The Effect Of Using Kahoot On Jordanian EFL Ninth-Grade Students' Reading Comprehension

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Abstract

This study aimed at investigating the effect of using Kahoot on Jordanian EFL ninth-grade students' reading comprehension. A sample of 66 female students was distributed randomly into an experimental and a control group of 33 students each. The data were collected using a quasi-experimental design through a pre-/post-test for both control and experimental groups. In terms of data analysis, One-way MANCOVA and One-way ANCOVA were used to answer the research question. The findings revealed that there were significant differences between the two groups' performance in the post-test in favor of the experimental group. Therefore, the researcher recommends using Kahoot in different EFL skills and different levels of students.

Keywords: Kahoot, Reading Comprehension Levels, EFL Jordanian Students.

Introduction

The sweep of Information and Communication Technology (ICT) has revised education delivery. Teachers of English as a Foreign Language (EFL) can use various technology tools such as smartphones and computers to improve their students' reading comprehension tasks. Games, as such, are compatible with such growth.

Reading is necessary for successful language learning. It is essential for academic and professional success (Alderson, 1984). Reading allows readers to gain new skills and knowledge, promotes lifelong learning, and opens doors to new opportunities (Chastain, 1988). The core process of reading tasks is comprehension (McShane, 2005). According to Snow (2002), reading is the act of deriving meaning from written language through an interactive process in which the reader engages with the text and participates by drawing on his or her capacities, experiences, knowledge, and abilities.

Two main types have been identified in developing reading comprehension: intensive reading and extensive reading. Both help students improve their comprehension skills (Popescu, 2012). The first type, intensive reading, focuses on comprehending a specific text in detail (Nation, 2009). The second type, extensive reading, requires students to read a large amount of material to comprehend texts (Grabe & Stoller, 2013).

According to Longman and Atkison (2004), there are three levels of comprehension; these three levels are the literal level which necessitates that the reader understands the surface meanings, the inferential level which requires the reader to read between the lines, and critical reading level which helps the reader to distinguish between facts and opinions, as well as the worth of writing derived from individual preferences.

Technology has become an integral part of teaching and learning processes since it alerts the ways educators teach, and students learn (Wells, Delange, and Fieger, 2008). Its use enriches instructional environments and provides students with improved learning chances. It also allows teachers who want to provide students with rich learning experiences to create a more interesting and stimulating classroom environment (Basal, 2015). As a result of the technological influence, there is a continual pedagogical challenge to adapt educational environments to meet the needs of the new digital generation. In today's digital world, traditional teaching methods that emphasize on the teacher as the primary source of knowledge are irrelevant (Brett, 1995; Mahdi, 2017; Wang & Heffernan, 2010).

To accommodate the changing technology settings, a variety of innovative techniques, models, and teaching strategies have arisen. According to previous research (e.g., Bataineh and Baniabdelrahman, 2006; Baniabdelrahman, Bataineh, and Bataineh, 2007; Fisher, Higgins, and Loveless, 2006; Harris, Mishra, and Koehler, 2009), technology is a catalyst for teaching and learning because it provides users with innovative, learner-paced learning opportunities.

To improve reading comprehension, EFL teachers might utilize games to assist students comprehend content in texts. students should be able to experience how professionals of a given profession think, conduct, and solve problems through playing instructional games that integrate skills, knowledge, and values (Gee, 2005). Students are encouraged to connect with educational content through games. Games in educational contexts for learning purposes have existed for a long time (Bergeron, 2006).

According to Yang (2012), game-based instruction uses games that are designed to give digital content while yet preserving a flexible instructional structure that allows the game to be loaded locally to relevant content. He went on to suggest that games can assist children become more aware of current concerns, gain new insights, acquire fundamental information, and even practice higher-order thinking skills.

