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**The Effect of Kahoot on Developing EFL Saudi Students' Vocabulary Acquisition, Reading Comprehension, and their Attitudes towards such a Strategy**

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**The Effect of Kahoot on Developing EFL Saudi Students' Vocabulary Acquisition, Reading Comprehension, and their Attitudes towards such a Strategy**

**Abstract**

The study investigated the effect of kahoot on developing EFL Saudi students' vocabulary acquisition, reading comprehension, and their attitudes towards it. To achieve this aim, the researcher adopted the experimental approach and employed a sample consisting of seventy seven male EFL Saudi students at Imam Mohammed Ibn Saud Islamic University at Deanship of Preparatory Programs. The researcher purposefully chose two scientific stream classes assigned one class consisting of (38) students as an experimental group and the other consisting of (39) students as a control group. The traditional method was used in teaching the control group, while kahoot was used with the experimental one in the second term of the academic year (2018-2019).

In the current study, three instruments were used: a vocabulary test, a reading comprehension test, and a questionnaire. The findings of the study showed that there are statistically significant differences at ( $\alpha= 0.05$ ) between the means of both groups on the students' post vocabulary acquisition and reading comprehension tests, in favor of the experimental group. This could be attributed to using kahoot. This indicated that using kahoot as an instructional strategy had a positive effect on developing student's vocabulary acquisition and reading comprehension.

**Keywords:** Kahoot, vocabulary acquisition, reading comprehension, EFL Saudi students.

**أثر برنامج كاهوت في تطوير اكتساب المفردات والقراءة الاستيعابية لدى الطلبة السعوديين واتجاهاتهم نحوه.**

**المخلص:**

هدفت هذه الدراسة إلى التعرف على أثر كاهوت في تطوير اكتساب المفردات والقراءة الاستيعابية لدى الطلبة السعوديين واتجاهاتهم نحوه. ومن أجل تحقيق هذا الهدف، استخدم الباحث المنهج التجريبي حيث طبق الدراسة على عينة مكونة من (77) طالب في عمادة البرامج التحضيرية في جامعة الإمام محمد بن سعود الإسلامية. اختار الباحث بشكل قصدي شعبتين من المسار العلمي حيث عين الشعبة الأولى كمجموعة تجريبية وعددها 38 طالب في حين عين الشعبة الثانية كمجموعة ضابطة وعددها 39 طالب. استخدم الباحث الطريقة التقليدية في تدريس المجموعة الضابطة بينما استخدم كاهوت في تدريس المجموعة التجريبية خلال الفصل الدراسي الثاني من العام الدراسي 2018-2019. في هذه الدراسة، استخدم الباحث اختبار المفردات، اختبار القراءة الاستيعابية والاستيعاب. اظهرت نتائج الدراسة أن هنالك فروق ذات دلالة احصائية عند مستوى الدلالة  $\alpha= 0.05$  بين المتوسطات الحسابية للمجموعتين التجريبية والضابطة في الإختبار البعدي للمفردات والقراءة الاستيعابية يعزى لصالح المجموعة التجريبية، وهذا يشير إلى أن استخدم كاهوت كإستراتيجية تدريسية له أثر إيجابي في تحسين مهارة اكتساب المفردات والقراءة الاستيعابية.

**كلمات مفتاحية:** كاهوت ، اكتساب المفردات ، القراءة الإستيعابية. الطلاب السعوديين

## 1. Introduction

There is no doubt that the world witnesses a technological revolution in digital games which is the modern version of game-based learning that demands a dramatic change especially in our educational system. Technology has recently developed many applications used by teachers in language learning such as Kahoot, Socrative, Quizdom and Quizalize. They have become tools for helping students efficiently learn languages and make vocabulary acquisition and reading comprehension in English even more interesting and active than ever before. As evidence abounds, in both theory and practice, there is close relationship between vocabulary acquisition and reading comprehension (McKeown, Beck, Omanson, & Perfetti, 1983; Horn & Feng, 2012; Harris, Shumaker, & Deshler, 2011). It is obvious that there are various applications that can play an important role in developing students' vocabulary acquisition and reading comprehension such as vocabulary game (Noemi & Maximo, 2014), repetition (Webb, 2007), and word walls (Jackson & Narvaez, 2013). On the other hand, Kahoot might incorporate all of previous strategies in one online game. It is one of the top 100 new online applications to use in classrooms at it has come thirty sixth on the list of applications which are rated for their effectiveness and usefulness for improving learners' vocabulary acquisition and reading comprehension (Kapuler, 2015).

