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The Impact of Kahoot on English Vocabulary Acquisition: A Study of Moroccan High School Students

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Abstract

In an era where digital engagement shapes modern education, integrating gamification into language learning has emerged as a powerful tool to enhance student engagement and learning outcomes. This study investigates the impact of Kahoot, a platform for learning through games, on the English language vocabulary acquisition of Moroccan high school students. A quasi-experimental design with 80 students (40 per group) was used. Students sat for vocabulary pre- and post-tests (15 points per test), and the data were processed using descriptive and inferential statistics. The findings revealed that Kahoot significantly improved vocabulary acquisition among students in the experimental group compared to traditional teaching methods. This study highlights the instructional value of gamification tools like Kahoot in vocabulary instruction and provides pedagogical implications and suggestions for integrating digitally gamified tools in the language classroom.

1. INTRODUCTION

1.1. Research Problem

Despite the efforts made by the EFL teachers to improve the vocabulary of their students, a lot of Moroccan students fail to retain that vocabulary. Despite the fact that a wealth of research has been conducted on gamification with its relation to language skills, especially vocabulary, there is limited evidence on how gamified methods compared to traditional methods in Moroccan high schools. Hence, the problem to be addressed in this study is that little is known about the impact of Kahoot as a gamification tool on vocabulary acquisition. Understanding this impact is critical for both teachers and students. The results of this study seek to contribute valuable information that can improve the quality of work for teachers and other stakeholders.

1.2. Research Objectives

This study aims to investigate the impact of using Kahoot on the vocabulary acquisition of high school EFL students. It also seeks to determine whether the implementation of Kahoot into vocabulary instruction leads to significantly better vocabulary learning outcomes as opposed to the traditional teaching methods. Furthermore, this paper's objective is to explore the extent to which Kahoot promotes students' vocabulary retention. Through examining learning

outcomes, this study aspires to give insights into the effectiveness of game-based learning platforms in EFL classes.

1.3. Research Questions

- To what extent does Kahoot improve vocabulary acquisition among high school EFL students compared to traditional teaching methods?

- Is there a statistically significant difference in vocabulary test scores between the experimental group (gamified instruction) and the control group (traditional instruction) after the intervention?

1.4. Research Hypothesis

- **H1:** Gamification using Kahoot results in a measurable improvement in vocabulary acquisition (mean score gain > 0) among high school EFL students compared to their pre-test scores.

- **H2:** There is a statistically significant difference in vocabulary test scores between the experimental group (gamified instruction using Kahoot) and the control group (traditional instruction) after the intervention.

2. LITERATURE REVIEW AND EMPIRICAL STUDIES

2.1. Vocabulary Acquisition

The learning journey of any language entails the mastery of vocabulary to express oneself without limitations. According to Schmidt (2010), learning vocabulary is indispensable in mastering a second language. Perhaps it is wise to reference the famous saying, “a little can be conveyed without grammar, but nothing can be conveyed without vocabulary” (Wilkins, 1972, p. 111). Indeed, the more words learners’ study, the more they will be able to understand what they hear and read, and the more likely they will express themselves better. In fact, vocabulary is crucial for foreign language learning and competency, impacting students’ ability to talk, read, listen, and write effectively in the target language.

Intentional learning, on the other hand, is defined by when one commits information to memory, such as preparing for a test or learning lyrics of a song by heart. Hulstijn (2013) calls this a “deliberate attempt” to lock information into the brain, often with tricks like repeating it until it’s second nature. Above all, vocabulary development is a gradual process wherein learners build their own understanding of some words over time by encountering them in various forms and contexts. According to Schmitt (2010), as learners are exposed to words more frequently, they will consolidate their knowledge and discover additional meanings associated with them. Therefore, vocabulary learning is a longitudinal process that takes time and effort. It requires frequent exposure to the target word to be learned and for the learners to be able to use the word effectively.