The use of games as a learning tool is referred to game-based learning or gamification (Chiang, 2020). It's important to distinguish between the two concepts. Licorish, George, Owen, & Daniel (2018) made a distinction between gamification and game-based learning (GBL). GBL is a pedagogical technique that uses games to achieve educational goals through incidental learning. Simultaneously, gamification refers to non-gaming systems that include game features to engage students in worldwide learning.

Gamification, according to Raymer (2011), is the use of game mechanics in non-gaming applications. It's also a technique for incorporating gaming mechanics and strategies into non-game circumstances (Osheim, 2013). GBL, on the other hand, employs games to help students learn for educational goals (Caponetto, Erp&Ott, 2014).Games are used in GBL to teach a skill or fulfill a task. GBL is a type of game in which the learning outcomes are defined. It's utilized to accomplish instructional goals like the game goal, which refers to how the player should play in order to win, and the learning goal, which is the game's outcome. As a motivational tool, GBL is based on a variety of factors, including rules, challenges, and goals (Perrotta, Featherstone, Astone& Houghton, 2013).

To summarize, gamification is the use of game features to encourage students and influence their behavior. GBL, on the other hand, uses the actual game to teach content knowledge and skills (Mohamad, Salam, & Baker, 2017). Gamification appears to be a broader concept than GBL, which comes under it. One of the GBL strategies for improving reading comprehension skills is Kahoot.

Kahoot is an online game that evaluates students' knowledge of course material. According to Korkmaz and Oz (2021), Kahoot is an online game platform that promotes classroom collaboration through competitive quizzes. According to Marsa, Kuspiyah, and Agustina (2021), Kahoot Game is one of the improvements in learning technology. It also assists and encourages students to participate in the comprehension of the material. Kahoot serves a variety of purposes, including improving students' engagement, motivation, enjoyment, and attentiveness in the classroom. It has the potential to teach skills and enhance learning outcomes (Wang &Tahir, 2020).

Kahoot encourages metacognition, examines conceptual understanding, and encourages the acquisition of new knowledge and understanding by delivering immediate feedback during or after the game (Clark & Mayor, 2008). According to Chaio(2017), both teachers and students will benefit from Kahoot. It improves students' concentration, engagement, enjoyment, perceived learning, motivation, and classroom satisfaction

Kahoot is available in four forms. The first is a survey, which allows for an unlimited number of questions, images, or videos, as well as two to four multiple-choice answers that are neither correct nor incorrect. The second type is discussion, which allows people to have a dialogue about the image or video. The audience, on the other hand, must be used to gather comment on current issues. A quiz is the third and most prevalent type of Kahoot. There is no limit to the amount of questions in this type of quiz. Each question can include a photo or video, as well as two to four multiple-choice answers. Finally, the Jumble is a Kahoot quiz with a sorting feature. This allows the viewer to organize the information. It's utilized to find out how events happened in chronological or progressive order (Iona, 2017).

From the first to the twelfth grades, Jordanian students study English. According to the General Guidelines and General and Specific Outcomes for English Language Teaching for Both Basic and Secondary Stages, ninth-grade students should read to understand and respond to written settings while learning reading skills (Ministry of Education, 2006). Students receive 45-minute English lessons four or five times a week. To aid them in their teaching tasks, English teachers are given textbooks, tapes, and flashcards.

The general outcomes of grade nine are highlighted in the Teachers' Book. It stated that students should employ reading strategies to comprehend basic information and literary reading materials. Students must also demonstrate comprehension of learning materials such as letters and stories. Furthermore, ninth-grade students should connect their prior knowledge, experiences, and reading strategies. From the ninth grade, it is expected to:deduce the meaning of unfamiliar words, scan texts for specific information, skim texts for the main ideas, analyze the text and make inferences, interpret important information, identify the relationship between facts, ideas, concepts, and themes in reading materials, and making judgments (Ministry of Education, 2006).