It seems that many EFL Saudi students in today's universities struggle with learning vocabulary and reading comprehension. Besides, many teachers may believe that vocabulary and reading weakness is a realistic problem that might affect students' self-confidence and motivation as well as their reading in later. Altyari (2017) points out that Saudi students graduate with insufficient vocabulary amount. He supports his claim by identifying many reasons. The first reason is that Saudi textbooks lack sufficient amount of words, strategies and techniques that improve students' performance in acquiring vocabulary. The second reason is that there isn't enough exposure to L2 because L1 had its effect on the mode of instruction. The third reason is that time is not sufficient to teach and practice vocabularies in class. Moreover, words that learners mostly study are useless. Finally, learners don't master the words that they learn due to lack of real life practice of vocabularies—that is in authentic situations/contexts.

In addition, reading comprehension plays an essential role in learning English since it is the first skill that learners of L2 should acquire to enhance their information and increase vocabulary knowledge, and develop other language skills (Ling, 2011). Reading in L2 is not the same as L1 since learners don't get enough opportunities to read in English; however, it seems that a lot of learners suffer when it comes to reading. Based on Ahmadi and Hairul (2012), reading comprehension is not an easy process because learners of a foreign language need to read the written words and decode the vocabulary. They believe that it is an important element of the English language learning process for all learners.

The connection between vocabulary acquisition and reading comprehension has become increasingly important in English as a foreign language because vocabulary acquisition plays a crucial role in promoting the learners' ability to read (Rupley, Logan, & Nicholas, 2002) which leads to promoting reading comprehension. Moreover, researchers have a common consensus that learners who have increased and intensive vocabulary knowledge will be more successful in reading comprehension, word knowledge, and fluency. It is clear that there is a good relationship between vocabulary acquisition and reading comprehension. Many researchers found that there is an

increase in vocabulary acquisition and knowledge may lead to an increase in reading comprehension (Palmer, Boon, & Spencer, (2014), Horn and Feng, 2012, Quinn ,2015; McKeown et al., 1983),

In this regard, Chaiyo (2017) points out that kahoot application is very helpful for both teachers and students. Chaiyo states that it has presented many positives on students' perception of concentration, engagement, enjoyment, perceived learning, motivation, and satisfaction in classrooms. Similar to (Dellos, 2015),who also points out that learning achieved using computers, audio books and multimedia devices might positively affect students' vocabulary acquisition and reading comprehension.

Many instructional experts such as (Sharma & Unger (2016).and Singer (2016) explain that educational games should at least gain students' attention and motivation to improve their performance. Burguillo (2010) also emphasizes the importance of competition-based learning which leads students to be more active and motivated for achieving better performance.

On the other hand, Clark and Mayer (2008) stress that kahoot supports students' metacognition, assesses students' conceptual understandings, and supports the acquisition of new knowledge and understanding through further explanation during or after the game by providing them with an immediate feedback. In this study, the researcher used kahoot as a technique that was expected to help in developing the Saudi EFL students' vocabulary acquisition and reading comprehension. kahoot was defined by Siegle (2015) as an online game that can test the knowledge of the students on English reading skill. As it could be used as an interactive technology based instructional tool that may increase students' vocabulary acquisition. Moreover, Plump and La Rosa (2017) state many advantages of using Kahoot in the classroom. They state that kahoot might use as instructional teaching strategy because it is simple for students, easy for teachers to learn, and provide students with music and colors during practicing the lesson. Moreover, they state that it give teachers the ability to download, review, save students results and create quizzes or surveys

