THE EFFECT OF USING KAHOOT! WEB-BASED LEARNING ON EFL SECONDARY STUDENTS' VOCABULARY LEARNING

Mariam M. A. Masoud, Soad A. Aldahami, Wafaa M. A. Aljehani

English Language Supervisors, Ministry of Education, Education Department, Madinah Region, Education Office North City – Girls English Department, SAUDI ARABIA.

wafaa-aljehani@hotmail.com

ABSTRACT

The purpose of this study was to examine the effect of using Kahoot web-based learning on enhancing EFL secondary school students' vocabulary learning. The study was conducted during the second semester of 1440 H – 2019, and the experiment duration was three weeks and it is delimited to majoring the effect of using Kahoot web-based learning on EFL secondary students' vocabulary learning. The study is delimited to a sample of (106) female students from the second secondary grade at the eighth and twenty third Secondary School in Al-Madinah Al-Munawarah city. In order to measure the achievement of participants in vocabulary learning before and after the experiment, pre- and post vocabulary achievement tests were developed by the researchers. To check the validity of the hypotheses, the Independent Sample T-Test was run to determine any significant differences between the mean of post test scores and Eta squared was calculated. The results can be concluded that Kahoot was effective in improving vocabulary learning of the experimental group.

Keywords: Kahoot, web-based learing, EFL, Secondary School, Al-Madinah

INTRODUCTION

Vocabulary learning is one of the most important components of foreign language learning. It is the center of language learning because when the students' vocabulary increases, the four language skills: reading, writing, listening and speaking, will be developed. When students have a sufficient amount of words, they can understand and practice all English language skills, communicate effectively and express themselves better. However, despite this importance, acquiring vocabulary is one of the major challenges faced during the learning process.

Research has demonstrated the importance of vocabulary. Ghanbaran and Ketabi (2014) believed that vocabulary learning plays an important role in learning second language skills. Min (2013) believed that vocabulary knowledge is essential at every stage of the learners' second language development and that effective communication cannot take place without sufficient vocabulary knowledge.

In order to facilitate the learning of vocabulary, programs available for smart phones or tablets should be used. Montaner-Villalba. Salvador (2018) stated that Kahoot is an application that aims at reviewing vocabulary through a series of quizzes. This online tool was created to enhance social learning, since students gather around a common screen such as an interactive whiteboard, projector or computer monitor. Ciaramella, (2017) stated that using Kahoot! is effective in helping students with learning disabilities and other health impairments to acquire and retain vocabulary.

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In order to facilitate the learning of vocabulary, educational technology tools should be used. Kahoot! is one of them. It is a free game-based learning tool that makes learning FUN and requires minimum technical expertise for creating quiz, surveys and discussions. It can be used for learners of all ages and for all subjects. It is more effective for vocabulary learning than traditional methods. Plump & La Rosa (2017) claimed that instructional games are gaining acceptance in the classroom as the e-Learning merits for student engagement and immediate feedback are recognized. In higher education, the use of these tools is often limited due to lack of time, insufficient experience, or doubts regarding the scholarly merits of such activities.

The present study will try to measure the effect of using Kahoot web-based learning on Secondary School EFL students' vocabulary learning.

STATEMENT OF THE PROBLEM

EFL Secondary School students often face difficulties in learning English, especially in learning vocabulary, and it is considered challenging for them. According to Al-Ghafly (2011) most Saudi EFL learners face some difficulties in learning vocabulary. They tend to forget newly learned words quickly and have difficulties using them in either speaking or writing because of a lack of knowledge of pragmatics. Llerena & Rodríguez (2017) stated that using eLearning tools provides a positive environment in the classroom, increases energy and adds fun. Games like Kahoot! are an excellent choice for teaching, especially when practicing vocabulary in a language class. Most research papers show that game-based learning has a positive effect compared to traditional learning methods. Using educational games to attract students' attention is thought to be highly effective. Ismail & Mohammad (2017) claimed that Kahoot is one of the more popular online learning platforms that were developed to promote students' engagement in learning.

Although there may be reluctance to the increased use of technology in the classroom, Kahoot! is a highly useful tool and the present study is an attempt to measure the effect of using Kahoot!web-based learning on secondary EFL students' vocabulary learning.

RESEARCH PURPOSE

The purpose of this study was to examine the effect of using Kahoot   web- based learning on enhancing Secondary School EFL students' vocabulary learning.

RESEARCH QUESTION AND HYPOTHESES

The present study is an attempt to answer the following question:

1- To what extent does using Kahoot web-based learning affect secondary EFL students' vocabulary learning?

