the reading instruction in class through their teacher's presentation, reading from the printed textbook, and doing workbook exercises.

The lesson for the experimental group started with a pre-reading activity to introduce the concept of "persuasion" and to activate student schemata. The reading instruction revolved around a pre-reading activity, a while reading activity, and a post reading activity. The vocabulary words were presented to the students before the reading passage since the words were quite advanced.

3.5.3 Post- Intervention of the iPad
After the completion of the teaching session allocated for teaching the reading chapter according to the teacher Distribution of Syllabus (DOS), both the experimental and control groups received the post-test. The post-test was collected and graded.

3.6 Ethical Considerations
As the participants under the age of 14, a consent form was sent to the participants' parents to ensure that they were voluntarily willing to participate in the study. A promise of anonymity was granted to all the participants. As such, due to issues of confidentially, the identity of the participants and the school will remain undisclosed.

3.7 Data Analysis
Quantitative and qualitative analysis of the data were performed. The pre-test and the post-test of both the control group and the experimental group were collected, graded and compiled. The data was then entered the IBM Statistical Programme for Social Science (SPSS® ver. 24). An independent sample t-test was performed to quantify the mean of both the experimental and the control group in the two tests as well as to measure if there were any significant differences in achievement for both groups.

4.0 Results
4.1 Quantitative Data Analysis
To identify the appropriate statistical analysis to test the hypothesis of the pre-test and post-test, the Shapiro-Wilk test of normality was performed. The results of Shapiro-Wilk test as set out in Table 1 verifies the normal distribution of the population of each group. As is demonstrated, the scores in both groups' pre-test and post-tests are p=.549, .112, and .145, .076 respectively, in both tests, the values are greater than the significance level of 0.05 (p>0.05). Thus, this suggests that conduct parametric analysis such as a t-test is deemed to be an appropriate test to employ in comparing the results of both groups.

Table 1. *Shapiro-Wilk test of normality*

Groups		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Pre-test	Control	.107	20	.200[*]	.960	20	.549
	Experimental	.122	20	.200[*]	.923	20	.112
Post-test	Control	.136	20	.200[*]	.929	20	.145
	Experimental	.161	20	.184	.914	20	.076

* This is a lower bound of the true significance.
a. Lilliefors Significance Correction

4.1.1 Results of the Pre-Tests

An independent t-test was employed to check the homogeneity of both groups prior to the intervention of the iPad. Findings indicate that there were no significant differences between the mean of both groups; control group (*M*=4.45, *SD*=1.35, N=20), and experimental group (*M*=5.26, *SD*=1.71, N=20)., *t* (38) = -1.66, *p*=0.10. On this basis, the population sample used in this study for comparability is harmoniously justified (see Table 2).

Table 2. *Independent Sample t-test for the Pre-Achievement Test*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std.Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre-test	Equal variances assumed	1.861	.181	-1.663-	38	.105	-.81250-	.48871	-1.80185-	.17685
	Equal variances not assumed			-1.663-	36.093	.105	-.81250-	.48871	-1.80357-	.17857

4.1.2 Post-test

The independent sample t-test was again employed to determine if there is statistically significant evidence that the mean of both groups was different in the post-test. As is illustrated in tables 3 and 4, the results reveal that there is a significant difference between the mean score of the post-test for the experimental group (*M*=7.56, *SD*=2.00, N=20) and the control group (*M*=6.08, *SD*=2.48, N=20), *t*(38)= -2.06, *p* =0 .046, *d*=.65 respectively.

These results suggest the intervention of the iPad did indeed enhance students' achievement in reading skill and vocabulary when it was compared to non-iPad intervention as the case of the control group.

Table 3. *Descriptive Statistic for the Independent Sample t-test in the Post-Achievement Test*

Group		N	Mean	Std. Deviation	Std. Error Mean
Post-test	Control	20	6.0875	2.48452	.55556
	Experimental	20	7.5625	2.00144	.44754
Group		N	Mean	Std. Deviation	Std. Error Mean
Post-test	Control	20	6.0875	2.48452	.55556
	Experimental	20	7.5625	2.00144	.44754
Group		N	Mean	Std. Deviation	Std. Error Mean
Post-test	Control	20	6.0875	2.48452	.55556
	Experimental	20	7.5625	2.00144	.44754

Table 4. *Independent Sample t-test for the Post-Achievement Test*

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std.Error Difference	95% Confidence Interval of the Difference		
									Lower	Upper
Post-test	Equal variances assumed	.988	.326	-2.068-	38	.046	-1.47500-	.71339	-2.91919-	-.03081-
	Equal variances not assumed			-2.068-	36.352	.046	-1.47500-	.71339	-2.92134-	-.02866-

4.2 Qualitative Data Results

The qualitative data in this study was gathered through the use of observation sheets during the iPad activities, taking into consideration the remarks of the observer, who acted as a participant observer. Consequently, the results are primarily a descriptive narrative of self-reported data from classroom observations. The experimental group consisting of seventh grade students (N=20) was observed by the researcher during a period of five weeks with the goal of exploring any limitations or the barriers to using the iPad in the classroom.