Indeed, using and learning a word is related to the ability to use it effectively. Nation (2013) distinguishes between productive and receptive vocabulary. On the one hand, receptive skills, listening and reading, tend to help us comprehend language, while productive skills, speaking and writing, help us produce language. To put it bluntly, receptive vocabulary skill entails internalizing both its form and meaning. Vocabulary production, on the other hand, entails the capacity to retrieve and produce the proper spoken or written word form as well as the ability

to communicate meaning through speech or writing. A longitudinal study conducted by Hajiyeva (2015) found that there was not significant growth in students' receptive vocabulary knowledge, while there was a significant productive vocabulary knowledge which grew significantly. The possible reasons for the insignificant growth in receptive vocabulary can be attributed to the course materials. In fact, the student's unfamiliarity with the frequent words used outside their textbook and materials adds to the reason behind the findings.

2.2.Kahoot Defined

Kahoot is a type of Bring Your Own Device (BOYD) wave of classroom infrastructure, which was developed with the advancement of learning technologies. This new movement has opened doors for new ways of teaching in the classroom. Games are found to be effective in enhancing learning and motivating learners without even being aware of it (Rosas et al. 2003). Kahoot is a Norwegian game-based student response system (SRS) that can turn the classroom into an educational gaming atmosphere. The teacher acts as a game show host, and students become competitors. The teacher uses a wide screen to showcase the questions, list of options, scores and classifications. It also uses attractive and colorful graphics as well as audio to make it more engaging.

What makes it more competitive and appealing is the timer, as students aim at not only getting the correct options but also being quick in responding. The faster you answer correctly, the more points you get. This reward stimulus nature of Kahoot aligns it with the premises of the behaviorist theory of language learning. The quest of getting reinforced through getting high scores and badges motivates students to be deeply engaged with the content presented (Bawa, 2018, Mansoor et al, 2023; Benzizoune & Chibi, 2024). Additionally, it is advocated by constructivism theory since it fosters active engagement through connecting new knowledge with past experiences. Donkin and Rasmussen (2021) states that Game-based learning goes hand in hand with this learning theory as it involves active participation and immediate feedback. Lastly, cognitive load theory supports the implementation of gamified platforms, suggesting that well designed games can lead to learning advancement (Mdlalose et al., 2021).

2.3. Related Research Studies

In a study on the effects of Kahoot integration in learning and retaining vocabulary among students with learning disabilities and health impairments, Ciaramella (2017) concluded that Kahoot use impacted positively their learning process. The results show that vocabulary scores increased when the intervention (Kahoot) is used. In the same token, learners welcomed its use in the classroom. Also, Kahoot offered immediate feedback, which they lacked in the traditional instructions, which is translated into increased comprehension and motivation. It is also argued that the use of Kahoot enables teachers to tailor their lessons smoothly and efficiently.

In a mixed-methods study on the benefits of using Kahoot to enhance grammar and writing practice at Ibn Tofail University EFL students, which uses questionnaires and classroom observation, Benzizoune and Chibi (2024) declare notable enhancement of learning outcomes. It has an excellent ability to give immediate, constructive feedback. It also increased student engagement and motivation via a sense of competition, anonymity, and self-evaluation. Concerning grammar drilling, students reported a positive impact of Kahoot on their grammar scores and concepts comprehension.

3. RESEARCH METHODOLOGY

This study aimed to investigate the impact of gamification using Kahoot tool on high school EFL students' vocabulary acquisition. This chapter describes the methodology employed in this study, providing information about the context of the study, the research design, the participants, the research instruments, the data collection methods, the data analysis procedures, and the steps taken to ensure the credibility and validity of the study. To accomplish the goals of this study and to answer its questions, a quasi-experimental study was conducted for three weeks. The main data collection tools used were pre- and post-tests of vocabulary achievement. The tests revolve around the topic of "shopping" unit taught by the same teacher.

3.1. Research Design

Given the constraints of random assignment in this study, the researcher used pre-existing groups, a quasi-experimental design with a non-equivalent control group, and pre-test/post-test measures were employed. As Creswell (2005) states, this design is often used when researchers cannot form random groups due to practical limitations. This research design aims to examine the impact of gamification (Kahoot) on high school EFL students' vocabulary acquisition by comparing two intact groups: an experimental group exposed to gamification and a control group receiving traditional vocabulary instructions. Both groups are administered a vocabulary pre-test prior to the intervention and a post-test afterward to measure any differences in vocabulary gains. This design allows for a comparison of learning outcomes and helps determine the effectiveness of gamification as a vocabulary teaching strategy.

