

## THE EFFECTIVENESS OF KAHOOT ONLINE GAME ON EFL LEARNERS' SPELLING ACHIEVEMENT AND THEIR PERCEPTIONS TOWARDS THE GAME

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### ABSTRACT

This research study aimed to investigate the effectiveness of using Kahoot online game on EFL learners' spelling achievement. It also examined learners' perceptions towards using Kahoot in EFL Classroom. The participants of the study were 32 and were divided into two groups; a control group of 16 students who were studying vocabulary and spelling in the traditional method and an experimental group of 16 students who were studying vocabulary and spelling through a gamification strategy; a sample of Kahoot online game. Independent sample t-test was applied to the data. A significant difference was found between the two groups which indicated that experimental group's spelling achievement was higher. Also, the analysis of the survey data indicated that the learners have positive perceptions towards the use of Kahoot online game in EFL class.

**Keywords:** Gamification, Kahoot, online game, spelling achievement, perceptions.

### INTRODUCTION

The use of technology in education has significantly increased, and technology-based educational activities play a crucial role in enhancing learning opportunities in classrooms in various ways (Sardegna & Dugartsyrenova, 2014). The likely primary reasons of the popularity of technology applications used in education such as wikis, weblogs and games are that of being easily-accessed and cost-free. Thus more recent applications should be tried out to explore their effectiveness in learning, especially in EFL context.

One of those abovementioned recent applications is Kahoot online game which has been chosen for this study. What is Kahoot? It's a web 2.0 tool through which teachers can create online quizzes, surveys or discussions. When a teacher prepares questions on Kahoot, they appear on the screen one by one. For students, they need to download Kahoot app. Unlike teachers; students do not need to create Kahoot account. They can just get into Kahoot app and write the pin displayed on the board or screen by their teacher. After students type that pin in their mobile phones or iPads, they can start answering the questions and see their scores afterwards. When they finish answering all the questions, they can see the top-three winners of the game on the screen (Dellos, 2015; Ren & Wagner, 2016). Regarding the scores, students may get different points even if they answer questions correctly because each student is

awarded a number of points depending on the time he or she has taken to answer. The one who answers faster gets more points than the slower ones (King, 2017).

Since a lot of research on gamification and game-based learning has emphasized its effectiveness in increasing learners' motivation and engagement in learning (Armier, Shepherd & Skrabut, 2016; Dellos, 2015; Wang & Lieberoth, 2016), equally Kahoot is one of the games that engages learners and makes them highly motivated (Yapıcı & Karakoyun, 2017). Moreover, quiz questions in Kahoot can further engage students by including multimedia visuals such as pictures and videos (Dellos, 2015). Therefore, the researchers desired to carry out this study finding out Kahoot's impact on EFL learners' spelling achievement. In addition, the researchers also executed this study to explore EFL students' perceptions towards using the game in the classroom.

### **Problem Statement**

One of the researchers of this study who taught the students observed that learners usually make a lot of spelling mistakes even with simple words. Moreover, such spelling errors are not only produced by weak students, they are also seen in high achievers' writings. This enforces the notion that spelling is an essential sub-writing skill, and wrong spelling poses a real obstacle for EFL learners which needs to be tackled. Spelling as a sub-writing skill has been seen as a major challenge for EFL learners in a Saudi Context, and such difficulty is believed to be resulting from the differences of linguistic systems between Arabic and English (Albalawi, 2015; Albeshir, 2018; Alhaisoni, Alzuoud, & Gaudel, 2015).

Therefore, the researchers of the present study wanted to apply Kahoot online game which is considered as one of the motivating games in order to check its effectiveness on EFL learners' spelling. As no previous studies has touched this topic, according to the researchers' humble knowledge, It has been decided to initiate this study hoping that it would lighten and contribute to the existing research of using gamification in language learning.

### **Research Questions**

The present study examined the effects of using Kahoot online game on learners' spelling performance and also investigated learners' perceptions towards the game. Thus it tended to find out the answers to the following questions:

1. Does using Kahoot online game have an effect on learners' spelling achievement?
2. What are the EFL learners' perceptions towards using Kahoot in classroom?