In order to answer the research question, the following null hypotheses were generated:

I.   There are no statistically significant differences in the mean score of the vocabulary achievement pre-test between the students who will be taught vocabulary by using Kahoot! web-based learning (experimental group) and students who will be taught vocabulary without using Kahoot web-based learning (control group) in the pre-test.

II.   There are no statistically significant differences in the mean scores of the vocabulary achievement post-test between the students who will be taught vocabulary using Kahoot web-based learning (experimental group) and students who will be taught vocabulary without using Kahoot web-based learning (control group).

RESEARCH SIGNIFICANCE

The study is significant for the following reasons:

1- It may provide EFL teachers with an attractive teaching aid that can be used in the classroom to improve students' vocabulary learning.

2- It may provide EFL secondary students with a new website that might enhance their vocabulary learning.

3- It is hoped that this study will encourage other researchers to conduct further research on different language skills and language acquisition.

4- It may provide curriculum designers with some recommendations and suggestions for future research.

RESEARCH DELIMITATIONS

1- The study is delimited to measuring the effect of using Kahoot web-based learning on Secondary School EFL students' vocabulary learning.

2- The study is delimited to a sample of (106) female students from the second grade at the eighth and twenty third Secondary Schools in Al-Madinah Al- Munawarah city.

3- The use of Kahoot web-based learning covers all vocabulary lessons in Unit (3) of the student's book (Traveller 4).

4- The study was conducted during the second semester of 1440 H – 2019, and the experiment duration was three weeks.

REVIEW OF LITERATURE

Vocabulary learning is an important process in acquiring proficiency in speaking a second language. Good mastery of vocabulary helps learners to speak fluently, write correctly, and understand easily. Learners use words to acquire and convey meaning. Thus, teaching vocabulary can help teachers to improve the learner's four language skills.

Asbeck (2012, p.6) defined vocabulary as "having knowledge of words and word meanings."Al-Hammad (2009) defined vocabulary as "the body of words used in a particular language. "Siriwan (2007) pointed out that knowing a word means knowing at least its forms, its meaning, and its basic usage in context, receptively and productively. Knowing the form of a word includes spelling, sound, and word parts. Knowing the meaning of a word involves linking its form and meaning, knowing a concept for a word and what all it can refer to. Siriwan (2007) stated that vocabulary is vital for comprehension in language skill and is much more important and should receive more attention than grammar. Language learners with vocabulary knowledge can achieve a great deal of success in their classroom, their social life, and in their continuing acquisition of the target language. Holderness (2013) agreed that vocabulary is a very important aspect of a student's education and without vocabulary the student will become lost, as learning to read and comprehend will be much harder for him.

Most Saudi EFL learners face difficulties in learning vocabulary. Baniabdelrahman and Al-shumaimeri (2013) believe that the difficulties in reading English material which EFL students in Saudi Arabia face might be due to insufficient learning of vocabulary in high school as well as the lack of strategies in guessing the meaning of unfamiliar words. Yeh and Wang (2013) stated that vocabulary learning has been very problematic for students studying English as a foreign language. Schmitt (2008) believed that vocabulary learning is a complex

and gradual process and learners need to acquire large vocabularies to successfully use a second language.

Researchers categorize vocabulary learning into two kinds: incidental vocabulary learning and intentional vocabulary learning. Al-Hammad (2009) believes that students learn most vocabulary in context incidentally and words which are acquired in this way are going to be better learned and understood than words taught through explicit instruction, because the learner will be involved and active in developing the meaning of the word. Nation (2001) demonstrated that vocabulary learning can be divided into implicit and explicit learning. Implicit learning involves attention to the stimulus without conscious operations while explicit learning is more conscious and affected by the quality of the mental processing; it involves a search for rules, or applying given rules.

Game-based learning has become more common in education. Heni, Sudarsono, & Regina (2019) stated that Kahoot is a technology-based instructional tool, and a popular eLearning tool that can easily be used to enhance vitality, student engagement, as well as provide meta-cognitive support with limited instructor- or student training required. Mansur & Fadhilawati (2019) concluded that using the Kahoot application could improve students' English vocabulary achievement as students were motivated and enjoyed learning English, especially vocabulary, through this game-based application. Ismail & Mohammad. (2017) stated that there are several advantages of using Kahoot (easy to use, freely available for anyone, multiple types of Kahoot available, simple account registration, students can simply join Kahoot, compatible with smart phones, tablets or ordinary computers, flexible response time for each question).