3.2.Participants

A convenience sampling technique was employed, given that the participants were students under the researcher's instruction. The research involved two common core classes (n=80). Class A has 23 females and 17 males, while Class B consisted of 26 females and 14 males. All students in these two classrooms have Moroccan Arabic as their first language. All students in the two classes began studying English in the previous school year, and this is their second year learning the language. The age of the students ranged from 16 to 18 years old. Their English proficiency level was approximately at the beginner to lower intermediate stage. The two classes were randomly assigned to serve as either the control group or the experimental group. The experimental group was exposed to gamified vocabulary learning activities using Kahoot, while the control group continued with traditional vocabulary instruction methods. The intervention lasted for a period of three weeks.

3.3. Research Instrument

To measure the effectiveness of Kahoot incorporation on vocabulary acquisition, the researchers designed a vocabulary test used as a pre-test and a post-test. The test contains vocabulary items taken from the common core curriculum and was scored out of 15 points. It was administered to both the control and experimental groups before and after the intervention. The vocabulary test evaluated pupils' comprehension of word meaning, usage, and contextual relevance.

3.3.1. Reliability

To ensure the reliability of the data collection instruments, several steps were taken. First, the same pre- and post-tests were administered to both the control and experimental groups under

the same conditions, with all questions presented in the same order and no items omitted. Furthermore, Students were instructed not to write their names on the papers, ensuring anonymity and reducing the potential for response bias.

To further enhance reliability, the researcher ensured consistent scoring by using a standardized answer key for both the pre- and post-tests, reducing the risk of scorer bias. A subset of tests (10% of the total, n = 8) was double-scored by the researcher at a one-week interval to assess intra-rater reliability. The percentage agreement between the two scoring instances was calculated at 95%, indicating high intra-rater reliability. In fact, this is done to ensure consistency in grading over time. Besides, the test instructions were reviewed and standardized before administration to ensure all students received the same guidance, making sure minimized variability in how the tests were completed.

3.3.2. Validity

To ensure the validity of the findings, the vocabulary tests were developed based on the "Shopping" unit from the official national curriculum. The test items directly reflected the vocabulary that Common Core students are expected to learn. To support content validity, the tests were reviewed by an ELT supervisor, who confirmed their appropriateness and alignment with the targeted vocabulary. Furthermore, the same test content was administered to both groups to ensure consistency. However, the only difference between the groups was the method of instruction (traditional vs. gamified). To improve internal validity, factors such as teacher influence and lesson content were controlled by having the same teacher implement both the control and experimental interventions during the same period.

For piloting purposes, ten common core students were chosen to take the tests. The purpose of the pilot study was to determine whether the test that would be administered to the participants would be practical. These ten students were chosen randomly to take part in the pilot study. They were separated into two groups, consisting of five students each: the experimental and control groups. The pilot research was conducted to clarify any confusion and ensure that participants understood the right protocol. Wallace (1998) highlighted the significance of piloting data gathering techniques regardless of sample size.

3.4. Data Collection

To accomplish the goals of this study and to answer its questions, a quasi-experimental study was conducted for three weeks. The main data collection tools used were identical pre- and post-tests that included three vocabulary-focused exercises. These three tasks assessed vocabulary knowledge related to the shopping unit through three main formats. First, the participants completed missing letters in words, and second, they had to match words with their definitions. Finally, they are instructed to identify true or false statements. Each section aimed to evaluate students' understanding and practical use of relevant vocabulary in different contexts. The original version of the test was adapted from (Cancino & Viguera, 2024), with modifications made to suit the Moroccan high school EFL context.

4. DATA DESCRIPTION AND ANALYSIS

The data from the pre- and post-tests were statistically analyzed using a quantitative approach. IBM SPSS Statistics (Version 28) was utilized for this purpose. SPSS is widely recognized for its application in statistical analysis across fields such as social sciences, market research, and

healthcare, offering robust tools for statistical procedures, data management, and visualization. It facilitates the verification of assumptions for statistical methods, such as normality and homogeneity of variance, and supports the interpretation of results, including main interaction effects, to assess the significance of findings.