## **LITERATURE REVIEW**

### **Motivation and Engagement**

Previous research showed that there is a tendency finding out the effectiveness of Kahoot online game on students' engagement and motivation. For example, Wang, Zhu and Sætre (2016) found that students, who used Kahoot quiz compared to paper-quiz and Clicker quiz, were more engaged, motivated, concentrated, and enjoyed it more. Another study carried out by Huseyin and Kocakoyun (2018) whose findings showed that the inclusion of Kahoot as a gamification method increased students' interest, ambitions for success, and motivation. A similar study was conducted by Zarzycka-Piskorz (2016) showed that learners' motivation was enhanced by using Kahoot in learning grammar. Wang and Lieberoth (2016) who studied the effect of points and sound played in Kahoot game on learners' concentration, engagement, enjoyment, learning, motivation, and classroom dynamics, found out that variation in the use of audio and points had a significant difference for concentration, engagement, enjoyment, motivation. Their study also confirmed that Kahoot audio and music affected the classroom

dynamics in a significant positive way. Consequently, the researchers of this study sought to discover how Kahoot as a gamification application would motivate students in learning spelling.

### Gamification and Learning

The literature review on gamification has shown its impact on learning. For example a study conducted by Turan, Avinc, Kara and Goktas (2016) which examined the effectiveness of gamification strategies on students' cognitive load levels and achievements of a sixth grade students studying information technology and software course, indicated a significant difference in terms of students' achievement between the experimental group and the control group in favorite of the experimental group. Another study by Cheong, Cheong and Filippou (2013) which investigated the effect of gamification on learning, engagement, and enjoyment found that gamification had improved students learning dramatically. One more study conducted by Boulaid and Moubtassime (2019) who investigated the effect of Kahoot in the Enhancement of English vocabulary of EFL university learners. Their results showed that Kahoot significantly contributed to students' vocabulary richness.

However, just contrary to the above-mentioned studies, a study carried out by Hanus and Fox (2015) which investigated the effects of gamification on students' motivation, effort, satisfaction, learner empowerment, and academic performance showed that the students in the gamified course were less motivated, satisfied, and empowered over time than those in non-gamified class. With regards to the students' performance, the results found that those who were in the gamified course got lower final exam scores than those who were in the non-gamified class.

All the studies cited above are related to the current study in that they attempted to investigate the effectiveness of Kahoot on students' motivation, engagement, and learning outcomes. However, this study is devoted to examining the effectiveness of Kahoot on EFL learners' spelling achievement, an area which according to the researchers hasn't been investigated.

## RESEARCH METHODOLOGY

### Participants

This study took place in a technical training institute in the eastern region of Saudi Arabia where learners go there to get trained for 2 years before starting work. All of the participants in this study were high school graduates and were ranged from 18 to 20 years of age. The population was composed of all trainees who were studying English in Level 2 equivalent to A1 in the Common European Framework of Reference for Languages (Beginners). Two groups were selected randomly and distributed equally according to their previous final marks in Level 1; one of groups was chosen to be the experimental group and the other one was assigned as the control group. The number of the participants were equal in both groups; 16 learners in each group. The following table shows the number of participants in each group and their pre-test results.

Group	Group statistic		
	N	(M)	(SD)
Control	16	(8.25)	(3.43)
Experimental	16	(7.37)	(3.34)
Sig.	=	0.47	

Table 1: Independent sample t-test of Pre-test dictation results

Table 1 shows the number of participants in control and experimental groups. It also displays the mean scores of the participants and the standard deviation of the scores. From this table, it can be seen that the mean score of the control group is slightly higher than the experimental group in the pre-test. However, the significance value which is (0.47) informs us that the pre-test results show no significant difference between the control group and the experimental one in terms of students' spelling achievement. Therefore, both groups in this experiment are considered homogeneous according to the results of the pre-test.

### Data Collection Instruments and Data Analysis

To fulfill the objectives of this study, two instruments were used. The first one was a dictation test. Both groups; the experimental and the control, were subjected to pre-test and post-test. The vocabulary list in the dictation test was prepared by the researchers and was chosen from the content that the learners study. The total number of words in the dictation test was twenty words and all of the words were varied in the degree of difficulty. To achieve this variety; a range of parts of speech such as verbs, nouns, adjectives and adverbs were included in the list. Moreover, the number of syllables was also ranged between two and four syllables. The vowel sounds were considered as well; a variation of short vowels, long vowels and diphthongs were taken under consideration for selecting the word list of the test. The dictation test was evaluated by two professors of TESOL in the department of curriculum and construction in King Saud University, and four expert teachers in the field of Teaching English as a Foreign Language to ensure the validity and content reliability of the test.

The second tool used in this study was a survey which was distributed to the experimental group participants. The survey was evaluated by five expert professors and teachers in the field of Teaching English as a Foreign Language to guarantee the validity of the survey. And regarding the evaluation of the survey's reliability, it was piloted on 10 students from another class and then was measured by Cronbach's Alpha = 0.82. This figure shows that the survey has a high reliability. Finally, the survey was distributed to the experimental group at the end of the experiment in order to find out students' perceptions towards using Kahoot in EFL learning context. The experiment lasted for totally four weeks, where experimental group was taught vocabulary and spelling using Kahoot, whereas the control group was taught using the traditional way. The following table shows the experiment schedule.

