

THE INFLUENCE OF KAHOOT APPLICATION ON STUDENTS' GRAMMAR ACHIEVEMENT IN SENIOR HIGH SCHOOL

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ABSTRACTS

The present study examined whether the Kahoot application influenced the grammar proficiency of eleventh-grade students at SMA Wachid Hasyim 2 Taman. Contextual grammar is crucial in the writing learning process; however, students frequently struggle with writing tasks, largely due to insufficient grammar knowledge. This paper employed a quantitative methodology with a true experimental design. Pre-test and post-test were utilized to evaluate the data. The sample comprised 280 eleventh-grade students from SMA Wachid Hasyim 2 Taman. Cluster random sampling was employed to generate the experimental and control groups. The researcher designated XI-F1 as the experimental group, the Kahoot application was used to provide instruction, while XI-F2 served as the control group, taught using traditional paper-based methods. The data analysis was conducted using an independent sample t-test in SPSS 19. A subjective test was also conducted to measure the students' grammar skills in the form of creating an analytical exposition text. The findings indicated that the significance (2-tailed) of 0.000 is less than 0.05 ($0.000 < 0.05$), leading to the acceptance of the alternative hypothesis (H_a). Therefore, it can be concluded that the Kahoot application has a positive and significant influence on eleventh-grade students' grammar proficiency at SMA Wachid Hasyim 2 Taman. The integration of Kahoot as an interactive and gamified learning tool has the potential to serve as an effective strategy to improve students' grammar mastery.

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INTRODUCTION

Mastering the English language requires cultivating a rich tapestry of vital skills, which involve writing, reading, listening, and speaking. In addition, English comprises numerous other linguistic features, such as vocabulary, pronunciation, and grammar. Grammar is a vital aspect of language that significantly contributes to the process of language acquisition (Nasrulloh & Zakaria, 2020; Tifani & Sumatera, 2022).

Proficiency in grammar enables students to express their thoughts and ideas accurately, thereby enhancing their performance in written assignments, participation in discussions, and involvement in critical thinking activities. According to the pilot study conducted by the

researcher, it was found that senior high school students faced challenges in completing writing assignments, with one of the contributing factors being a lack of comprehension of grammar. This aligns with existing literature, which indicates that students with low grammar achievement scores also tend to perform poorly in writing achievement. A solid understanding of grammar establishes a robust foundation for students in English. Consequently, students' writing skills improve as they are able to articulate ideas in an effective and persuasive manner. It is clear that contextualized grammar holds significant importance in the learning process of writing (Marice Saragih, et al., 2023; Rachma, 2022; Sulistyowati, 2021).

In accordance with the previous explanation, the pre-test outcomes of eleventh graders at SMA Wachid Hasyim 2 Taman revealed that numerous students struggle with grasping and applying fundamental grammar principles, particularly when it comes to crafting succinct and engaging sentences. A significant factor contributing to this issue is the students' inadequate comprehension of grammar rules and intricate sentence formations. The grammar instruction typically conducted in the classroom is perceived as tedious since students primarily learn through vocabulary definitions provided by the teacher and repeatedly memorize various tenses. This situation is compounded by the lack of variety in the teaching media utilized by instructors, leading to students' lack of motivation to learn and their challenges in comprehending the material (Mukarromah & Suryanto, 2021; Putri, 2019). The teaching resources employed are outdated and do not effectively engage students in the learning experience. Consequently, educators must seek out alternative and effective media to enhance students' enthusiasm for learning this crucial language component (Hamdani & Novita, 2021).

