

THE IMPACT OF LEARNENGLISH GRAMMAR APPLICATION ON GRAMMAR MASTERY AND STUDENTS' PERCEPTIONS AT MTS MUHAMMADIYAH METRO

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Abstract

This research aims to investigate the impact of the LearnEnglish Grammar application on eighth-grade students' grammar mastery at MTs Muhammadiyah Metro, identify any significant differences between students taught using the application and those taught through conventional methods, and explore students' perceptions of the application. Employing a quantitative approach with a quasi-experimental design, the study involved two groups: an experimental group using the application and a control group receiving traditional instruction. Cluster random sampling was used to select class 8B as the experimental group and class 8C as the control group, each consisting of 14 students. Data were collected through pre-tests, post-tests, and questionnaires. The results of the Paired Sample T-Test showed a significant improvement in grammar mastery within the experimental group (Sig. < 0.000), indicating a positive impact of the application. However, the Independent Sample T-Test results showed no significant difference between the two groups (Sig. = 0.057), indicating that learning with the traditional method provided comparable results to the app. The questionnaire results showed that students had a generally positive perception of the app, finding it useful, easy to use, and engaging. The findings conclude that LearnEnglish Grammar app enhances grammar learning although its effectiveness is comparable to conventional instruction, and future research is suggested to further investigate the use of LearnEnglish Grammar app with longer treatment duration and larger sample.

Keywords: LearnEnglish Grammar Application, Grammar Mastery, Student Perceptions.

INTRODUCTION

English has an important role as a foreign language taught at various levels of education in Indonesia. English has been established as a compulsory subject in the national curriculum, starting from primary to secondary education. However, although English language teaching has been widespread in schools, there are several challenges faced in implementing effective English language teaching. These challenges include the limited quality of educators and teaching methods that often do not match the needs of students (Boy Jon et al., 2021).

In many cases, English teaching still relies on conventional approaches that do not involve active student participation. This problem is further exacerbated by the inadequate availability of modern learning media, technological devices, and interactive teaching materials to support the learning process. A pre-survey conducted at MTs Muhammadiyah Metro in December 2024 showed that 76% of

eighth grade students had low grammar scores. These findings indicate challenges in learning grammar, exacerbated by the use of less engaging teaching methods and media, thus reducing student interest and motivation.

Previous research found that the use of digital learning media has a positive impact on improving students' mastery of grammar (Azzuhrah et al., 2024; Badroeni et al., 2020; Huda & Sujannah, 2024; Nesa et al., 2023; Sitanggang et al., 2023; Syakira et al., 2024; Taka, 2022; Zaidan et al., 2024). These results show that technology can be an effective tool to help students understand grammar in a more interesting and interactive way. On the other hand, Erlinda and Agamas (2024) emphasized that the application of technology in grammar learning is still relatively new in the last decade, so there is still room for further research. Research by Ngoc Vu et al. (2023) also showed positive results when using LearnEnglish Grammar app to improve the grammar skills of tenth grade students.

This study seeks to investigate the integration of LearnEnglish Grammar app in grammar learning among eighth grade students. Specifically, this study will analyze the impact of LearnEnglish Grammar app on students' grammar mastery and students' perception in using the app as a learning tool.

METHOD

This study applied a quantitative approach with a quasi-experimental design to examine the impact of the LearnEnglish Grammar application on students' grammar mastery and perceptions. The population consisted of 56 eighth-grade students at MTS Muhammadiyah Metro in the academic year 2024/2025. Cluster random sampling was used to select the sample, which resulted in two classes being chosen: class VIII.B as the experimental group and class VIII.C as the control group. Each group contained 14 students.

Data were collected through a grammar test and a questionnaire. The grammar test, consisting of 20 multiple-choice questions focusing on simple past tense and WH-questions in the past tense, was administered as a pre-test and post-test to measure students' grammar mastery before and after the treatment. The questionnaire, consisting of 10 Likert-scale items, was used to gather students' perceptions of the LearnEnglish Grammar application before and after the intervention. Both the tests and questionnaire underwent a validation process through expert judgment to ensure content validity and were tested for reliability using Cronbach's Alpha in SPSS.