Heni, Sudarsono, & Regina (2019) proved that teachers have to face the fact that a game-based technology might be soon present in language classrooms and that it can add more motivation to learning activities. Kahoot is an appropriate choice for teaching high school students by giving them access to mobile devices. Such eLearning tools add positive energy as well as fun to the class room. Pede (2017) found that all students increased their vocabulary assessment scores when Kahoot was played twice weekly and that the use of Kahoot also increased student focus and on task behavior.

RESEARCH METHODOLOGY

Research Design

The study applied the quasi- experimental design to investigate the effect of Kahoot web-based learning on students' vocabulary learning. Shuttleworth (2008) stated that "the quasi-experimental design is a form of experimental research used extensively in the Social Sciences and Psychology and it involves selecting groups upon which a variable is tested, without any random pre-selection processes"(P.1). The research has one independent variable which is using Kahoot web-based learning and one dependent variable which is enhancing students' vocabulary learning. In order to examine students' vocabulary learning a pre-test and a post- test were used. The experimental group received a pre-test, treatment and post-test, but the control group received pre-test and post-test without treatment.

Research Variables

The research had one independent variable which is using Kahoot web-based learning and one dependent variable which is enhancing students' vocabulary learning.

Sample

The sample of this study consisted of (106) female EFL students from the 8th and 23rd Secondary Schools in Al Madinah Al Munawarah, Saudi Arabia. The researcher selected four classes from the second grade. The classes consisted of (35), (35), (18) and (18) female students whose ages ranged between (15 -17) years old. The participants were assigned into two groups, an experimental group who was taught vocabulary lessons by using Kahoot! web-based learning and a control group who was taught the same content without using Kahoot! web-based learning.

Instrument

A vocabulary achievement test was developed by the researchers to measure students' vocabulary achievement level based on the content of the students' textbook entitled (Traveller 4) for the second grade Secondary School students, in the second semester. The pre- and post-test vocabulary achievement tests consisted of (20) items and included (4) types of questions covering the vocabulary in Unit (3) of the students' textbook. The total possible score was 20 points. A correct choice received one score and an incorrect choice received no score.

Validity and Reliability

To ensure that the vocabulary achievement test was valid, it was sent to some experts in the field of teaching English as a foreign language. The test was revised and several modifications were made. Finally, the test proved to be valid and was ready to be piloted.

The vocabulary achievement test was piloted on a sample of (35) second grade Secondary School students. The purposes of conducting the pilot study were: to ensure that the instructions in the test were comprehensible, to determine the duration of the test, to ensure that the test is valid and reliable and to explore the needed modifications before applying the research instrument. The results of this vocabulary achievement test were then corrected by the researcher. The data collected from the pilot study was analyzed by using Statistical Package for Social Science (SPSS) version (19).

According to the result of Cronbach's Alpha coefficient, the reliability of the whole vocabulary achievement test was (0.804), which is > (0.7) and it is acceptable. See Table (1).

Table 1. The Cronbach's Alpha coefficient for test's items

Types of Question	The Cronbach's Alpha coefficient
Q1: Matching	0.849
Q2: Writing words under pictures	0.737
Q4: Choosing	0.747
Q5: Doing as shown between brackets	0.766
The reliability of the whole vocabulary achievement test	0.804

Description of Research Experiment

To test the hypotheses of the current research, students were divided into two groups: The experimental group and the control group. Each group consisted of (53) female second grade students in Secondary School. Students in the experimental group were taught vocabulary using Kahoot!web-based learning tests in vocabulary lessons, while the control group studied the same content with the same teacher using only traditional vocabulary teaching methods. .

The students' textbook entitled (Traveller 4) consists of four units. Each chapter consists of eight lessons. The researcher taught the experimental and control group one unit which was entitled (Up to Date).

The Treatment

The Pre - test

The experimental and control groups took the vocabulary achievement pre-test before conducting the experiment. The participants took (45) minutes to answer (20) questions. Using a pre-test was necessary in order to ascertain that students did not have prior knowledge of the words and to gain insight into students' background knowledge. The result of the pre-test showed that the experimental and control group had the same level of vocabulary knowledge and indicated the homogeneity of the groups.

After giving the pre- test to the experimental (N=53) and control group (N=53), the data was collected to compare and assess participants' proficiency level in vocabulary knowledge after conducting the experiment and finishing the treatment. The results of the pre-test were statistically manipulated, analyzed and interpreted. The data was analyzed using the Statistically Package of Social Science (SPSS), version 19.

Responding to the research purposes, an adequate statistic test was employed. Some descriptive statistics, frequencies and percentages were used to analyze the data, calculate the results and indicate the pre-performance levels in vocabulary knowledge.