4.2.1 Pre-Implementation of the iPad

The researcher observed two lessons prior to the implementation of the iPad as an outside observer. One lesson was observed with the experimental group and the other was observed with the control group, to gain insight to how classes are conducted without the use of the iPad. Generally, what was observed was that classes were carried out following a traditional teaching approach in that the teacher was the holder and transmitter of knowledge. Thereupon, students were tentatively listening to the teacher's instructions as she presented the material via a PowerPoint presentation. The classes were mostly divided into two main segments: following the Distribution of the syllabus (DOS) and completing the workbook activities.

4.2.2 Limitations/Barriers of Using the iPad in the Classroom

The barriers reported during the period of implementation of the iPad in the reading class are structured around allocated themes and were further divided into subthemes, based on research from the current body of literature.

4.2.3 Technical Issues

The major constraints for implementing the iPad in the classroom primarily revolved around the theme of technical problems, which is generally expected when integrating any form of technology in the classroom. These technical problems stemmed from three main aspects: Internet connection, iPad formatting and uncharged devices.

4.2.3.1 Internet Connection

Given that the school provided an external Wi-Fi router during the experiment, the problem of the Internet connection occurred in different forms while incorporating the iPad in class. For

example, problems arose either because of the slow Internet connection, or a changed Wi-Fi password, both issues acting as impediments to the use of the iPad in class.

4.2.3.2 Unformatted iPad and the Sudden Shutdown of the Device/Chargers
In addition to issues surrounding the infrastructure of the facility, issues related to the iPad itself also came to light, such as unformatted or uncharged devices. Some students forgot to charge their iPad prior to the class, while in few cases others forgot to bring their chargers. In one case, a student approached me and indicated that she lost all the applications she downloaded while updating her iPad's operating system. As a result, all ~~this~~ student's work and the downloaded applications were lost.

4.2.3.3 Unfamiliarity with the Applications
Having first- hand familiarity with the iPad before the experiment, students did not exhibit any difficulties with the interface and the operating system of the device. However, unfamiliarity with the applications was one limitation that was clearly observed on several occasions. Though the students were given an orientation session on how to run and use the applications, many students were still uncertain on how to open each application and to adjust to their different features. For instance, during the researcher's teaching practice and observation it was noted that whenever students were directed to start the application Quizlet®, and to join the class set that the researcher has created earlier, many would still ask about the procedure of joining the class set. Thus, some students required more time to become fully accustomed to using the features of each application. This issue Once students became more familiar with the feature of each application, they would be able to immediately open the applications before any further instruction was provided.

4.2.3.4 Distraction
During the course of the implementation, it was observed that most of the students appeared to be focusing on the task at hand and did not open irrelevant applications or websites during class time. However, the theme of distraction should be mentioned. In few instances, some students (two or three) were observed opening other applications and playing with them instead of focusing on the class activity. Due to the small number of students engaged in these actions, however, these events did not impede the flow of the overall classroom activity.

5.0 Discussion
This study attempted to investigate the efficacy of integrating iPad apps into language learning in EFL environment. It is important to note that while much has been conducted in terms of how iPad can be utilized in schools and universities, its implementation in the EFL classroom at the school level (middle school) is still an area that is not widely explored. In this section, we will discuss our findings considering the previous studies findings and to see how our findings go in line or contradict them. Here are the two research questions followed by the results we obtained and discussed in relation to previous literature.

Q.1. How can the utilization of iPads as instructional tools in EFL classes in Saudi Arabia enhance young learners' academic achievement in reading skills and vocabulary?
Despite the growing body of research within the field of iPad's use in education, its impact on students' actual achievement (grades) is still debatable. Supported with statistical evidence

yielded from independent sample t-tests (pre-test and post-test), the current study found that students in the experimental group significantly outscored their counterparts in the achievement tests. This indicates that the use of the iPad as an instructional tool in EFL classes, particularly reading and vocabulary is deemed beneficial in enhancing students' learning and achievement when compared to conventional teaching paradigms. The results corroborate the findings of Wang, et al., (2015) in which they reported that the iPad did significantly impact students' achievement in English vocabulary learning in the post-tests.