Time	Task
Week 1	Pre-test dictation was distributed to both groups.
Week (2.3.4.5)	Participants in experimental group used Kahoot to study the vocabulary of units one, two, three, and four. Kahoot was also used for revising the units. Control group's participants learned vocabulary of units one, two, three, and four in the traditional way; using pen and paper. For the revision of the units, students were given handouts in forms of quizzes and were answered by the whole class.
Week 6	Participants in both groups received the post-test dictation, and the experimental group's participants received a survey to express their perceptions of the experiment.

Table 2: Experiment timetable

Regarding data analysis of the dictation test, the spelling mistakes of the participants of each group were calculated. Independent sample t-test was used to calculate the mean score, standard deviation of the scores and the significance value.

With regards to the analysis of the survey, the responses of the experimental group participants were analyzed using a four-point Likert scale (Strongly agree, Agree, Disagree, Strongly disagree). Overall, the percentages were calculated for each statement to find out the learner's perspectives towards using Kahoot in EFL classroom. Tables were used to support and summarize the theoretical results.

## RESULTS

### Dictation Test

The participants of the experimental group and control group took the post-test dictation in the sixth week of the experiment. The following table shows the post-test results.

Group	Group statistic		
	N	(M)	(SD)
Control	16	(10.4)	(4.7)
Experimental	16	(13.9)	(2.6)
Sig.	=	0.01	

Table 3: Independent sample t-test of Post-test dictation results

Since the learners' spelling test scores have normal distribution and the random sample is over 30 subjects, the independent sample t-test, a parametric test, was used. When the pre-test applied to the experimental and control groups was analyzed, no significant difference was observed: Sig. 0.47. However, a significant difference was seen between the experimental and control groups with regards to EFL learners' spelling achievement when the scores of the post-test were analyzed: Sig. 0.01. As displayed in table 3, the mean score of the learners' spelling achievement (13.9) was higher than of the control group (10.4). This significant difference in the post-test results is attributed to the experimental group which used Kahoot in studying and practicing vocabulary and spelling. Therefore, these findings answered the first question of this study positively "Does using Kahoot online game have an effect on learners' spelling achievement?" The findings confirmed that there is a great impact of using Kahoot on learners' spelling achievement.

### Survey Results

For the survey analysis, percentages were used to show the participants' responses for each statement in the six sections of the survey. The following table shows the percentages of students' responses to each statement using a four point Likert scale (Strongly Agree, Agree, Disagree, and Strongly Disagree). The quantitative data was collected from the 16 students in the experimental group through the survey which primarily aimed to investigate the students' perceptions towards using Kahoot in EFL classroom. The results showed a general positive perception towards the use of Kahoot in learning English as a Foreign Language.

No.	Statement	Strongly agree	Agree	Disagree	Strongly disagree
<b>I. Easiness of Kahoot</b>					
1.	Kahoot is easy to use.	62.5%	37.5%	0%	0%
2.	The design of Kahoot is simple.	68.8%	31.2%	0%	0%
3.	Kahoot can be easily played by either iPads or cell phones.	87.5%	6.3%	6.3%	0%
<b>II. Kahoot and learning Improvement</b>					
4.	Kahoot is good for practicing new vocabulary.	50%	50%	0%	0%
5.	Using Kahoot improves my spelling.	43.8%	25%	31.3%	0%
6.	Using Kahoot makes me read faster.	68.8%	31.3%	0%	0%
7.	Kahoot is good for revising lessons.	68.8%	31.3%	0%	0%
<b>III. Kahoot and Thinking</b>					
8.	Kahoot makes me think fast.	50%	50%	0%	0%
9.	Kahoot makes me think critically.	18.8%	56.3%	25%	0%
<b>IV. Kahoot and Feedback</b>					
10.	I get instant feedback from my peers.	12.5%	81.3%	6.3%	0%
11.	I get enough feedback from my teacher.	62.5%	37.5%	0%	0%
12.	My teacher's comments are very helpful.	68.8%	31.3%	0%	0%
<b>V. Kahoot and Motivation</b>					
13.	Using Kahoot makes learning fun.	68.8%	25%	6.3%	0%
14.	I feel motivated when I use Kahoot.	50%	37.5%	12.5%	0%
15.	When we use Kahoot, time passes fast.	62.5%	37.5%	0%	0%
16.	Using Kahoot encourages me to seek challenge.	81.3%	12.5%	6.3%	0%
17.	Using Kahoot makes me increase my effort to do the activity.	43.8%	43.8%	12.5%	0%
<b>VI. Kahoot and Concentration</b>					
18.	Kahoot makes me concentrated on the activity.	62.5%	37.5%	0%	0%
19.	Kahoot maintains my attention for long time.	37.5%	50%	12.5%	0%
20.	The music sound in Kahoot increases my concentration on the activity.	25%	25%	37.5%	12.5%