## **2. Related Studies.**

Ciaramella (2017) evaluated the effect of kahoot on vocabulary acquisition, vocabulary retention, and determining student satisfaction using kahoot as an intervention. The sample of the study consisted of seven students aged between eleven and twelve. Two instruments were used to collect the data: single subject multiple baseline and a survey. The results of the study showed that using kahoot may lead to an increase in vocabulary acquisition and retention. The results of this study seem to indicate that using kahoot to help students with learning disabilities and other health impairments to acquire and retain vocabulary words is effective.

Pede (2017) investigated the effect of online game (on science vocabulary acquisition and on the engagement of students with learning disabilities. Six students (3 males and 3 females) were used as a sample of the study. The data was collected through vocabulary quizzes and checklist. The results of the study showed that all students increased their vocabulary assessment scores when kahoot was played twice weekly. The use of kahoot also increased students' focus on task behavior. The results also indicated that students enjoyed playing kahoot and found that it easy to use.

Yapıcı and Karakoyun (2017) investigated the use of kahoot in biology teaching to determine pre-service teachers' views about the application and to examine the effects of the application on their levels of motivation. The sample of the study consisted of 15 pre-service teachers studying the

course of plant morphology in their second academic year in the Department of Biology Teaching at Ziya Gökalp Education Faculty of Dicle University. To collect the research data, motivation scale and interview were used. The results indicated that the pre-service teachers' levels of motivation increased after the application. It also reported that biology teachers had positive views about kahoot application and thought of using it in their future professional lives.

Toth, logo, and Emma (2018) investigated the effect of the kahoot quiz on the student's results in the exam. The sample of the study consisted of 200 bachelor students participated in a 14-week long elective university course. The data was collected weekly from the kahoot quizzes and from the two mandatory exams. The findings of the study showed that exam results were analyzed based on number of kahoot quizzes they took part in, a comparison of the results of each question based. The results also showed that students who took part in more kahoot quizzes tend to reach higher exam results. Moreover, they marked more correct answers and less incorrect ones.

Matsubara and Yoshida (2018) described the effective use of content-based and game-based methods of vocabulary acquisition via reading activities and clarify how a gamified learning approach combined with language learners' motivation and engagement influence achievement in the EFL class. In addition, they showed that it helps establish autonomous learning. The sample of the study consisted of 28 freshmen. A questionnaire was used to find out the students' motivation on studying with quizlet and kahoot . The results of the study showed that content-based vocabulary instruction using kahoot and quizlet is effective and can improve student's vocabulary acquisition

Chotimah and Rafi (2018) evaluated the effect of kahoot on teaching reading for the English department students of Stkp PGRI Jombang. The sample of the study was 39 students and they were divided into two groups: the experimental group which taught based on Kahoot and the control group which was taught by the textbook. The instrument of the study was a test. The study revealed that the use of Kahoot as a media influences and develops students' reading comprehension skill.

Previous studies show that using kahoot as multimedia device in classrooms may play an important role in developing students' vocabulary acquisition and reading comprehension. Moreover, it may help improve students' motivation, concentration, engagement, and enjoyment. What makes this study different from other previous studies is that it focuses on developing the Saudi EFL students' vocabulary acquisition and reading comprehension skills as the studies that were conducted on Saudi students are a few especially at the university level. The researcher also noticed that the local or Arab studies which utilized kahoot are rare or even lacking. The researcher hoped that his study might fill a gap in this area.