Descriptive statistics, including means and standard parametric test deviations, were calculated to summarize the performance of the control and experimental groups on the pre- and post-tests.

Inferential statistical tests were conducted to address the two research questions. Initially, an independent samples t-test was planned to compare the mean scores of the control and experimental groups on both the pre- and post-tests, determining whether a statistically significant difference existed between the groups. Additionally, a paired samples t-test was intended to compare scores before and after the intervention to assess whether significant improvement occurred over time within each group. However, the Shapiro-Wilk test showed that the data were not normally distributed ($p < .05$ for all groups), which violated the normality assumption required for parametric tests. Therefore, non-parametric tests were employed: the Mann-Whitney U test was used to compare scores between the control and experimental groups on the pre- and post-tests to determine whether a statistically significant difference existed between the groups. The Wilcoxon Signed-Rank test, on the other hand, assessed within-group changes from pre- to post-test for each group to evaluate whether significant improvement occurred over time. To calculate the effect size for these non-parametric tests, the approach followed Cohen's (1988) guidelines as shown in the following table:

***Table (1)**: Cohen's (1988) benchmarks for interpreting Effect Size (r)*

Effect size (r)	**Magnitude**
0.10	Small effect
0.30	Medium effect
0.50	Large effect

4.1. Normality Test

Before conducting inferential statistics and to determine the normal distribution of data, a test of normality was performed using the Shapiro-Wilk test for both the pre-test and post-test scores in the control and experimental groups. The results indicated that the data for all groups significantly deviated from a normal distribution. Specifically, the Shapiro-Wilk values for the pre-test were $W = .915$, $p = .006$ for the experimental group and $W = .867$, $p < .001$ for the control group. For the post-test scores, the Shapiro-Wilk values were $W = .845$, $p < .001$ for the experimental group and $W = .874$, $p < .001$ for the control group. Since all p-values were less than .05, the assumption of normality was violated. Therefore, due to all the data being normally distributed, non-parametric tests were employed in the analysis. The results of the normality test can be seen as follows:

***Table (2):** Test of normality for pre- and post-tests*

Test	**Group**	**K–S Statistic**	**df**	**Sig.**	**S–W Statistic**	**df**	**Sig.**

Pre-test (out of 15)	Experimental (2)	0.157	40	.014	0.915	40	.006
	Control (1)	0.221	40	.000	0.867	40	.000
Post-test (out of 15)	Experimental (2)	0.211	40	.000	0.845	40	.000
	Control (1)	0.235	40	.000	0.874	40	.000

Given that the assumption of normality was not met, non-parametric tests were employed to analyze the data. Specifically, the Mann–Whitney U test was used to compare the control and experimental groups on both pre- and post-test scores. This test serves as the non-parametric alternative to the independent samples t-test and is appropriate when the dependent variable is continuous but not normally distributed. Furthermore, the comparison involves two independent groups (controlled and experimental). If the Mann–Whitney U test yields statistically significant results, it suggests a meaningful difference between the groups. The following sections present the results of these comparisons.

4.2.Same Group Comparison

4.2.1. Pre-test Comparison

Before the intervention, a Mann–Whitney U test was conducted to examine whether there was a statistically significant difference in vocabulary knowledge between the control group and the experimental group. Furthermore, this type of test is recommended to ensure robust and accurate interpretations. The test was chosen because the data did not meet the assumption of normality, as previously established by the Shapiro-Wilk test.

As seen in tables 6 and 7, the results revealed that there is no significant difference in the pre-test scores (vocabulary knowledge) between the control and experimental groups, U = 697.500, Z = -1.009, p = .313 (two-tailed), which is greater than the alpha level of 0.05. The mean rank of the experimental group (M = 43.06) was slightly higher than that of the control group (M = 37.94) (see Table 6), but the difference was not statistically significant. Thus, both groups were comparable (started at the same level) in terms of vocabulary knowledge before the implementation of the intervention.