Teachers play a crucial role in enhancing student learning outcomes. They act as facilitators who support students in grasping and applying academic concepts in their daily lives (Sulistiani & Nugraheni, 2023). Apart from teachers, the media also plays a role in making the classroom interactive. The media becomes a resource that teachers use to help students understand lessons more easily. Among the most effective media are those that promote interaction within the classroom (Bella & Rahayu, 2023; Tilahun et al., 2022). Kahoot stands out as a game-based learning application that can enhance both interest and engagement in grammar education. In the classroom setting, educators can implement Kahoot to cultivate a more vibrant and dynamic learning atmosphere. This approach allows teachers to optimize student learning results and reach educational goals more efficiently (Perdana et al., 2020; Rochimah & Muslim, 2021).

The utilization of Kahoot as a media for enhancing students' grammar achievement is predicated on its capacity to offer flexibility in quiz creation and execution. This flexibility enables pedagogues to adapt the material to the requirements and skill levels of their pupils. Additionally, the platform's question types, which include multiple choice, true/false, open-ended, and image-based inquiries, demonstrate its adaptability. The incorporation of multimedia elements, such as videos and images, further enhances engagement, thereby augmenting the efficacy of the learning process. Additionally, Kahoot fosters real-time and interactive learning, thereby enabling direct exchange of information and response between educators and students during the quiz. The feature is conducive to more effective comprehension of concepts and identification of areas requiring improvement. Learning apps similar to Kahoot are Duolingo and FluentU, both apps offer self-paced learning with delayed feedback, there is also the Quizizz app which allows real-time learning but doesn't have interactive features comparable to Kahoot (Amaliyah & Rahayu, 2023; Dewi et al., 2020; Muhammad et al., 2024; Hussain et al., 2023).

Putri (2019) expounded on the efficacy of Kahoot in enhancing grammar skills among Junior High School students, underscoring the program's notable result. The empirical evidence showed that the application of Kahoot can enhance students' grammar abilities,

especially concerning tenses like the simple present and past. The findings of this research revealed an increase in the average scores of students. Moreover, Kahoot has demonstrated its capacity to improve students' skills in identifying various modes of expression and comprehending the structural framework of language as it relates to past events, actions, activities, and occurrences. The implications of this study point to Kahoot as a potent instrument for the acquisition of grammar knowledge among secondary school learners. Nonetheless, the grammatical content for Junior High and Senior High School students differs, presenting a research gap in earlier investigations. This issue can be addressed through further studies aimed at resolving these challenges (Hermawati & Solihin, 2023; Nguyen Thi Hong Minh & Linh, 2021; Souisa et al., 2020).

Previous studies have shown that Kahoot positively impacts students' grammar performance. Kahoot enables the development and submission of quizzes, thereby allowing educators to customize the material according to the various needs and skill levels of their students. Nevertheless, its effect on diverse learning styles and classroom environments has not been extensively investigated. This research gap lies in the lack of understanding of whether Kahoot influenced the grammar learning of students with different learning styles in various classroom environments, as well as how it affects the use of Kahoot in developing grammar contextualized with writing skills. The researcher conducted research titled "The Influence of Kahoot Application On Students' Grammar Achievement in Senior High School".

RESEARCH METHOD

This section outlines the methodology employed by the researcher throughout the research process. The subject is elaborated upon comprehensively, covering aspects such as the research design, target population and sample, research variables, research instruments, methods of data collection, and data analysis.

Research Design

In this research, the researcher adopted a quantitative methodology by implementing a true experimental design with the aim of determining whether or not there is an influence of the Kahoot application on students' grammar skills. The research incorporated a pre-test and post-test control group design as illustrated in the research framework, which can be found in detail in Figure 1.