According to research, students' reading comprehension performance in Jordan is poor. This result could be related to the use of ineffective reading comprehension strategies and traditional methods of teaching reading comprehension (Amoush, 2012). Many Jordanian EFL learners, according to Alkhawaldeh (2011), struggle to determine whether reading comprehension strategy is

more helpful than another and how to implement that method effectively. Furthermore, Jordanian scholars (e.g., Al-Ansi, 1992; Fraihat, 2003; Al-Sarairah & Abul-Haja, 2007; Al-Jamal, Hawamleh, & Al-Jamal, 2013) have underlined the reading challenges that EFL Jordanian students encounter. Their studies also demonstrated that reading comprehension skills are not adequately taught, resulting in low reading comprehension levels among students.

Statement of the problem

Based on the researcher's experience teaching English as a foreign language, she has discovered a general weakness in students' ability to answer reading comprehension questions especially those that need a higher critical thinking skill. This difficulty may refer to EFL teachers who using conventional methods and strategies for teaching reading comprehension. As a result, students may fail to recognize the key themes of a given text and the writer's meaning.

According to AlKhawaldeh (2011) and Amoush (2012), untimely strategies affect students' comprehension levels in the Jordanian context. Nonetheless, many studies (e.g., Al-Shra'a, 2020), Korkmaz& Oz, 2021), and Marsa, Kuspiyah & Agustina, 2021) found that Kahoot had a positive effect and recommended it in the learning process. Thus, games may improve students' reading comprehension (Abu Sa'aleek & Baniadelrahman, 2020).

Purpose of the Study

The current study aimed to investigate the effect of using Kahoot on Jordanian EFL ninth-grade students' reading comprehension.

Question of the study

The study seeksan answer to the following question: Are there any statistically significant differences at (α= 0.05) in the mean scores on the reading comprehension (literal, inferential, and critical comprehension levels) post-test of ninth-grade Jordanian EFL students that can be attributed to the teaching strategy (Kahoot vs. conventional instruction)?

Significance of the study

This is one of the few studies that looks into the impact of using Kahoot on students' reading comprehension performance. The current study is significant because it may allow EFL ninth-grade students in Jordan to improve their performance in reading comprehension lessons by using Kahoot. Furthermore, this study is significant because it may help EFL teachers in Jordan introduce a new teaching strategy for teaching reading comprehension. Moreover, the study is significant because it may assist policymakers and curriculum designers plan and designing appropriate activities and tasks that improve students' reading comprehension. Further, the current study's findings may encourage other researchers to conduct studies, particularly in Jordan, to investigate the potential impact of Kahoot on other English language skills .

Operational Definition of Terms

In the current study, the following terms have meanings as follows:

Kahoot:is a game that comprises of a collection of questions on certain topics provided by teachers, students, business people, and social users. They are given an infinite number of players in real time, creating a sociable, engaging, and game-like learning environment (Chotimal & Rafi, 2018). In this study, Kahoot is a process of introducing points, challenges, rewards, levels, and leaderboards through using Kahoot as a platform. In addition, the teacher instructs students to use a bin code to access the game in the computer lab. In the game, they are taught reading comprehension. Furthermore, they should respond to the teacher's questions to earn points and rewards that will allow them to appear on the leaderboard at the end of the game. In this study, Kahoot is used as an instructional strategy. The researcher redesigned module

(4 and 5) reading comprehension activities from action pack9 as multiple-choice and true/false questions via the application .

Reading comprehension: is "a visual and cognitive process to extract meaning from writing by understanding the written text processing information and relating it to existing experience" (Millrood, 2011, p.117). There are three levels of reading comprehension illustrated as follows:

Literal comprehension: is the ability to comprehend information that is directly presented in the text (Basaraba, Yovanoff, Alonzo & Tindal, 2013). In this study, the ninth-grade students can scan texts for specific information, deduce the meaning of unfamiliar words, elicit facts from the text, and identify characters and places.

Inferential comprehension: is the process of inferring from written information to analyze and draw conclusions about the author's message goal (Basaraba et al., 2013). The ability of the participants to skim the texts for the main idea, use pictures to make guesses, analyze the text and make inferences, and explain the main expressions presented in the text is measured in this study.