Table (3): *Mann-Whitney U Ranks Table*

Test	Group	N	Mean Rank	Sum of Ranks
Pre-test (out of 15)	Control (1)	40	37.94	1517.50
Pre-test (out of 15)	Experimental (2)	40	43.06	1722.50
Total		80		

Table (4): *Mann–Whitney U Test Results for Pre-Test Scores Between Groups*

Test	Statistic
Pre-test (out of 15)	
Mann–Whitney U	697.500
Wilcoxon W	1517.500
Z	-1.009
Asymp. Sig. (2-tailed)	.313

Note: Grouping variable: (1= control, 2= Experimental)

4.2.2. Post-test Comparison

To examine the effect of gamified instruction on students' vocabulary acquisition after the intervention, a Mann–Whitney U test was conducted on the experimental group (which received instruction through Kahoot) and the control group (which received traditional instruction). In Table 6, the results indicated that there is a statistically significant difference in post-test scores between the two groups, U = 85.500, Z = -6.945, p = .000 (two-tailed). The mean rank of the experimental group (M = 58.36) was notably higher than that of the control group (M = 22.64), suggesting that students who were taught vocabulary through gamification significantly outperformed those who were taught using traditional methods. Thus, the null hypothesis was rejected in favor of the alternative hypothesis, which concluded that gamified instruction using Kahoot had a statistically significant positive impact on students' vocabulary test performance compared to traditional instruction. These results highlight the positive impact of gamified instruction on vocabulary acquisition among high school EFL students.

Table (5): *Ranks of Post-Test Scores by Group*

Group	N	Mean Rank	Sum of Ranks
Control (1)	40	22.64	905.50
Experimental (2)	40	58.36	—
Total	80	—	—

Table (6): *Mann–Whitney U Test for Post-Test Scores Between Groups*

Statistic	Value
Mann–Whitney U	85.500
Wilcoxon W	905.500
Z	-6.945
Asymp. Sig. (2-tailed)	.000

Note: Grouping variable: (1= control, 2= Experimental)

4.3. Within Group Comparison

4.3.1. Control Group

After comparing both the pre- and post-test results of the control and experimental groups, this section aims to find out if there was a statistically significant difference within the control group itself between the pre- and post-test scores. Since the control group's test scores were not normally distributed, the Wilcoxon Signed-Rank test, a non-parametric alternative to the paired-samples t-test, was used to compare the pre-test and post-test scores within the group.

The Wilcoxon Signed-Rank Test is used to compare two related samples, such as scores from the same participants at two different times. Also, it is used to detect significant changes in performance. This test helps determine whether traditional instruction alone (traditional instruction) had any measurable effect on students' vocabulary acquisition. The null hypothesis for the first question, which was analyzed using the Wilcoxon Signed-Rank Test, was tested to

test the null hypothesis H_0, which claimed that the use of Kahoot does not result in improvement in vocabulary acquisition among the students compared to their pre-test scores.

As shown in Table 7, the Wilcoxon test revealed a statistically significant improvement from pre-test to post-test scores in the control group, with Z = -2.636, p = .008.

According to the ranks table, 8 participants showed improved performance, while 32 had no change in their scores. Notably, none of the participants showed a decrease. The sum of positive ranks was 36.00, with a mean rank of 4.50, which suggests a slight improvement in vocabulary performance after traditional instruction. This suggests that while traditional instruction led to modest vocabulary gains for a portion of students, the majority experienced no change. This outcome suggests that the traditional instruction used with the control group to teach vocabulary had minimal impact on their vocabulary acquisition.

These findings indicate that traditional teaching methods can support vocabulary acquisition to a limited extent. However, the relatively small number of students who improved highlights the need for more engaging and impactful instructional strategies.