The researcher; along with his colleagues in the deanship of preparatory programs at Imam Mohammed Ibn Saud Islamic University and through their academic university experiences and observations in foreign language classes, has noticed that many EFL students face difficulties in vocabulary learning and reading comprehension. Moreover, a good number of students get poor marks in their reading comprehension exams. This problem might be due to the fact that classroom teaching still taught traditionally and artificially without using any technology that plays a great role in engagement and motivating students to acquire and develop vocabulary acquisition and reading comprehension. Up to the researcher's best knowledge, none of the previous studies which have

been conducted in our region has investigated the role of kahoot in developing students' vocabulary acquisition and reading comprehension

In contrast, there are many computer programs and games that might develop students' vocabulary acquisition and reading comprehension skills and solve EFL students' problems. Hence, kahoot plays an important role to motivate students, create engagement, and active learning. In addition, it has merits that make it very useful inside the classroom such as the ability to download, revise and save students scores for a long time, and allows students to practice quizzes as many times as they want

### **3. The Purpose of the Study**

The purpose of the current study is as to investigate the effect of using kahoot application to develop EFL Saudi students' vocabulary acquisition and reading comprehension. It also tries to find out the students' attitudes towards using kahoot as a teaching strategy.

### **4. The main questions**

1. Are there any statistically significant differences between the mean scores of the experimental and control groups on the post vocabulary acquisition test due to the method of teaching ( kahoot and traditional method)?
2. Are there any statistically significant differences between mean scores of the experimental and control groups on the post reading comprehension test due to the method of teaching (kahoot and traditional method)?
3. Are there any statistically significant differences between mean scores of the experimental group on the pre-post vocabulary tests due to the method of teaching?
4. Are there any statistically significant differences between mean scores of the experimental group on the pre-post reading comprehension tests due to the method of teaching?
5. What are the students' attitudes towards kahoot?

### **5. Significance of the study**

It is hoped that the results of the study might be officially adopted by the Deanship Preparatory Programs to use kahoot in teaching pre-service students and be a good frame of reference to use in teaching English and other subjects. By using kahoot, students' attention, motivation, and enjoyment with classrooms lectures might be increased and be effective. In addition, English languages teachers and instructors may benefit from this study to incorporate kahoot in their formal teaching strategies during teaching. They may also be helpful to Saudi teachers to use this in improving students' vocabulary acquisition and reading comprehension at the high level stage of learning.

## **6. Methodology and Scope of the Study**

### **6.1 The participants**

The participants of the study consisted of seventy eight male EFL Saudi students at Imam Mohammed Ibn Saud Islamic University at the Deanship of Preparatory Programs during the second semester of the academic year 2018/2019. Students participate in the study as the researcher has been teaching there for three years. They were studying reading and writing, listening and speaking, and Science. They were also surveyed on whether they use smart phones or not. The researcher divided the participants into two groups; the number of the students in the

experimental group was 38 while the control group was 39. Both groups received a pre-test. Then the researcher started implementing the study which lasted for 3 months. In this period, the experimental group was taught using kahoot whereas the control group was taught traditionally per the guidelines of the Teacher's Book.

### **6-2 Design of the Study and Variables of the Study**

The present study adopts the quasi-experimental design as the researcher used two groups; an experimental group and control group. Both groups were selected purposefully as the researcher is a faculty member at the deanship where the study took place. The independent variable was kahoot and the traditional way of teaching. The dependent variables were the participants' mean scores in reading comprehension and vocabulary test as well as their attitudes towards the application.

### **6.3 Instrument**

To conduct the study, the following instruments were used:

- 1- **The reading comprehension test.** It was two passages with five multiple choice Wh-questions for each passage. Each question was given one mark.
- 2- **The vocabulary test.** It was 10 multiple choice questions.
- 3- **A questionnaire.** It consisted of 17 items using 1-5 rating scale which was explained to the students that 5 representing strongly agree, 4 for agree, 3 for undecided, 2 for disagree, and 1 representing strongly disagree. Each student completed the student attitude questionnaire.

### **6.4 Validity and Reliability of the Instruments.**

To get the validity of the reading comprehension test, vocabulary test, and the questionnaire. a jury of 7 TEFL specialists in the curriculum and instruction in some of the Jordanian universities as well as Saudi universities, and other five experienced EFL teachers who have been teaching English for more than ten years were asked politely to participate in the process of validity. As for the test's reliability, it was computed on a pilot study of 20 students using the test-retest method. The reliability coefficient was computed using Cronbach's Alpha formula.