Critical comprehension: is the ability to evaluate the information to judge the reading materials (Thompson, 2000). In this study, it is the ninth-grade children students' ability to identify the relationships among facts, ideas, concepts, and themes in reading materials, deduct the implicit meanings in the texts, make judgments, and predict results.

Limitations of the Study

The findings of the current study arelimited to ninth-grade students in an Irbid Directorate of Education public school, Soum for girls, during the second semester of the academic year 2021/2022.

Review of the Related Literature

After reviewing educational research, the researcher collected studies relevant to this study.

Chotimah and Rafi (2018) examined the effect of Kahoot on teaching reading for the English department students of STKP PGRI Jombang. There were 39 students who took part in the study. They were split into two groups: the experimental group, which used Kahoot to teach, and the control group, which used a textbook to teach. Data were collectedthrough a test. The findings of the study indicated that Kahoot as a media influences and develops students' reading comprehension skills.

Wibisono (2019) examined the effect of Kahoot on reading comprehension scores. The participants of the study were 50 students from a senior high school in Surabaya. The findings of the study showed that the students' reading comprehension test scores were higher when taught using Kahoot on the learning process.

Chiang (2020) investigated the perceptions of EFL learners regarding (GSRSs) by using Kahoot. The participants of the study were 65 on EFL sophomore students in Taiwan. Data were collected by using a questionnaire. The findings of the study showed that students had positive attitudes towards using Kahoot.

Salwaatiyah (2021) investigated the effect of using Kahoot games on students' achievement of English reading comprehension at the 11thgrade students in Jambi. The participants of the study were 40 students. Pre- post-tests were used to collect data. The findings of the study showed that using Kahoot games to improve students' reading achievement has a significant effect.

Al-Shra'ah (2021) investigated the effect of Kahoot on developing EFL Saudi students' vocabulary acquisition, reading comprehension, and students' attitudes towards it. The participants of the study were 77 male EFL Saudi students. In terms of data collection, the researcher used three

instruments: vocabulary test, reading comprehension test, and questionnaire. The findings of the study showed that using Kahoot as an instructional strategy had a positive effect on developing students' vocabulary acquisition and reading comprehension.

Korkmaz and Oz (2021) explored whether comprehension and vocabulary focused in an interactive game. The participants of the study were 38 undergraduate students studying in an English department at a major state university in Turkey. Data were collected through using EFL learners' reading quiz and a questionnaire. The findings of the study showed that Kahoot can effectively motivate EFL learners, thereby enhancing their ability to comprehend various reading materials.

Marsa et al. (2021) investigated the effect of Kahoot games' on teaching reading comprehension achievement. The participants of the study were 93 students of the fourth-semester English Education Program of STKIP Nurul Huda. Data were collected through reading comprehension test, observation, questionnaire, and interview. The findings of the study showed that using Kahoot game to teach reading comprehension has a significant influence on engagement, perception, and positive attitudes.

Concluding Remarks

According to previous research, utilizing Kahoot as a multimedia technology in the classroom can help students improve their reading comprehension. It may also help students increase their motivation, concentration, engagement, and enjoyment. What distinguishes this study from others is that it focuses on improving Jordanian EFL students' reading comprehension skills, as there are few studies on Jordanian students, particularly at the school level. The researcher also found that Kahoot studies in the Arab world are infrequent. The researcher thought that her findings would fill the gap in the field.

Up to the researcher's knowledge, no previous studies in our region have looked into the effect of Kahoot in the development of students' reading comprehension. In contrast, there are numerous computer tools and games that can help EFL students improve their reading comprehension skills and solve problems. As a result, Kahoot plays a critical role in motivating students, fostering engagement, and encouraging active learning. It also contains features that make it particularly useful in the classroom, such as the option to download, revise, and save students' scores for a long time, as well as the ability for students to practice quizzes as many as they want.