The findings of this study found that the use of the iPad during EFL reading and vocabulary class provided student with visual and interactive presentation of the reading text. As Greenfield (2012) explains "Multimodal text offers pictures, sound, animation, etc. that helps create a 'picture' for students that have difficulties with visualization" (p.14). Digital texts allow students to immediately search for information in ways that are not accessible in traditional printed text. For instance, the hypertext tools presented in the iBook provide the students with different features that enhance their comprehension such as the opportunity to highlight unknown words, find definitions and listen to the pronunciation of words (Hilton & Canciello, 2013). Thus, the iPad's functionality provides students with the opportunity to enhance their learning outcomes. The current results are significant, especially to the Saudi context where the dilemma of unsatisfactory performance is a major concern.

Q2. What are the limitations of using iPads as instructional tools in EFL classes in Saudi Arabia?

This study has attempted to uncover the limitations or barriers that might accompany the use of the iPad in educational contexts, paying special attention to the Saudi EFL context. Based on the observational data gathered, the primary limitation faced were the technical issues. These challenges were apparent in slow Internet connection, and unformatted/updated and uncharged devices. These limitations were expected since technical issues are a common occurrence associated with technology integration. The results are in accordance with many other studies' findings, specifically regarding the issue of Wi-Fi connection (Brown, et al., 2012; Pegrum, et al., 2013).

In addition, student unfamiliarity with the iPad was one issue, which came to light during the experiment. A justifiable explanation for this was that students only used the iPad apps two periods a week (assigned for reading and vocabulary class). Therefore, they were not exposed to the apps on a daily basis. Secondly, five apps were used in this experiment, and each app required some time for students to adjust to the different features. This was evident when students became more comfortable with the operation of each app over time, without the need for any further guidance. These results were echoed by Tingerthal (2011) in which he posits that unfamiliarity with technology disappears with time after the students and instructor establish a routine awareness of how the technology operates. As the observational data gathered in this study showed, the issue of the unfamiliarity with the apps were surmounted with continual usage of the iPad apps.

Lastly, the theme of distraction occurred minimally in this study, despite being among the most notable issues in literature concerning the integration of the iPad (Geist, 2011; Hoffman, 2013; Henderson & Yeow 2012). For instance, Hoffman (2013) points out that students' off task

behaviour is clearly observed when they used social media such as Twitter, Snapchat and iMessage. However, in the current study, because the school restricted the use of social networking websites through the setting of each students' iPad, the issue of the distraction 158inimized. It is worth that the results could be attributed to the simple fact that the number of students in the class was 20 students. Thus, it was more manageable to monitor each student in comparison to a larger class of 30 students or more. From these findings, it can be suggested that the issue of distraction when using the iPad depends to a large extent on the teacher's classroom management skills and on the institutional support. Thus, teachers can create unique solutions suited to their classroom as part of their class management routine. Teachers can set up a system of accountability by defining parameters when using the iPad to enable them to manage their classes the same way they do when the iPad is not in use. This is in line with Henderson and Yeow (2012), who suggest that solutions to distraction occur in class when the teachers place strict rules on use such as students who use the iPad to browse the net will not be allowed to touch their iPad for a week, for instance.

5.1 Conclusion and Pedagogical Implications
The integration of the iPad in schools will undoubtedly expand within the coming years. In light of this, stakeholders and policy makers ought to develop a well-crafted plan for the implementation of the iPad into the curriculum. It is crucial for educators and practitioners to acknowledge the benefits and be aware of the impediments that the iPad offers in their classroom setting. In this study, the limitations of the iPad were not dilemmas that overrode the potential value it brought to the EFL classroom. Consequently, stakeholders in general and the context of the current study must evaluate institution readiness to implement these resourceful devices in their educational settings and should be well prepared to surmount technical issues that they may face when using the iPad in the classroom. It is of a paramount importance, for example, to evaluate the Internet infrastructure of the school before reaching any decisions on implementation. A well-constructed infrastructure for Internet access is required to capitalize on the benefits offered by the utilization of the iPad in the classroom.

In addition to this, teachers should have basic technical knowledge to enable them to cope with routine technical issues that arise in the classroom. More preferably, schools should provide a supportive technical team to deal with technical problems, thereby creating less anxiety for teachers with little technical experience, especially during the early stages of implementation.

Pedagogically, teachers should have a clear pedagogical goal when integrating iPad into their classroom activities. This requires teachers to adopt the role of a facilitator and abandon the role of 'conduit of knowledge'. As Gosper & Ifenthaler (2013) point out "technologies do not work in isolation of the broader curriculum and where technologies have been bolted on, rather than integrated in a holistic way, students are in danger of an inferior learning experience" (p. v).