Table (7): *Test statistics*

Group	Z	Asymp. Sig. (2-tailed)
Control	-2.636	0.008
Experimental	-5.286	0.000

Notes: a. Based on negative ranks
b. Wilcoxon signed-rank test

Table (8): *Wilcoxon Signed Ranks – Control Group*

Comparison	N	Mean Rank	Sum of Ranks
Negative Ranks *(post-test < pre-test)* a	0	0.00	0.00
Positive Ranks *(post-test > pre-test)* b	8	4.50	36.00
Ties *(post-test = pre-test)* c	32	—	—
Total	40	—	—

Notes: a. Post-test score is less than pre-test score

b. Post-test score is greater than pre-test score

c. Post-test score is equal to pre-test score

4.3.2. Experimental Group

To determine whether vocabulary acquisition significantly improved among students exposed to gamified instruction using Kahoot, a Wilcoxon Signed Ranks Test was performed for the

experimental group. To test the null hypothesis, Ho, which claims that the use of Kahoot in vocabulary teaching does not result in improvement in vocabulary learning between both groups in their pre-test results. In contrast with the alternative hypothesis, which states that there is an improvement in the test results.

The results (see Table 9) indicated a highly significant increase in post-test scores, with Z = -5.286, p < .001 (two-tailed). Out of 40 students, 36 showed improvements, 3 had unchanged scores, and only 1 experienced a slight decrease. The large number of positive ranks clearly indicates that Kahoot-based gamified instruction had a positive impact on vocabulary learning within this group. In fact, this result suggests that the Kahoot-based gamification instruction substantially improved students' vocabulary acquisition.

Table (9): *Wilcoxon Signed-Rank Test for Post-Test Scores Within Groups*

Group	Z	Asymp. Sig. (2-tailed)
Control (1)	-2.636	.008
Experimental (2)	-5.286	.000

Note: Test based on negative ranks. Grouping variable: 1 = control group, 2 = experimental group. *Wilcoxon Signed Ranks Test* was used.

Table (10): *Wilcoxon Signed Ranks – Experimental Group*

Comparison	N	Mean Rank	Sum of Ranks
Negative Ranks *(post-test < pre-test)* a	1	3.00	3.00
Positive Ranks *(post-test > pre-test)* b	36	19.44	700.00
Ties *(post-test = pre-test)* c	3	—	—
Total	40	—	—

The large number of positive ranks (see Table 10) reinforces the impact rather than the effectiveness of integrating a game-based tool in EFL vocabulary instruction. Hence, Kahoot implementation in the classroom resulted in many students performing better in vocabulary learning.

5. DISCUSSION

The current study goes hand in hand with the findings of the existing literature in relation to the effectiveness of Kahoot in the classroom setting. Zuleha et al. (2025), Plump & LaRosa (2017), and Rayhan et al. (2025) shared similar results showing that Kahoot use has a significant impact on students' vocabulary achievement. According to Ciaramella (2017), the use of Kahoot showed significant potential in improving vocabulary acquisition and retention among students with disabilities, aligning with the findings of this study. In a similar vein, this research concluded that Kahoot significantly improved the vocabulary acquisition among high school EFL students in the experiment group.

Rayan and Watted (2024) found that integrating Kahoot activities into elementary science education significantly enhances students' learning outcomes and motivation. The experimental group, which engaged with Kahoot, recorded a substantial improvement in comprehension of scientific vocabulary (post-test mean= 89.79, SD= 15.34) in relative to the control group (post-test mean= 56.70, SD= 16.34). Although Rayan and Watted study main

focus on scientific concepts and principles, this study centers on vocabulary acquisition through Kahoot. Both domains involve the acquisition of specialized terminology. Overall, their findings endorse the findings of this study, suggesting that Kahoot has the potential to enhance students' understanding of conceptual comprehension and their motivation to learn science.

While the study of Ciaramella utilized a single-subject multiple baseline design, this study extends these insights by reporting a large effect size (r=0.78). Zuleha et al. (2025) stated that students' vocabulary mastery improved following the use of Kahoot. The mean score of the pre-test was 72.5, and 79.17 in the post-test, with a gain of 7 points. This indicates Kahoot had a positive impact on vocabulary acquisition. Consistent with the present study, the 3.5-point gain. Their absolute gain was larger, maybe attributed to the factor of age (high school students/sixth-grade students).