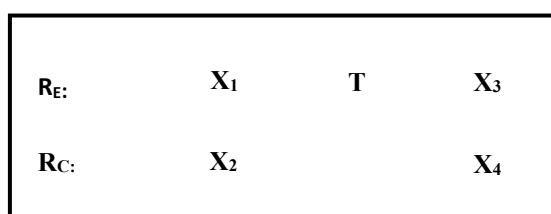


Figure 1. The Design Variable
(Source: Sugiyono, 2019 in Adinda & Rahayu, 2023)

Figure 1 outlines the framework of a two-class experimental framework containing an experimental group (R_E) and a control group (R_C). The aim of this research was to determine the influence of the Kahoot application as a learning tool on the grammar achievement of students. The experimental group was exposed to the Kahoot application (T) intervention, while the control group acted as a benchmark for comparison. The initial stage of the research involved conducting a pre-test (X_1 and X_2) across all groups. Additionally, the researcher implemented the Kahoot application as a learning tool for the experimental group. This was executed to evaluate the degree to which the Kahoot application has a meaningful effect on

students' grammatical performance. Furthermore, a post-test (X_3 and X_4) was delivered to all groups, featuring the same assessment. In the actual study, the influence of the intervention was analyzed using a T-test.

Population and Sample

The utilization of the population as a research subject allows the researcher to concentrate on a particular location, thus enhancing the efficiency of data acquisition and inquiry. The researcher carried out the research with eleventh graders from SMA Wachid Hasyim 2 Taman. The overall number of eleventh graders totals 280 students, spread across 7 classes, with an average of approximately 40 students per class. In this research, the vice curriculum of SMA Wachid Hasyim 2 Taman allocated 2 classes as samples because the schedules of the remaining 11 classes were highly constrained and could not be interrupted. The researcher utilized a coin to determine which class would serve as the experimental cohort and which would act as the control cohort. If the coin landed on the eagle side, that class was assigned as the experimental cohort, whereas if the coin displayed a number, the class became the control cohort. This is used to ensure that each cluster has an equal chance of being selected to be part of the sample. This helps to reduce selection bias that may occur if researcher select clusters based on ease of access, proximity, or subjective criteria. The outcome of the group selection using the coin indicated that class XI-F1, comprising 30 students, served as the experimental group, while XI-F2, with 32 students, was the control group. Initially, both groups were evaluated on their capacity to compose analytical exposition texts. Subsequently, the experimental class received instruction on the simple present tense, utilizing the Kahoot application.

Instruments

In this research, the tool employed for data collection was a test focused on writing analytical exposition texts. Subjective assessments were carried out to measure the students' grammar skills in the form of creating an analytical exposition text. The data for this investigation consisted of students' grammar scores, which impacted their writing performance. The author determines grammar scores based on the rubric presented in Table 1. In order to verify the instruments utilized in this research, it is essential to conduct a comprehensive validity test. In the conditions of this study, the researcher engaged two forms of validity: expert validity and face validity. In this instance, the pre-test and post-test instruments have been deemed suitable for testing because they have undergone an in-depth consultation process with the researcher's supervisor. Following the pretest, the control group was taught the simple present tense using traditional paper-based materials. In contrast, the experimental group received instruction through quizzes on the simple present tense via Kahoot as a learning resource. Following the test was declared valid by the supervisor, researchers administered the test to a sample of 10 eleventh-grade students to assess its reliability. The results indicated that the test demonstrated reliable performance because they were able to understand the contents of the test.

Table 1
Assessment Rubric

Score	Criteria	Notes
100	Very Correct	Very grammatically correct writing, with no significant errors in grammar usage or sentence structure. This use of grammar greatly enhances the clarity and effectiveness of the argument.
80	Correct	Writing that uses correct grammar in general. While there may be some minor errors in the use of grammar or sentence structure, they do not interfere with the understanding or clarity of the argument.
70	Correct Enough	While there are some errors in grammar usage, the writing is still fairly easy to understand. They do not significantly interfere with the understanding or flow of the argument presented.

60	Less Correct	The paper contains some glaring errors in grammar usage or sentence structure. While the main argument can be understood, these errors can interfere with smooth reading and affect the overall impression of the writing.
50	Wrong	The paper has many errors in the use of grammar or sentence structure, making understanding the argument difficult or even impossible. These errors can cause confusion and lower the overall quality of the writing.