5.2 Implications of the Study
The current study presents many implications to teachers, schools, institution, and policy makers who seek to incorporate the iPad in their educational spheres in relation to EFL context. This study sheds light on the benefit of the iPad in enhancing student achievement. It also proposes five empirically tested apps to be used in EFL classes that align with the tenants of Bloom's Taxonomy.

Furthermore, the study provides much needed information regarding the limitations or challenges that teachers or schools alike, may face when using the iPad in class.

5.3 Limitations of the Study
Although this study is anticipated to have an academic value in filling a gap in the literature, particularly that of the usage of iPads in EFL context, there are certain limitations that might affect the generalizability of its findings to other academic settings. First, the sample size of participants in the study consists of a small convenience sample of young learners from a specific school. Furthermore, the number of the participants in the study is relatively small, indicating that the generalization of the findings will be relatively limited.

Second, the context of the study is one private school (middle school, 7th grade) in the city of Jeddah, Saudi Arabia. Thus, applying the same study in a public-school setting that has its own unique profile might obtain novel results. For example, the number of students in a public-school classroom is approximately 40 students per class. Thus, the implementation of the iPad in such a school environment if students are issued a 1:1 ratio of iPads per student might yield different results, as well as the effect other factors may have such as the way the teacher would need to control and monitor students so that the iPads does not become a source of distraction.
Third, the focus of this study was on the reading skill and vocabulary learning as a sub-skill and thus, studies exploring other skills such as writing, speaking, and listening may generate other results. Also, the selection of a different group of apps may also result in different findings. Fourth, the duration of the study (i.e., five weeks) was relatively short, which sets boundaries upon its generalization.

5.4 Recommendation for Further Study
Based on the study findings, a number of recommendations can be made. First, it is recommended for further studies to empirically validate the influence of the iPad on other language skills i.e., listening, speaking, writing. Second, it is recommended that future studies should be conducted on a bigger sample size to secure generalisation. A final recommendation lies in calling for a longitudinal study (the length of one academic year) to ascertain the impact of the iPad on students' long-term achievement.

About the Authors
Dr. Tariq Elyas is Associate Professor of Applied Linguistics at KAU ELI, Vice-Dean for Graduate Studies, and Director of the MA TESOL Program. He is also Research Unit Head for the Prince Khalid Al-Faisal Centre for Moderation in Saudi Arabia. He holds an MA in English Literature and a PhD in Applied Linguistics. His publication record includes scholarly papers in some of the most prestigious peer-reviewed journals in this field, as well as an edited book and a contribution to the most recent (2018) TESOL Encyclopedia of English Language Teaching. He was recently recognized and awarded the best supervisor in the Humanities & Social Sciences Track at KAU in 2018.ORCiD: https://orcid.org/0000-0002-1064-3961

Basmah Al-Bogami is a language instructor at King Abdulaziz University, ELI. She received an MA in TESOL from KAU. She also has obtained an educational diploma from the Arab Open

University and BA in European languages (English) from KAU. Her research interests encompass technology and education, teaching pedagogy, and TESOL methodology.
ORCiD: https://orcid.org/0000-0002-2898-7391

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Appendix
Summary of the iPad Applications Used in the Study Alignment with Bloom's (1956)
Cognitive Levels of Thinking.

	Application	Cognitive Opportunity	iPad Activities
Lower Order Thinking (LOT)	**Quizlet®**	**Remembering**	(Pair, individual, group) activities • Match new vocabulary words with definition or pictures against the clock (game) • Type definition for words and (vice versa) • Recognize words by providing definition • Listening to the pronunciation of the words • Using the "Test" mode to rememb the vocabulary words.

	iBook®	**Understanding**	(Individual, group) activities
			• Find and search for definition of words in the glossary
			  • Predict answers for the comprehension questions through watching the interactive (embedded) video and pictures.
			• Practice reading orally through the use of the auto reading feature of the text
			  "Jigsaws" activity using iBook
			• Discuss and explain the answer to the comprehension passage with the group
			• Find answers to a set of comprehension questions
			• Report and defined newly learned vocabulary through the search bottom

Higher Order Thinking	**Popplet®**	**Applying**	Group activities • Applying the concept of facts and opinion and persuasion by expressing their opinion using graphic organizer to show and present their work
		Analyzing	Group activities • Break information into meaningful segments by

			identifying the writer's opinion from the reading passage, classifying reasons and investigate evidence to support reasons through creating graphic organizer
Polleverywhere®	Poll Everywhere	**Evaluating**	(Individual activities) • Vote, choose, express opinions, decide, and view their classmates response through multiple choice, or open answer.
Pixton Comic® Maker®	PiXTON COMIC MAKER	**Creating**	(Group activity) • Create scenes in comic strip about the topic of study "persuasion" • Design their own characters • Communicate and collaborate in groups to complete a task