### **6.5 Material**

The material used in this study was published by Virginia Evans, Jenny Dooly and Elizabeth Norton (2014). It is a new educational resource for students who want to improve their English communication in a work environment. Each unit offers step-by-step instruction that engage students in the four key language skills: reading, listening, speaking and writing. Career paths: science presents topics including laboratory equipment, safety procedures, the scientific method, research activities and career options. The series is organized into three levels of difficulty which goes gradually and offers a minimum of 400 vocabulary terms and phrases. Every unit includes a test of reading comprehension, vocabulary and listening skills and leads students through written and oral production. In addition, it includes many features such as 45 reading and listening comprehension check.

### **6.6 Procedures**

Before implementing the application, the researcher explained the nature of the application and its outcomes to the students in Arabic then he clarified the significance of this application since it may improve their vocabulary acquisition, reading comprehension and help them get better achievement in English language learning. The researcher asked some students about their past experiences in vocabulary and reading comprehension in English and if they had faced any

problems that made them avoid answering some questions because they found them difficult to be answered. He made sure that the students had these applications on their smartphones and they know how to use them. Kahoot is considered one of the best applications that are working on improving students' vocabulary acquisition, increasing reading comprehension and raising their awareness and attention. . Briefly, the researcher followed the following strategy to use kahoot:

**1. Introducing the application:** the researcher introduced the application by giving students a general explanation about kahoot in which it transforms the classroom into the format of a game show by showing a YouTube video. In addition, he explained the advantages of this application on developing students learning and motivation.

**2. Modeling:** The researcher modeled the application and explained to the students how to use it. He also showed a YouTube video for further modeling and practicing.

**3. Timing:** The researcher decided the appropriate time for each exercise since kahoot gives various time options based on the question difficulty.

**4. Practicing:** The researcher asked students to read the questions carefully within the time limit then choose the correct answer by clicking the right color and shape of the answer.

**5. Feedback:** the researcher monitored and helped students find out the difficulties they faced and encouraged them to reflect and provide the appropriate feedback.

## 7. Results

The first question of the study was, *Are there any significant differences between the mean scores of the experimental and control groups on the post vocabulary acquisition test due to the method of teaching (kahoot and traditional method).*

In order to answer the first question, a pre vocabulary acquisition test was administrated to both groups to know the actual level of students before starting the experiment, means, standard deviations and t-test were used to find out any significant differences between both groups of the study, as shown in table 1 below.

**Table (1): Means, Standard Deviation and t-Test Results of the Experimental and Control Groups on the Pre-vocabulary Acquisition Test.**

Group	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Experimental	38	7.21	1.298	-1.197	74	.235
Control	39	7.53	.979			

Table 1 reveals that students' scores for both groups were almost equivalent in pre-test before applying the experiment. This indicated that the two groups were equivalent, before starting the experiment. This also showed that the difference between scores of both groups on the pre vocabulary acquisition test was not statistically significant. To find out any significant differences between both groups, an independent sample t-test was used as shown in table 2 below.

**Table (2): Means, Standard Deviation and an Independent Samples t-Test Results due to Teaching Strategy on the Post Vocabulary Acquisition Test.**

Group	N	Mean	Std. Deviation	t	df	Sig. (2tailed)
Experimental	38	9.37	.541	7.324	774	.000
Control	39	8.45	.555			

Table 2 shows that there are statistically significant differences at ( $\alpha=0.05$ ) between the means of both groups on the students' post vocabulary acquisition test, in favor of the experimental group. The second question of the study was, *Are there any significant differences between the mean scores of the experimental and control groups on the post reading comprehension test due to the method of teaching (kahoot and traditional method)?*

In order to answer the second question, a pre reading comprehension test was administrated to both groups to know the actual level of students before starting the experiment, means, standard deviations and t-test were used to find out any significant differences between both groups of the study, as shown in table 3.