For the purpose of investigating the homogeneity among the experimental and control group before conducting the experiment, and to test the first hypothesis which is "There are no statistically significant differences in the mean score of the pre-test between students who will be taught vocabulary using Kahoot! web-based learning (experimental group) and students who will be taught vocabulary without using Kahoot! web-based learning (control group)", an Independent-Sample test was conducted to compare the mean score of vocabulary learning between groups. The Independent-Sample test was conducted at first for the pre- test to compare the mean score of vocabulary learning between the experimental group and control group before implementing the research treatment. The results showed that the mean values of the experimental group (M=12.87, SD= 5.02), and the control group (M= 12.84, SD= 3.96) are very close, see table (2).

Table 2. Descriptive statistics of the pre-test

	N	Mean	Std. Deviation
Experimental group	53	12.87	5.02
Control group	53	12.84	3.96

Based on table (3), which shows the results of the Independent- Sample test, it seems that the value of (t) is 0.027 which is not statistically significant at the level of less than, or equal to (0.05). Hence, it can be concluded that there were no significant differences between the experimental and control group with respect to the pre- test.

According to the results based on table (3), the first hypothesis was rejected.

Table 3. Independent Sample T-test of the pre vocabulary achievement test

Groups	Levene's Test for Equality of variances		T- test for equality of Means			Mean difference
	F	Sig.	t	df	Sig. (2-tailed)	
Experimental Control	.817	0.370	.027	64	.978	.978

Implementation of the Research Experiment

In order to achieve the purpose of the quasi- experimental research, an experiment was conducted to explore the effect of Kahoot! web-based learning on EFL students' vocabulary learning. The researcher conducted the experiment in the academic year 2019. It lasted three weeks with four lessons per week.

The researcher used the traditional teaching methods for explaining new vocabulary for the control group, while for the experimental group each vocabulary lesson was introduced via Kahoot! web-based learning, which is rich with tests that may enhance their memory.

In the treatment, Kahoot! web-based learning was used effectively, to teach the experimental group. The researcher designed and included related tests and competitions. The researcher selected different types of questions.

After conducting the experiment which lasted three weeks, the participants were given the vocabulary achievement post- test which lasted for (45) minutes.

RESULTS AND DISCUSSIONS

This part presents the resulting effects of using Prezi presentation software (Kahoot) in vocabulary teaching of female, Saudi, second-grade, Secondary School students. Data was collected through conducting pre- and post-vocabulary achievement tests. Research hypotheses were tested by using an Independent Sample T-Test, to compare the mean scores of the experimental and control group. Null hypotheses were tested at alpha level of (0.05).

In order to answer the research question: "What is the effect of using Prezi presentation software on EFL Secondary School students' vocabulary learning?" students were asked to respond to the pre- and post- tests and an Independent Sample T-Test of the pre- and post-test scores was calculated.

To test the second hypothesis

"There are no statistically significant differences in the mean scores of the vocabulary achievement post-test between the students who will be taught vocabulary by using Prezi presentations group (experimental group) and students who will be taught vocabulary without using Prezi presentations software (control group) ".

The means and standard deviations of the post-test were calculated for both, the experimental and control group.

Table 4. Means and St. Deviation of the post test

Groups	N	Mean	St. Deviation
Experimental	53	18.16	.47
Control	53	15.44	.61

Based on the results in Table (4), there was a difference in the means and standard deviation between the experimental group (M= 18.16, SD= .47) and the control group (M= 15.44, SD= .61). See figure (1).
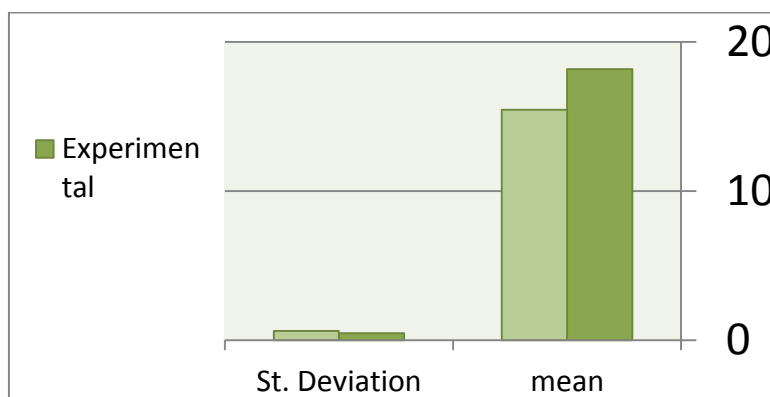

Figure 1. Means and Sd. Deviations of the post-test

From Figure (1), it is clear that there is a difference between the mean scores of the experimental and control groups up to (2.72) degrees.