Data Analysis

In examining the data, the researcher employed SPSS 19 to interpret the outcomes of the test. Determining whether there was a statistically significant disparity in students' performance between pre-test and post-test was the aim of the study. Following this, the researcher computed the pre-test and post-test results for both the experimental and control groups to evaluate the influence of using the Kahoot application on students' grammar performance. The researcher employed a descriptive test to ascertain the initial ability of the sample and a normality test to ascertain the distribution of the pre-test and post-test data. The test results indicated that the data had a normal distribution, thus underpinning the validity of the t-test by ensuring the key assumptions of the test were met. This allowed the researcher to use the independent sample t-test to ascertain the presence of a significant influence of Kahoot as a media for students' grammar learning.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

This chapter presented an analysis of data gathered from research involving eleventh-grade students at SMA Wachid Hasyim 2 Taman. The data set includes both pre-test and post-test outcomes of the experimental cohort in XI-F1 and the control cohort in XI-F2. This examination aimed to respond to the research inquiry.

Table 2
Result of Descriptive Test (Pre-Test)

Group Statistics					
Descriptive Pre-Test	N	Minimum	Maximum	Mean	Std. Deviation
Experimental Pre	30	41,00	81,00	60,7000	5,21371
Control Pre	32	35,00	82,00	60,2188	7,44327
Valid N (listwise)	30				

Table 3
Result of Descriptive Test (Post-Test)

Group Statistics					
Descriptive Post-Test	N	Minimum	Maximum	Mean	Std. Deviation
Experimental Post	30	41,00	99,00	81,7333	8,99540
Control Post	32	30,00	100,00	64,3125	9,27514
Valid N (listwise)	30				

According to the information presented in tables 1 and 2, “the post-test results for the experimental group yielded a mean of 81.8 with a standard deviation of 8.99, whereas the pre-test results for the control group showed a mean of 64.32 and a standard deviation of 9.28”. Thus, it can be interpreted that in the pre-test, both groups had the same initial ability, and in the post-test there was an improvement in the experimental group's grammar skills as evidenced by the increase in the mean in the post-test.

Table 4
Result of Normality Test

Test of Normality							
Test/Class		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	Df	Sig.
Grammar Achievement	Pre-test Experimental	.104	30	.200*	.972	30	.589
	Post-test Experimental	.141	30	.134	.971	30	.576
	Pre-test Control	.115	32	.200*	.957	32	.232
	Post-test Control	.100	32	.200*	.969	32	.475
*. This is a lower bound of the true significance.							
a. Lilliefors Significance Correction							

Table 5
Test of Normality Kolmogorov-Smirnov

Variable	Test/Group	Sig.	Description
Grammar Achievement	Pre-test Experimental	0,200	Normal
	Post-test Experimental	0,134	Normal
	Pre-test Control	0,200	Normal
	Post-test Control	0,200	Normal

According to the normality test findings presented in Table 3, the significance value for the grammar achievement variable in both the pre-test and post-test for the experimental and control groups exceeds the significance threshold of 0.05 (Sig. > 0.05). The results from the Kolmogorov-Smirnov normality test suggest that the data utilized in this research are normally distributed, thereby validating the t-test by ensuring that the key assumptions of the test were fulfilled.

Table 6
Independent T Test of Post-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.t	T	Df	Sig. (2-tailed)
Result of Post-Test	Equal variances assumed	5.794	.019	1.551	60	.000
	Equal variances not assumed			1.558	59.595	.000

In light of the results obtained from the independent sample t-test illustrated in table 4, the two-tailed significance value of 0.000 is below the threshold of 0.05 ($0.000 < 0.05$), which facilitates the acceptance of H_a (There is significant influence of using Kahoot application towards students' grammar achievement at eleventh graders) and the rejection of H_0 (There is no significant influence of using Kahoot application towards students' grammar achievement at eleventh graders). From these findings, it can be inferred that there is a notable impact between the control cohort and the experimental cohort utilizing the Kahoot application as a tool for grammar learning.