Methodology

Design of the Study

A quantitative approach was applied in the current study. The data were collected using a quasi-experimental design through a pre-/post-test for control and experimental groups. In addition, Kahoot strategy was used to treat the experimental group, whereas a control group was taught by the conventional teaching strategies, as suggested in the teacher's book.

Participants of the Study

The participants of the current study were 66 female EFL ninth-grade students as the researcher selected them purposefully. They studied at Soum secondary school for girls, a public school in the Directorate of Education in Irbid. The present study was conducted during the second semester of the academic year 2021/2022. Two entire sections of grade 9 out of three sections were selected randomly from this School. The first section was randomly assigned as the experimental group with 33 students, and the second section was selected as the control group with 33 students.

The experimental group was taught the reading activities of the Action Pack 9 Textbook by Kahoot. The conventional instruction was used to teach the control group based on the Teacher's Book of Action

Pack 9 without any signaling to the use of Kahoot strategy.

Research instrument

Comprehension test
The researcher developed a well-structured multiple-choice test in accordance to the reading text in the ninth grade modules employed in the Jordanian public schools. The total number of questions was 20, divided into three levels. The first level measured the literal level and included 10 questions, representing 50% of the total number questions. The second level measured the inferential level and included 6 questions, representing 30% of the total number of questions. The third level measured the critical level and included 4 questions, representing 20% of the total number of questions.

In order to establish the face and content validity of the reading comprehension test, the test was reviewed by a jury. The jury was asked kindly to read the test, check its content and its linguistic suitability. After the test was checked, the jury provided the researcher with comments and suggestions. Their comments and suggestions, such as deleting ambiguous questions and replacing them with clear questions, were taken into consideration in rewriting the questions of the test.

In order to establish the construct validity and reliability of the test, it was applied on a pilot study of 33 students. Results revealed that the Pearson Correlation Coefficient between the item score and the total score of its level and the total score of the overall test is statistically significant (i.e., the values are higher than 0.35). The corrected item-total correlation between item score and the total score of its level is also higher than the threshold value (0.40). These results indicate an acceptable degree of internal consistency (construct validity) for reading comprehension (Leach et al., 2011). The Cronbach Alpha Coefficients for the literal, inferential, and critical were 0.90, 0.90, and 0.79, respectively. It was calculated to be 0.94 for the entire scale, and all above the cut-off value .70 (Cronbach, 1951).

Instructional Program
The instructional program was constructed to provide Jordanian ninth-grade EFL students with actual practice to develop their reading comprehension performance through the use of Kahoot. The usage of Kahoot may assist students in learning more effectively and quickly, as well as motivating them to continue their studies. This instructional program lasted for eight weeks. It started on the 6th of March 2022 and ended on 28th of April 2022. The reading comprehension activities of the modules (4 and 5) of Action Pack 9 were redesigned in the light of using Kahoot. The reading comprehension activities of each unit were alienated into two 45 minute sessions a week for eight weeks.

The Instructional Material
The instructional material used in this study is based on the reading activities of two modules from the Student's Book and Activity Book of Action Pack 9 (modules 4 and 5). The researcher redesigned these activities and uploaded them to Kahoot that the experimental group was used to learn reading comprehension lessons.

Procedures of Designing the Instructional Program
The following procedures were carried out in the implementation of the current program:
1. Identifying the activities with reading content in the targeted modules of Action Pack 9.
2. Identifying the activities within which Kahoot may be integrated.
3. Assigning Kahoot to these activities.
4. Defining the procedures to be implemented in each lesson.
5. Specifying appropriate time for each activity.
6. Conducting a reading pre-test on the control and experimental groups before introducing the targeted Kahoot.
7. Introducing the targeted Kahoot to the experimental group.

8. Teaching students the targeted Kahoot gradually when having reading activities in the selected units. They were taught through Kahoot in the computer lab after they were trained on it.