Table 4: Participants' perceptions on using Kahoot game in classroom

Regarding the easiness of using Kahoot, all students agreed that Kahoot is easy to use and has a simple design (100%). They also indicated that Kahoot can be played using any portable mobile device (93.8%). In terms of the effect of using Kahoot on learning improvement, 100% of students agreed that Kahoot is good for practicing new vocabulary, made learners read faster, and was good for revision classes. In addition, more than two thirds of the participants thought that Kahoot improved their spelling (68.8%). With regards to the impact of Kahoot on thinking, 100% of students agreed that Kahoot made them think fast, and 75% of students believed that it made them think critically. In terms of the feedback students received while playing Kahoot, 100% of students agreed that their teacher's feedback was enough and his comments were very helpful. They also agreed that they got instant feedback from their peers (93.8%). Concerning the role of Kahoot in learning motivation, 93.8% of students indicated that Kahoot made learning fun, and 87.5% indicated they felt motivated when they used Kahoot. In addition, 100% of students felt that time passed fast when they used Kahoot. Moreover, 93.8% of students indicated that using Kahoot encouraged them to seek challenge, and 87.5% of students indicated that using Kahoot made them increase their effort to do the activity. With regards to



the role of Kahoot in students' concentration, 100% of students agreed that Kahoot made them concentrated on the activity, and 87.5% of students indicated that Kahoot maintained their attention for long time. However, only 50% of students agreed that the music in Kahoot increased their concentration on the activity.

## DISCUSSION

The purpose of this study was to investigate the effectiveness of the online game Kahoot on the spelling achievement of EFL students in a technical training institute. In this study, a Kahoot-based strategy was compared with a traditional method. The experimental group students, who were taught using Kahoot online game, received better spelling achievement scores than those who were in the control group. Similarly, Turan et al. (2016) found in their study that the experimental group students, who were using the gamification method, earned better achievement scores than the control group students. Cheon et al. (2013) also found that gamification increased student learning. Likewise, Boulaid and Moubtassime (2019) found that using Kahoot in teaching vocabulary for EFL university students has significantly improved students' vocabulary. However, Hanus and Fox (2015) found that students who were taught with gamification strategy scored lower in the achievement exam than those who were taught by the traditional method. Similarly, Wang, et al. (2016) found that there was no significant difference among the students who used Kahoot quiz compared to paper-quiz and Clicker quiz in learning outcome. These contradictory findings could be the result of the design and content of the gamified strategy implemented in the experiments.

This study also aimed to find out students' perceptions towards using Kahoot in classroom. According to the survey data analysis, students generally showed positive attitudes towards using Kahoot in classroom. All of the participants agreed that they found Kahoot easy to use. Almost all of the participants indicated that Kahoot helped them improve their learning; especially in learning new vocabulary, reading and spelling. These findings corroborate the findings of (Cheong, et al. 2013; Turan, et al., 2016), in which students' achievement and learning increased due to the use of gamification strategies. However, in the present study, about third of the participants (5 students) didn't feel that Kahoot improved their spelling; though those students did much better in the post-test dictation. This kind of feeling could be resulted from their high expectations to achieve more when using this new technology tool in class, or it might be a result of a fixed picture in mind that spelling as a sub-writing skill is hard to overcome. Regarding the effects of using Kahoot on students' thinking skill, all learners indicated that using Kahoot made them think faster which helped them answer the questions quicker, and over 70 % of the participants pointed out that Kahoot made them think critically; however, the rest 25% of the participants did not agree on being critical thinkers. This could be due to the nature of critical thinking as a higher level mental skill which needs time and practice to develop and be mastered by students. With regards to feedback students received while using Kahoot, the majority indicated that they got instant feedback from their classmates; that kind of feedback lead to beneficial discussion. They also indicated that the teacher's feedback was enough and helpful. Therefore, learners were satisfied with the feedback they got from their teacher and classmates.