**Table (3): An Independent Samples t-Test Results of the Experimental and Control Groups on the Pre-Reading Comprehension Test.**

Group	N	Mean	Std. Deviation	t	df	Sig.
Experimental	38	6.97	1.700	-1.486	74	.142
Control	39	7.50	1.371			

Table 3 reveals that students' scores for both groups were almost equivalent in pre-test before applying the experiment. This indicated that the two groups were equivalent, before starting the experiment. This also showed that the difference between scores of both groups on the pre reading comprehension test was not statistically significant.

To find out any significant differences between both groups, means and standard deviations of students' post reading comprehension test due to the method of teaching were used, an independent sample t-test t-test was also used to find out any significant differences between both groups of the study, as shown in table 4.

**Table (4): An Independent Sample t-Test Results due to Teaching Strategy on the Post Reading Comprehension Test.**

Group	N	Mean	Std. Deviation	t	df	Sig.
Experimental	38	9.34	.745	5.643	74	.000
Control	39	8.39	.718			

Table 4 above shows that there are statistically significant differences at ( $\alpha=0.05$ ) between the means of both groups on the students' post reading comprehension test, in favor of the experimental group.

The third question of the study was, *Are there any significant differences between the mean scores of the experimental group on the pre- post vocabulary acquisition tests due to the method of teaching?*

To answer this question, the researcher compared the experimental group members' performance in the pre and post vocabulary test using paired sample t-test. Results of this test are summarized in table (5).

**Table 5: Paired Sample t-Test for the Students' Pre and Post Vocabulary Acquisition Test in the Experimental Group.**

Test	N	Mean	Std. Deviation	t	df	Sig.
Pre vocabulary test	38	7.53	.979	-5.585	37	.000
Post vocabulary test	39	8.45	.555			

Table 5 above shows that there are statistically significant differences at ( $\alpha= 0.05$ ) between the means of the experimental group pre and post vocabulary tests in favor of the students' in the post vocabulary test.

The fourth question of the study was, *Are there any significant differences between the mean scores of the experimental group on the pre- post reading comprehension tests due to the method of teaching?*

To answer this question, the researcher compared the experimental group members' performance in the pre and post reading comprehension test using paired sample t-test. Results of this test are summarized in table (6).

**Table 6: Paired Sample t-Test for the Students' Pre and Post Reading Comprehension Test in the Experimental Group**

Test	N	Mean	Std. Deviation	t	df	Sig.
Pre reading test	38	7.50	1.371	-4.864	37	.000
Post reading test	39	8.39	.718			

Table 6 above shows that there are statistically significant differences at ( $\alpha= 0.05$ ) between the means of the experimental group pre and post reading comprehension tests in favor of the post reading comprehension test.

The above tables show that the students 'post- test achievement in the experimental group was better than the students pretest achievement in booth skills vocabulary and reading comprehension due to the use of kahoot that was used in the experimental group.

The fifth question of the study was: *What are the students' attitudes towards using Kahoot?.* To answer this question, means and standard deviation were used to find out the attitudes of the students towards kahoot. By having deep interpretation and analysis of the results of the questionnaire, the experimental group students appeared to have a positive attitude towards kahoot. This might be due to the effect of using kahoot as an interesting and motivating tool as shown in table 7.

**Table (7) Means and Standard Deviation of Experimental Group Students' Attitudes toward Using Kahoot.**

Rank	No	Questionnaire Items	Mean	SD
1	1	Kahoot is easy to use and it keeps me on task	4.76	.490
2	2	It encourages students to cooperate with each other.	4.68	.620
3	4	It motivates students to participate and make them active all the	4.63	.589