9. After implementing the program, students' performance in reading comprehension was examined through a post- test.

Validity of the Instructional Program

The researcher submitted the instructional program to a jury of thirteen English curriculum and instruction experts to ensure its validity. The jury was asked to review the program and provide any suggestions or recommendations to the researcher on the handed program. The modifications were made by the researcher, as they had recommended.

Results

In order to answer the research question, the means and standard deviations of students' reading comprehension levels (literal, inferential, and critical) in the experimental and control groups over the three reading comprehension levels were extracted. Tables 1 illustrate the results:

Table 1: Means and Standard Deviations of Student's Reading Comprehensionin the Pre-test and Post-test per the Teaching strategy

Level	Group	Pre-test		Post-test	
		Mean*	Std. Deviation	Mean*	Std. Deviation
Literal	Control	9.88	3.43	10.97	3.40
	Experimental	8.91	3.74	15.21	3.16
Inferential	Control	5.09	2.83	8.45	3.50
	Experimental	5.15	2.87	10.42	2.11
Critical	Control	3.39	2.26	5.52	2.12
	Experimental	2.91	1.59	7.03	1.33
Overall	Control	18.36	6.07	25.55	6.38
	Experimental	16.97	6.25	32.79	4.39

*The maximum is 20 score for literal, 12 inferential, 8 for critical**

Table 1 shows that the experimental group's mean comprehension scores are higher than the control group's mean scores in all three reading comprehension levels and overall comprehension. It was observed that the mean score of students in the experimental group in the overall post-test scores was (32.79) and (25.55) for the control group. Furthermore, the mean score of students in the experimental group in literal, inferential, and critical levels was: (15.21), (10.42), and (7.03), respectively. Whereas, the mean score of students in the control group in literal, inferential, and critical levels were: (10.97), (8.45), and (5.52), respectively.

A One-way Multivariate Analysis of Covariance (One-way MANCOVA) using a Multivariate Test (Hoteling's Trace test) was used to assess the effect of the teaching strategy on the linear combination of the three reading comprehension after controlling for the effects of pre-test comprehension. The results revealed that the main effect of the teaching strategy was significant, with a large effect size; Hoteling's Trace test = 0.748, $F_{(3, 59)} = 14.710$, p<.001, Multivariate eta square = 0.428. This indicates that the linear composite of the three reading comprehension levels differs between the experimental and control groups. The partial eta square value of 0.428 indicates that 42.8% of the variance in the composite of the three reading comprehension levels could be attributed to Kahoot teaching strategy. Accordingly, follow up Univariate Analysis was conducted. Table 2 illustrates the results**:**

Table 2: Follow up Univariate Analysis (Tests of Between-Subjects Effects) on the three comprehension levels (Severally) after Controlling the Effect of Pre-Test Scores

Source	Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Teaching Strategy	Literal	276.732	1	276.732	26.014	.000	.299
	Inferential	93.345	1	93.345	18.578	.000	.233
	Critical	47.093	1	47.093	18.045	.000	.228
Error	Literal	648.904	61	10.638			
	Inferential	306.497	61	5.025			
	Critical	159.193	61	2.610			
Corrected Total	Literal	12296.000	66				
	Inferential	6479.000	66				
	Critical	2836.000	66				

Table 2 shows that students in experimental and control groups statistically and significantly differ in the three reading comprehension levels (literal, inferential, and critical). As such, students in the experimental group significantly scored higher than their counterparts in the control group on literal $F(1, 61)=26.14$; partial eta squared = .299; $P< 0.01$), inferential $F(1, 61)=18.875$; partial eta squared = .233; $P< 0.01$), and critical ($F(1, 61)=18.045$; partial

eta squared = .228; $P< 0.01$). The partial eta squared values indicate that the teaching strategy explained 29.9%, 23.3%, and 22.8% of the variance in literal, inferential, and critical comprehension levels.

Furthermore, adjusted and unadjusted means for experimental and control groups were extracted. Table 3 illustrates the results.