Almost all of the participants indicated that using Kahoot increased their motivation. The findings of this study agree with the findings of (Huseyin & Kocakoyun, 2018; Wang, et al., 2016; Zarzycka-Piskorz, 2016) on the role of Kahoot in increasing students' motivation. In terms of the role of Kahoot on concentration, the majority of students pointed out that Kahoot maintained their attention for a longer time doing the activity, and all of them indicated that

when using Kahoot, they were concentrated on the activity. These findings corroborate the findings of Wang and Lieberoth (2016), in which the sounds and points in Kahoot significantly affected the students' concentration on the activity. However, in our study only 50% of the participants indicated that the music sound in Kahoot increased their concentration on the activity. This low percentage informed us that the music sound in Kahoot could be a source of distraction and a barrier to students' concentration.

## CONCLUSION

This study was encouraging as it showed the positive effect that Kahoot online game had on spelling achievement of EFL learners. It also indicated that students had positive perceptions towards the use of Kahoot in class. The results of the students' perceptions survey revealed that students enjoyed playing Kahoot as well as they found it helpful in improving learning and thinking. In addition, the learners expressed their satisfaction with the feedback they got from both; their teacher and their peers. Moreover, the results showed a great increase of students' motivation and concentration while they were playing Kahoot in class. Although this study demonstrated the positive effects that Kahoot has on EFL learners' spelling achievement in a beginner-level, further studies are recommended to be conducted with intermediate and advanced EFL learners. In addition, more studies should be implemented to find out the effectiveness of using Kahoot on the types of spelling mistakes EFL learners committed. Last but not least, other studies should be executed to investigate teachers' perceptions on using Kahoot in EFL classroom.

## REFERENCES

- Albalawi, M. J. (2016). The academic writing performance and spelling errors of English as foreign language students at Tabuk University: A case of the introductory year students. *Asian Journal of Social Sciences, Arts and Humanities*, 4(1).
- Albeshar, K. B. (2018). Saudi EFL adult learners' spelling errors: Reasons and remedial strategies to raise their writing proficiency level. *International Journal of Applied Linguistics & English Literature*, 7(7), 131-141.
- Alhaisoni, E., Alzuoud, M., & Gaudel, D. (2015). Analysis of spelling errors of Saudi beginner learners of English enrolled in intensive English language program. *English Language Teaching, Canadian Center of Science and Education*, 8(3).
- Armier, D. D., Shepherd, C. E., & Skrabut, S. (2016). Using game elements to increase student engagement in course assignments. *College Teaching*, 64(2), 64-72.
- Boulaid, F., & Moubtassime, M. (2019). Investigating the role of Kahoot in the enhancement of English vocabulary among Moroccan university students: English department as a case study. *International Journal of Innovation and Applied Studies*, 27(3), 797-808.
- Cheong, C., Cheong, F., & Filippou, J. (2013). Quick quiz: A gamified approach for enhancing learning. Retrieved from <http://www.pacisnet.org/file/2013/PACIS2013-206.pdf>
- Dellos, R. (2015). Kahoot! A digital game resource for learning. *International Journal of Instructional Technology and Distance Learning*, 12 (4), 49-52.
- Hanus, M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education*, 80, 152-161
- Huseyin, B., & Kocakoyun, S. (2018). Perceptions of students for gamification approach: Kahoot as a case study. *International Journal of Emerging Technologies In Learning*, 13(2), 72-93.
- King, A. (2017). Using Kahoot!. *Australian Mathematics Teacher*, 73(4), 35-36.



- Ren, C., & Wagner, J. (2016). Kahoot!. *Tesl-Ej*, 20(2), 1-10.
- Sardegna, V. G., & Dugartsyrenova, V. A. (2014). Pre-service foreign language teachers' perspectives on learning with technology. *Foreign Language Annals*, 47(1), 147-167.
- Turan, Z., Avinc, Z., Kara, K., & Goktas, Y. (2016). Gamification and education: achievements, cognitive loads, and views of students. *International Journal of Emerging Technologies in Learning*, 11(7), 64-69.
- Wang, A. I., & Lieberoth, A. (2016). The effect of points and audio on concentration, engagement, enjoyment, learning, motivation, and classroom dynamics using Kahoot! *Proceedings of the European Conference on Games Based Learning*, 1, 738–746.
- Wang, A. I., Zhu, M., & Sætre, R. (2016). The effect of digitizing and gamifying quizzing in classrooms. *Proceedings of the European Conference on Games Based Learning*, 1, 729–737.
- Yapıcı, İ. Ü., & Karakoyun, F. (2017). Gamification in biology teaching: A sample of Kahoot application. *Turkish Online Journal of Qualitative Inquiry*, 8(4), 396-414.
- Zarzycka-Piskorz, E. (2016). Kahoot it or not? Can games be motivating in learning grammar? *Teach. Engl. Technol.* 16(3), 17–36.