The treatment for the experimental group involved guiding students in using the application during English lessons, while the control group learned the same grammar materials through teacher explanations and textbook exercises. The experimental group's meetings were held weekly over three sessions, each focusing on different grammar topics, including simple past tense (nominal and verbal sentences) and WH-questions in the past tense. The control group covered the same topics within the same period but did not use any digital learning tools.

The data analysis process began with prerequisite tests, including normality and homogeneity tests, to ensure the data met the assumptions for parametric statistical tests. Hypothesis testing was then performed using paired samples t-tests to compare pre-test and post-test scores within the same group, aiming to evaluate the impact of the LearnEnglish Grammar application on students' grammar learning. A significance level ($p < 0.05$) was used as the threshold to indicate whether the application had a significant impact. To compare the performance between the experimental and control groups, independent samples t-tests were employed to determine if there was a statistically significant difference in their post-test results. A significance level ($p < 0.05$) indicated a meaningful difference between the two groups. Moreover, students' perception data gathered through questionnaires were analyzed using paired samples t-tests to evaluate changes between pre-questionnaire and post-questionnaire scores within the experimental group, aiming to assess the impact of the LearnEnglish Grammar application on students' grammar mastery. A significance level ($p < 0.05$) was considered to indicate a significant impact of the application on grammar mastery.

RESULT AND DISCUSSION

This section presents the results of the study on the impact of LearnEnglish Grammar app in grammar acquisition among eighth grade students at MTs Muhammadiyah Metro. The findings are divided into two main parts: data description and hypothesis testing. The data description provides an overview of the pre-test and post-test results of the control group and the experimental group, as well as the questionnaire responses of the experimental group. Meanwhile, hypothesis testing evaluates whether the use of LearnEnglish Grammar app significantly improves students' grammar mastery.

A. Pre-Test Result

On May 15, 2025, a pre-test was administered to both the control and experimental classes to evaluate the students' initial grammar mastery. The control group had a score range of 15 with a mean of 22.14 and a standard deviation of 5.081, while the experimental group showed a wider range of 55, a higher mean of 35.00, and a standard deviation of 16.870.

Table 1. Descriptive Statistics of Pre-Test

Descriptive Statistics						
	N	Range	Minimum	Maximum	Mean	Std. Deviation
PreTest Control	14	15	15	30	22.14	5.081
PreTest Experiment	14	55	10	65	35.00	16.870
Valid N (listwise)	14					

Source: SPSS Calculation

B. Post-Test Result

On June 19, 2025, a post-test was administered to both the control and experimental classes to evaluate the students' initial grammar mastery. The control group had a score range of 30 with a mean of 35.71 and a standard deviation of 9.579. In comparison, the experimental group showed a wider range of 60, a higher mean score of 46.78, and a standard deviation of 18.460.

Table 2. Descriptive Statistics of Post-Test

Descriptive Statistics						
	N	Range	Minimum	Maximum	Mean	Std. Deviation
PostTest Control	14	30	25	55	35.71	9.579
PostTest Experiment	14	60	25	85	46.78	18.460
Valid N (listwise)	14					

Source: SPSS Calculation

C. Questionnaire Result

The pre-questionnaire had a score range of 6 with a mean of 13 and a standard deviation of 1.859. In contrast, the post-questionnaire showed a wider range of 10, a higher mean of 38.71, and a standard deviation of 2.998.

Table 3. Descriptive Statistics of Students' perceptions

Descriptive Statistics						
	N	Range	Minimum	Maximum	Mean	Std. Deviation
Pre_ Questionnaire	14	6	11	17	13.07	1.859
Post_ Questionnaire	14	10	33	43	38.71	2.998
Valid N (listwise)	14					

Source: SPSS Calculation

D. Hypothesis Testing

Hypothesis testing is used to determine whether the hypothesis is acceptable or should be rejected. Before carrying out hypothesis testing, the researcher compared the results of the pre-test and post-test in the experimental class. The mean pre-test and post-test scores for the experimental class are shown in Table 4.