Rank	No	Questionnaire Items	Mean	SD
		time.		
4	13	It changes the classroom routine by mixing new strategies to learn English.	4.63	.589
5	8	It increases students' achievement through using extra exercises.	4.61	.595
6	17	It helps learners to increase and remember new words.	4.58	.599
7	11	It creates a positive atmosphere and active environment in the classroom.	4.53	.687
8	9	It saves time and effort for students.	4.50	.830
9	14	It encourages students to work individually or in groups.	4.50	.647
10	3	It helps shy students to overcome their hesitation to participate.	4.21	.811
11	10	It provides the textbook material with large online exercises and worksheets.	4.21	.991
12	12	It enhances the self- confidence among the students.	4.11	1.008
13	15	It makes reading comprehension interesting and attractive.	4.08	.882
14	7	It stores the textbook material on the smart phones and makes it easy to get feedback.	3.97	1.026
15	16	I can use it inside or outside the classroom.	3.95	1.161
16	6	It takes individual differences into account among the students.	3.92	1.050
17	5	It gives students enough time to select the correct answer.	3.89	.981
		Mean	4.35	.411

Table 7 shows that rank 1 "Kahoot is easy to use and it keeps me on task" receives the highest mean (4.76) regarding the degree of agreement, while item 17 "It gives students enough time to select the correct answer" was ranked last with a mean (3.89). This table also shows that the mean of all items is (4.35).

## 8. Discussion

The results reveal statistically significant differences in the participants' vocabulary acquisition, reading comprehension, and attitudes in favor of those in kahoot group. This confirms that the potential effectiveness of kahoot on developing participants' vocabulary acquisition and reading comprehension..

It seems that using kahoot with multiple vocabulary questions is useful for helping students to build their self confidence and make them active all the time inside classrooms. So they will pay their attention to the lesson and their focus will be raised. Using kahoot inside classrooms make learning vocabulary easy and interesting. It is a good way to encourage students to use authentic vocabulary with different situations that leads students to understand the meaning of words through context.

The results of the current study were in line with Johnson (1987); Kilickaya and Jaroslaw (2010); Stowell and Nelson (2007); Bartsch and Murphy (2011); Ciaramella (2017); and Wang and Lieberoth (2016) in which the researchers highlighted the importance of using technology in general and kahoot in specific to incorporate and promote students in vocabulary acquisition. In addition, they found that kahoot is very important to make learning effective and fun, increase student participation, and encourage them to maintain a positive outlook while learning.

The findings of the current study also highlight the positive attitudes of the participants toward the use of kahoot in learning new vocabulary. These results are in line with the findings reported by previous studies such as Clark and Mayer (2008); Plump and LaRosa (2017); Licorish, Georgea, and Daniel (2017); Yip (2006). The results of their studies indicated that students acknowledged that kahoot application enhanced their motivation, engagement, and concentration. They also noted that utilizing kahoot seems to support metacognition, conceptual understanding through immediate feedback, and create active learning.

The second question of the study examined the effect of kahoot on developing reading comprehension. The researcher believes that kahoot helped develop self-confidence and participation. It consists of various reading activities with different reading topics that might encourage them to answer the questions without hesitation. One of the aims of kahoot application was to develop students' reading comprehension through engaging, encouraging, and involving them in different reading activities. Moreover, the researcher took the individual differences among students into consideration in which he designed activities with four multiple questions based on the text with an appropriate time for each item to answer the question. The researcher also varies in his reading activities that ask students to answer individually or in group work. It is worth mentioning here that kahoot provides two options to class management as classical mode and team mode which lets the students cooperate with each other and share their answers to get best correct answer.

It's worth mentioning that kahoot may provide students with benefits such as motivation, good participation, and develop students' self-confidence. In contrast, the researcher feels that the control group was asked to work in pairs or groups in very few situations. As a result, the experimental group seems to be expected to achieve higher scores than the control group. The improvement in the students' reading comprehension could have been a result of the number of reading activities which gave them the opportunity to practice the strategies without any hesitation.