In contrast, Sailer and Homner (2020) conducted a meta-analysis on the effects of gamification on cognitive, motivational, and behavioral learning outcomes. Their findings found a significant but small to moderate effect with a Hedge's of .049 for cognitive learning outcomes, which includes vocabulary learning. In this case, gamification in the classroom can be a double-edged sword. The engagement and awards differ based on the personality traits of the student. However, this study recorded a large effect size (r=0.78), suggesting a robust impact of Kahoot's interactive features in vocabulary learning.

Furthermore, incorporating gamification in education does not always result in improving students' learning outcomes. In a quasi-experimental study by Sadeghi et al (2022), they found that there was no significant difference between the control and experimental group in their motivation and engagement. They recorded a limited influence of gamification (leaderboards and points) on vocabulary development. In fact, these opposing results can be attributed to the background knowledge and previous learning experiences of students (Cromley & Azevedo, 2007, as cited in Sadeghi et al., 2022, p. 6). These results should inspire the curiosity of educators and scholars to study deeply the dimensions of integrating technological features in education.

In the same token, Wang et al. (2017) in their study about the effect of gamification concluded that gamification use significantly improves perceived engagement and acceptance among participants ($F(1, 93) = 5.41$, $p < .05$, partial $\eta^2 = .17$, intention to use $F(1, 93) = 9.01$, $p < .05$, intention to recommend $F(1, 93) = 10.12$, $p < .05$). In fact, when students feel relaxed and at ease, their performance is maximized. Henceforth, this is evident in the outperformance of the experimental group in this study since the gamified environment tends to provide a more engaging experience.

Following previous research, Fuster-Guilló et al. (2019) suggest that the use of gamification (Kahoot) results in the improvement of academic performance of students. In essence, the multiple features provided by gamification encourage participation and clearly have a positive impact on students' motivation and satisfaction. Indeed, and as mentioned before, the two groups scored differently in the post-tests due to the nature of competitive nature of gamification. In fact, when students compete, they strive to showcase the best performance they can. They persist in completing the vocabulary learning tasks (Dindar et al., 2021). The

group with gamified instructions showed the motivation to achieve the groups' goals in a trustworthy environment.

For years, vocabulary teaching and learning centered on traditional language methods. In Moroccan schools, teachers' persistence with traditional teacher-centered pedagogy seems to add to the 21st century students' low engagement. Richard and Rodgers (2014) highlighted the limitations of traditional language teaching methods, such as rote memorization, repetition, and textbook exercises in vocabulary teaching. They claim these methods offer limited vocabulary acquisition, with studies showing no significant pre- to post-test improvements. This is often attributed to passive learning, where students lack interactive engagement. This study is consistent with our study, wherein the control group (traditional instruction) showed a lower rank (22.64). While Richard and Rodgers focus on general language teaching contexts, our study focused on high school students. The control group in our study matches their described methods. Overall, Kahoot addresses the engagement deficit that the Kahoot methods failed to deliver.

This study provided important information on the impact of Kahoot on vocabulary acquisition within high school EFL students. However, conducting research is not immune to limitations. First, we noticed that the number of participants (n=80) selected for this study was. This number makes it difficult to generalize the findings of this study. Second, this study was conducted with students who belong to one school, which may restrict the generalizability of the findings. Hence, expanding this experimental study to other schools might provide additional or different results, after course, the researcher controls the variables. Another limitation of this study is the data analysis. The study was conducted using non-parametric tests because the data deviated from the normal distribution of data.

Furthermore, the study used a limited number of vocabulary items. Extending the number of target words would lead to different results. Also, the students in this study belong to the same level (common core) and major (arts). Conducting this study with students across different levels would yield different results. This study was also limited by the use quasi-experimental quantitative study. To elucidate, the inclusion of qualitative data could have provided different and valuable insights into the students' personal experiences during the learning time. Finally, a notable limitation of this study was the constraint of time under which it was conducted. With a more extended timeframe, the researcher could have incorporated a larger sample size, conducted a mixed method, or implemented more thorough controls to strengthen the findings.