Discussion

The results of the Independent Samples t-test conducted on the post-test data for both cohorts, as shown in Table 5, offer valuable insights. Levene's Test for Equality of Variances yielded an F-statistic of 5.794 with a significance level (Sig.) of 0.019, indicating a statistically significant difference in variance between the two groups. This outcome suggests that the assumption of equal variances may not hold. Despite this, the t-test for Equality of Means revealed a t-value of 1.551 with 60 degrees of freedom, and a significance level (Sig. 2-tailed) of 0.019 when assuming unequal variances. This p-value, being below the conventional threshold of 0.05, points to a statistically significant difference in post-test scores between the groups. These findings highlight a meaningful impact of using the Kahoot application on the grammar achievement of eleventh-grade students.

The outcomes from the independent sample t-test align with findings of various studies that highlight the efficacy of the Kahoot app in improving grammar outcomes, especially in the area of grammar. Examination conducted by Sastaparamitha et al. (2022) revealed that Kahoot contributes to an increase in both the average student scores and the percentage of students achieving perfect scores. Based on the test, the results show a significant increase in the average score of the experimental group and prove the positive effect of the Kahoot application compared to the paper-based media in teaching grammar.

Similarly, Ramadhani and Muthmainnah (2021) argued that teaching vocabulary through the Kahoot application evidently impacted students' learning outcomes. This is evident from the students' level of engagement and their accomplishments in vocabulary learning. From their observations, the enjoyable and competitive environment during the game encourages students to participate actively, allowing them to learn and grasp the vocabulary content unconsciously as they respond to the questions presented in the game.

Nawir (2020) discovered that using Kahoot as a learning tool can enhance students' comprehension of tenses in higher education. This finding is backed by two significant aspects: firstly, there is a noticeable improvement in student performance from pretest to posttest, and secondly, students exhibit increased enthusiasm during the learning process, making the lessons easier to grasp.

Deepa Krishnaswamy and Reddy (2022) discovered that Kahoot serves as an innovative approach to evaluating student achievement. The findings indicated a distinction between conventional assessment techniques and Kahoot. In her article, she noted that both students and teachers were highly engaged in grasping the concepts and actively participating in the quizzes, as the game fostered a strong competitive spirit. This positive competition motivated them to comprehend the concepts deeply, and the implementation of Kahoot is believed to assist language instructors in assessing their students in a novel and improved manner that promotes active learning.

In accordance with the findings of Hamdani and Novita (2021). The implementation of the Kahoot application has a notable impact on the grammar instruction of eighth graders. The evidence from the outcomes of pre-tests and post-tests administered to eighth graders learning the simple past tense, that students exhibited greater enthusiasm and found it easier to grasp grammar concepts through the use of the Kahoot app. The researchers highlighted that the Kahoot application not only makes the educational activity enjoyable but also equips students with the ability to utilize technology effectively during their studies, while simultaneously enhancing their motor skills. Consequently, the application of Kahoot can be viewed as a significant factor in boosting students' achievements in grammar.

CONCLUSION

The results obtained from the Independent Sample t-test conducted on the post-test results of the two groups yielded a definitive conclusion. These results show that there is a statistically

significant difference in variability between the two groups regarding the post-test results. The experimental group showed a greater average improvement in the post-test compared to the control group. This outcome is further supported by the results of the independent sample t-test, which showed that the Sig. (2-tailed) of 0.000 is smaller than 0.05 ($0.000 < 0.05$), which results in acceptance of H_a and rejection of H_0 . Thus, the Kahoot application is considered to have a considerable influence on the grammar achievement of grade XI students. In conclusion, the integration of Kahoot as an interactive learning tool and gamification has the potential to be an effective strategy to improve students' grammar achievement. Given the findings of this study, the researcher recommends that schools and teachers proactively explore and adopt the Kahoot app as one of the innovative strategies to optimize the learning process and overall student learning outcomes.

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