Table 3: Adjusted and Unadjusted Group Means and Variability of the Reading Technique Using Pre-Test Scores as a Covariate

Reading comprehension levels	Group	Adjusted Means		Unadjusted Means	
		Mean	S.E	Mean	Std
Literal	Control	11.01	.57	10.97	3.40
	Experimental	15.17	.57	15.21	3.16
Inferential	Control	8.23	.39	8.45	3.50
	Experimental	10.65	.39	10.42	2.11
Evaluative	Control	5.41	.28	5.52	2.12
	Experimental	7.13	.28	7.03	1.33

As is evident from table 3, virtually there are differences between experimental group and control group remains after differences in pre-test scores are controlled. As such, the Kahoot teaching technique enhanced student's performance in the three reading comprehension levels (literal, inferential, and critical).

To investigate the statistically significant impact of the teaching strategy on overall reading comprehension levels after controlling the effect of overall pre-test scores, a one-way Analysis of Covariance (ANCOVA) was used. Table 4 illustrates the results:

Table 4: Results of One-way ANCOVA Analysis for the Effect of teaching strategy in the Overall Reading Comprehension levels after Controlling the Effect of Overall Pre-test Scores

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Pre-test	558.437	1	558.437	25.871	.000	.291
Teaching Strategy	1017.580	1	1017.580	47.142	.000	.428
Error	1359.881	63	21.585			
Total	58939.840	66				
Corrected Total	2782.339	65				

As is evident from table 4, the mean score of the experimental group in the overall reading comprehension levels is significantly higher than the mean score of the control group (F (1, 63)= 47.162; partial eta squared= .428; P < 0.01). The partial eta squared values of 0.428 indicate that the teaching strategies explained 42.8% of the variance in overall reading comprehension. Thus, it can be stated that using Kahoot teaching strategy enhanced students' comprehension in the overall reading comprehension levels.

Additionally, adjusted and unadjusted means of the overall reading comprehension levels of the experimental and control groups were extracted. Table 5 illustrates the means, standards errors, and standard deviations of the experimental and control groups' in the overall reading comprehension levels before and after controlling the pre-test scores.

Table 5: Adjusted and Unadjusted Group Means and Variability of the Overall Reading Comprehension levels Using Pre-Test Scores as a Covariate per Instructional Type.

Group	Adjusted Means		Unadjusted Means	
	Mean	S.E	Mean	STD
Control	25.22	.81	25.55	6.38
Experimental	33.12	.81	32.79	4.39

As displayed in Table 5, virtually there is a difference between the experimental and control groups in the overall reading comprehension levels after the differences in the overall pre-test scores were controlled. Therefore, it can be concluded that the Koohat teaching strategy enhanced students' overall reading comprehension levels.

Discussion

The results revealedthat there are statistically significant differences in the participants' reading comprehension in favor of those in experimental group. This demonstrates the potential effectiveness of Kahoot on developing participants' reading comprehension.As a result, it can be stated that Kahoot as a learning technique improved students' comprehension at all three levels in the experimental group. Also, using Kahoot enhanced students' overall reading comprehension levels.

The beneficial effect of Kahoot on the students' experimental group in the overall reading comprehension post-test and in each level of reading comprehension could be attributed to a number of factors. The nature of Kahoot's instructional program is one of the potential critical elements. To achieve its goal, the instructional program of Kahoot was carefully created and validated for implementation. The well-planned content of the reading activities based on Kahoot, which is intended to increase students' reading comprehension performance.

The experimental group's results revealed that the students performed better. This positive effect is attributed to Kahoot's primary features, which allow all students in a group to receive the same question at the same time, facilitating students' cooperation in practicing reading comprehension procedures. Kahoot, for example, gives students enough time to read the question,

debate it, and answer it. The passage was separated into sub-paragraphs to encourage students to interact and collaborate with one another in order to think critically and improve their ability to identify the answer. This is consistent with Chiang (2020) that Kahoot positively affects students' reading comprehension.