In the researcher's point of view, students seem to be satisfied when they used kahoot and they were also interested in using their smartphones in learning. In addition, the researcher thinks that the majority of the students during the academic year used to follow traditional strategies to learn English language based on Teacher's Manual and teachers still follow the same strategies that are mentioned in it. Therefore, kahoot plays an essential role in creating positive classroom atmospheres and change the classroom routine. It also increases students' concentration, engagement, motivation and satisfaction

In the Kingdom of Saudi Arabia, using smartphones with any applications such as kahoot and WhatsApp and Facebook have a positive role in learning English especially kahoot which made learning English easy and fun? Mobile phones play an essential role in developing students' success as a learning tool (Cavus & Ibrahim (2008); Bensalem (2018); Kukulska & Shield (2008); Melissa(2014).

The third question of the study tried to compare the students' performance of the experimental group members in the vocabulary test before and after implementing kahoot. The results showed that students' vocabulary acquisition performance were better. These results were significantly affected by the teaching strategy. The actual significant values of the teaching method indicate a high effect for vocabulary acquisition. These results can be explained in many ways, it seems that kahoot created a unique interactive environment. For example, during the lectures, the students directly interacted with more than one communicative line. They could use more than one model of exercises and different types of interaction: individually and in groups. In addition, kahoot give students enough time to choose, much opportunity to retry to exercise, and a direct feedback. The results of this question are congruent with those obtained by Shields (2014), Abrams and Walsh (2014) which confirm the positive effect of kahoot on students' vocabulary acquisition.

The fourth question of the study tried to compare the students' performance of the experimental group members in the reading comprehension test before and after implementing kahoot. The experimental group results showed that the students' got better achievement. This positive effect refers to the key feature of kahoot which allow all students of the same group to get the same question simultaneously facilitated the students' collaboration in practicing the steps of reading comprehension. For instance, kahoot give students an appropriate time to read the question, discuss, and answer it. The whole passage was divided into sub-paragraphs in order to help students interact and participate with each other to think critically and enhance them to find the answer. The class which uses kahoot has more frequencies in interaction and they could learn how to socialize because they can share phones in the same group happily. This is consistent with previous research reports (e.g., Chiang, 2020; Rosyadi, 2019) that kahoot positively affects students' reading comprehension.

The fifth question of the study aimed to identify the students' attitudes towards using kahoot The results as shown in Table 3 indicate that students have positive attitudes towards kahoot . The researcher believes that item 1 which stated that kahoot is easy to use and it keeps me on task." got the highest mean (4, 38). In the researcher's point of view, he noticed that students were so happy when they used kahoot and all of them participate in all activities since it is an attractive application and easy to use. In addition, the researcher noticed that students were participating actively and worked in groups to answer questions because kahoot provides options to either use individual work or group work. Students also were involved in activities because they were using a new strategy inside their classroom and it breaks their traditional way of teaching. Many researchers emphasize the benefits of using kahoot in classrooms. They identify that kahoot makes learning entertaining, provides concentration, increases attention, and provides memorability and enhancement.

In contrast, item 21 which states "It gives students enough time to select the correct answer." got the lowest rank among others items. The researcher believes that students need time to answer questions. So it seems that some of the questions did not have enough time to answer. The

researcher thinks that time should be given based on specific criteria such as the difficulty of the questions, the type of the question, and individual differences among students also should be taken into account. Depending on these results in Table 3, it could be stated that the use of kahoot in teaching vocabulary acquisition and reading comprehension increased the students' motivation, enhanced the self- confidence, and motivated students to participate and made them active all the time. In fact, these results were in line with the studies of Lee and Hammer (2011), Domínguez (2013), Glover (2013), Licorish. (2018), and Yapıcı and Karakoyun (2017).

## 9. Conclusion

The aim of the study was to examine the effect of kahoot application on developing Saudi EFL students' vocabulary acquisition, reading comprehension, and their attitudes towards it. As it was presented, kahoot was found to be an effective learning based game that could be used by teachers to develop their students' language skills.

Based on the results of the study, the researcher recommended using kahoot by EFL teachers as it helps as an effective teaching application on developing vocabulary and reading comprehension. Also, the researcher recommended that other researchers carry out other applications such as socrative and quizzes to examine its effect in developing other language skills.

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