To check the validity of the second hypothesis, the Independent Sample T-Test was run to determine any significant differences between the mean values of post- test scores. The results are illustrated in Table (5). It is clear that the computed t- value equals (3.489) with statistical significance of more than (0.000). Therefore, the null hypothesis was rejected, and it was concluded that there are statistically significant differences in the mean scores of the post- test between the students who had been taught vocabulary by using Kahoot(experimental group) and students who had been taught vocabulary without using Kahoot (control group).

Therefore, the second null hypothesis is rejected and the alternative hypothesis is accepted, i.e. there is significant difference at the level of (0.005) between the mean scores of the vocabulary achievement post-test between the experimental and control group. See Table (5).

Table 5. Independent Sample T-Test of the post vocabulary achievement test

Groups	Levene's Test for Equality of variances		T- test for equality of Means			Partial Eta Squared
	F	Sig.	t	df	Sig. (2-tailed)	
Experimental Control	1.434	0.239	3.489	34	0.000	0.19

According to the results shown in Table (5), a statistically significant difference was found between the results of the two groups' post- tests. The results showed that t value (t= 3.489) was significant at the 0.05 level (sig= 0.000). The experimental group who was taught vocabulary using Kahoot!web-based learning showed significantly higher scores than those taught vocabulary without Kahoot!web-based learning.

In order to measure the effect of using Kahoot!web-based learning on learning vocabulary, Eta squared was calculated. Using Kahoot!web-based learning is considered acceptable if the computed ration is no less than (0.14). The result obtained shows that Eta Squared equals (0.19). Therefore, it can be concluded that Kahoot!web-based learning was effective in improving vocabulary learning of the experimental group.

To sum up, the results indicate that there was a statistically significant difference between the experimental and control groups in favor of the experimental group regarding the use of Kahoot!web-based learning in learning vocabulary.

DISCUSSION

In the light of the data analysis and results, the conclusions can be stated according to (a) the literature review, (b) the results from related studies, and (c) the researcher's personal observations during the study treatment period. The discussions and conclusions deal with the female second grade Secondary School students' improvement in vocabulary achievement after using Kahoot! web-based learning.

The results of the vocabulary achievement post-test indicated that there was statistically significant difference between the experimental (M= 18.16, SD= .47) and control group (M= 15.44, SD= .61), see Table (4). Concerning the results, there are several possible explanations for the effectiveness of Kahoot! web-based learning on enhancing EFL vocabulary learning for the female second grade Secondary School students.

Based on the results of the research discussed above, it can be concluded that using Kahoot web-based learning could improve students' English Vocabulary.

It might be due to the use of game-based learning which can enhance students' motivation. This result was similar to that of Mansur & Fadhilawati (2019), Ismail & Mohammad (2017) and Heni, Sudarsono & Regina (2019), who found that Kahoot can enhance vocabulary learning and motivate students to learn English vocabulary.

CONCLUSION

Based on the research findings, the following conclusions were generated:

1. Generally, the effectiveness of using Kahoot! web-based learning was evident in the improvement of the Saudi EFL second grade Secondary School students' vocabulary learning.
2. The use of Kahoot in teaching vocabulary improved students' vocabulary and it seems that Kahoot is a valuable tool for enhancing vocabulary learning.

RECOMMENDATIONS

Based on the current research findings, a number of recommendations can be derived:

1. The Faculties of Education should design preparation programs to train teachers how to use and start making Kahoot.
2. EFL supervisors can design workshops to collaborate and make useful Kahoot questions and quizzes.
3. EFL teachers should be encouraged to implement and use Kahoot in teaching vocabulary.
4. Expert EFL teachers should be asked to share their experience, knowledge and their Kahoot questions with colleagues.

SUGGESTIONS FOR FURTHER RESEARCH

Based on the findings of the current research, the following areas for future research are suggested:

1. As the focus of the current research was developing students' vocabulary learning by using Kahoot, the study should be replicated by using Kahoot with other language skills, such as reading, listening, writing, and speaking.

2. A similar study with different populations at other school levels could be carried out to investigate the effect of using Kahoot on developing students' vocabulary learning.

3. Additional studies are needed to address the relationships between using Kahoot and other variables that may affect EFL learning, such as motivation, engagement, competence and students' attitudes.

4. Researchers may want to duplicate the existing study by designing a student questionnaire to investigate students' attitudes towards Kahoot in learning vocabulary.

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