6. CONCLUSION

In EFL classrooms, teachers must be effective inside the classrooms, especially when vocabulary is involved, since it is the building block of language. The main goal of this study was to investigate the impact of Kahoot on the vocabulary acquisition of Moroccan EFL high school students. The first goal of this study was to investigate the effectiveness of Kahoot-based gamification as an instructional strategy to enhance vocabulary acquisition among EFL high school learners. The second goal is to determine whether there is a statistically significant difference in vocabulary learning outcomes between students who receive gamified instruction and those who are taught through conventional methods. That is to determine whether students' vocabulary achievement is significantly affected by using Kahoot. The findings of this study

demonstrated that Kahoot has a positive impact on students' vocabulary. It significantly improved the vocabulary development of the experimental group.

In conclusion, the findings further approve the effectiveness of Kahoot in terms of vocabulary learning. Furthermore, the results of the experimental group in the post-test compared to the control group proved that the group which was taught using Kahoot have an edge over the other group. In other words. They excelled in learning vocabulary. Therefore, the use of game-based tools like Kahoot can serve as a valuable instructional strategy in Moroccan high school language learning contexts, particularly for vocabulary development.

As previously discussed, the number of studies on gamified vocabulary using Kahoot with high school EFL students is scarce. The findings of this study suggest that Kahoot integration in vocabulary teaching significantly enhances and improves students' vocabulary acquisition, as it is shown from pre- to post-test results. To put it bluntly, Kahoot encourages students to read and learn new vocabulary in a fun and interesting way. Bicen and Kocakoyun (2018) highlighted Kahoot as a source of motivation to learn. Besides, it serves to enhance the students' understanding of the target vocabulary items and drives them to achieve their full potential. Teachers should consider integrating Kahoot into their teaching. For instance, teachers can make the best out of Kahoot instead of using games, they can exploit the gamified elements provided by Kahoot (badges, leaderboards, point, and feedback). This implies that using Kahoot helps students monitor their learning progress and sustain their curiosity in the target vocabulary lesson or task. Furthermore, when teachers plan to teach vocabulary, they should think of presenting it in a gamified approach, allowing their students to maximize their learning outcomes. Lastly, EFL supervisors ought not to disregard the benefits of using Kahoot to teach vocabulary in the workshops they organize for their supervisees. In fact, teachers can better develop their teaching skills and equip themselves with up-to-date strategies to teach vocabulary in a smooth, tireless, and efficient way (Truong, 2024).

Based on the findings of this study, several practical recommendations are proposed for EFL teachers, educational supervisors, and curriculum developers. First, EFL teachers are encouraged to integrate Kahoot as a gamified tool for vocabulary instruction. This platform provides an engaging, interactive environment where students can practice and acquire new vocabulary in an enjoyable way. Teachers should focus on utilizing the specific gamified features offered by Kahoot, such as badges, leaderboards, points, and immediate feedback. These elements not only stimulate students' motivation but also allow them to track their learning progress effectively.

In addition, teachers are advised to adopt a gamified approach when planning vocabulary lessons. Presenting vocabulary through interactive games like Kahoot enhances students' curiosity, participation, and retention of target vocabulary items. Moreover, it is essential that EFL supervisors and educational trainers incorporate Kahoot-based strategies into professional development workshops. Such initiatives will equip teachers with modern, efficient methods to teach vocabulary, making the learning process smoother and more enjoyable for both students and teachers.

Finally, policymakers and school administrators should support the integration of gamified platforms like Kahoot in classrooms by providing necessary resources and training, such as a

running internet connection. This will ensure that students benefit from technology-enhanced learning environments that promote vocabulary acquisition in a motivating and effective manner.

This study explored the impact that Kahoot had on EFL high school students' vocabulary. Based on the limitations of this study, future research might consider adding other variables to the study like gender, age or motivation. Also, the limited sample size of this study, requires future research to test a larger group of students, which could provide more depth information. Furthermore, the researcher recommends conducting a longer study, such as a longitudinal study to see whether Kahoot helps students retain vocabulary words after the post-test.

As a matter of fact, this study used a quantitative study, the researcher recommends using a mixed data analysis for future research. Mixed method study design provides in-depth analysis and increases the validity and reliability of the findings. Another recommendation for future research is conducting a study on different age groups, such elementary or middle school 58 students. Finally, this study population belongs to a public urban school, maybe duplicating this study in a public or private rural school may yield different results.

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