Using Kahoot in the classroom to teach reading comprehension enhanced ninth grade EFL students' ability to understand information and reading comprehension skills. These findings are consistent with those of other research that support the use of Kahoot(e.g., Cotimah& Rafi, 2018; Wibisono, 2019; Chiang, 2020; Al-Shra'ah, 2021).

Kahoot also supported the development of self-confidence and involvement. It includes a variety of reading activities with a variety of reading topics to encourage student to answer the questions without hesitation. One of the goals of Kahoot was to help students improve their reading comprehension by engaging, encouraging, and integrating them in various reading tasks. In addition, the researcher uses a variety of reading activities that require students to respond individually or in groups. It's worth mentioning that Kahoot offers two alternatives for class management: classical mode and team mode, which allows students to collaborate and share their responses in order to get the best correct answer.

Students may also gain benefits from Kahoot, such as increased motivation, increased involvement, and increased self-confidence. The control group, on the other hand, was only asked to work in pairs or groups in a few situations, according to the researcher. As a result, the experimental group looks to be on track to outperform the control group. The amount of reading activities that allowed them the opportunity to practice the strategies without hesitation may have contributed to the students' improved reading comprehension.

According to the researcher, Students were satisfied when they used Kahoot, and they were also interested in using computers in learning. Furthermore, the researcher believes that during the academic year, the majority of students employed conventional ways to acquire English language based on the Teacher's Guidelines, and that teachers still use the same strategies that are mentioned in it. As a result, Kahoot is critical for fostering pleasant classroom environments and disrupting the daily routine. It also improves students' focus, motivation, and satisfaction.

Conclusion

This study attempted to find out the effect of Kahoot on improving reading comprehension among ninth- grade students in Jordan. To achieve this purpose, the instructional program of Kahoot was designed and implemented during the academic year 2021-2022. The following conclusions were drawn from the findings of the present study:

1- The instructional program of Kahoot improved the participants' reading comprehension in the literal, inferential, and critical level.
2- The instructional program of Kahoot improved the participants' reading comprehension and increased their interaction and classroom activities.
3- Using Kahoot in the learning process, especially reading comprehension lessons, made the participants more motivated and positive towards their learning.
4- Kahoot is based on using game elements (e.g., points, levels, and badges) in the learning process.
5- Using Kahoot improved the students' achievements on the post- test compared to their achievement on the pre- test, which signals the effectiveness of this teaching strategy in enhancing the teaching/ learning process and enriching the MOE textbook's instructional content.

Pedagogical Implications

Based on the findings of the study, various pedagogical implications are introduced as follows:

1- Kahoot should be taken into consideration in EFL classes to better students' performance in reading comprehension lessons.
2- Providing students with cooperative strategies like Kahoot could decrease their stress, shyness, and hesitation while they use Kahoot.
3- Any lesson can be gamified, so teachers can easily make their classes more exciting.

Recommendations

Based on the findings of this study, several recommendations are presented for EFL teachers, EFL supervisors, the Ministry of Education, EFL textbook designers, and researchers as follow:

1- EFL teachers are recommended to use the present instructional program to improve students' performance in reading comprehension lessons and help students overcome challenges and difficulties.
2- EFL supervisors are strongly recommended to raise their teachers' awareness about the significance of using game- based learning in general and Kahoot in specific activities to integrate them into reading comprehension lessons.
3- The Ministry of Education is recommended to train teachers through conducting training sessions and workshops to qualify and educate them to use Kahoot strategy in their teaching.
4- EFL textbook designers should adopt Kahoot activities when they design the English language curriculum, especially for grade nine. This feature makes EFL reading comprehension classes more active and enjoyable.
5- Researchers are invited to conduct different studies to investigate the effect of using Kahoot on other grades and other English language skills (e.g., listening and speaking), as well as students attitudes towards Kahoot.

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