Table 1. Mean score of Pre-Test and Post-test in Experimental Class

Groups	N	Mean Pre-Test	Mean Post-Test	Mean Different
Experimental	14	35.00	46.79	11.79

The data obtained showed a change in the average score in the experimental class between the pre-test and post-test. The average pre-test score was recorded at 35.00, while in the post-test it increased to 46.79. This increase of 11.79 points ($46.79 > 35.00$) indicates that learning grammar using LearnEnglish Grammar application has a positive impact on improving student learning outcomes.

1. First Hypothesis

The Paired Sample T-Test is applied to compare the means of two related samples originating from the same group. In this study, the first hypothesis was tested using the Paired Sample T-Test to analyze the differences between the pre-test and post-test results within the experimental group. Based on the results of the previous normality test, the data were confirmed to be normally distributed. In this test, decision-making is guided by the significance value (Sig.), and the statistical hypotheses for the first hypothesis are formulated as follows:

- a) Alternative Hypothesis (H_a): There is an impact of LearnEnglish Grammar Application toward eighth grade students' grammar mastery at MTS Muhammadiyah Metro is accepted if the significant value (Sig) ≤ 0.05
- b) Null Hypothesis (H_0): There is no impact difference of LearnEnglish Grammar Application toward eighth grade students' grammar mastery at MTS Muhammadiyah Metro is accepted if the significant value (Sig) > 0.05 .

The result of the Paired Sample T-Test for testing the first hypothesis is presented in Table 5.

Table 2. the Result of Paired Sample T-Test

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	Df	Sig. (2-tailed)
Pair 1	Pretest – PostTest	-11.786	7.748	2.071	-16.259	-7.312	-5.692	13	.000

The table above indicates a significance value (2-tailed) of <0.000 , which is lower than the 5% significance level (0.05). Therefore, the significance value satisfies the criterion of $\text{sig} < 0.05$. Based on the results of testing the first hypothesis, it can be concluded that the alternative hypothesis (H_a) is accepted. This suggests that the use of the LearnEnglish Grammar application has a significant effect on the grammar mastery of eighth-grade students at MTS Muhammadiyah Metro.

2. Second Hypothesis

The Independent Sample T-Test is a statistical method used to examine whether there is a significant difference in the mean scores between two independent groups. In this research, the Independent Sample T-Test was employed to evaluate the second hypothesis by comparing the post-test results of the experimental and control groups. Based on the outcomes of the normality and homogeneity tests, the data used in this analysis were confirmed to meet the assumptions of normal distribution and homogeneity of variance. In this test, decision-making relies on the significance value (Sig.), and the statistical hypotheses for the second hypothesis are outlined as follows:

- a) Alternative Hypothesis (H_a): There is significant differences of LearnEnglish Grammar Application toward eighth grade students' grammar mastery at MTS Muhammadiyah Metro is accepted if the significant value (Sig) ≤ 0.05

- b) Null Hypothesis (H_0): There is no significant difference of LearnEnglish Grammar Application toward eighth grade students' grammar mastery at MTS Muhammadiyah Metro is accepted if the significant value (Sig) > 0.05 .

The result of the Independent Sample T-Test for testing the second hypothesis is presented in Table 6.

Table 3 The Result of Independent Sample T-test

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Result	Equal variances assumed	3.673	.066	-1.992	26	.057	-11.071	5.558	-22.497	.354
	Equal variances not assumed			-1.992	19.527	.061	-11.071	5.558	-22.684	.541

Based on the table above, it is known that the significance value (2-tailed) is 0.057, which is higher than the 5% significance level (0.05). Thus, the significance value meets the $\text{sig} > 0.05$ criteria. Thus, it can be concluded that the null hypothesis (H_0) is accepted, indicating that there is no significant difference between the use of the LearnEnglish Grammar application and traditional teaching methods on the grammar mastery of eighth-grade students at MTs Muhammadiyah Metro. Although the experimental group demonstrated a positive effect, the improvement was not significantly greater than that observed in the control group. This shows that although LearnEnglish Grammar application can enhance the learning experience, its impact on students' grammar mastery is not significantly different from the traditional teaching method.

3. Third Hypothesis

The Paired Sample T-Test was utilized in this study to examine the third hypothesis. This analysis compared the pre-questionnaire and post-questionnaire scores within the experimental group. In this test, the decision-making criteria are based on the significance value (Sig.), so the statistical hypothesis for the third hypothesis is as follows:

- If the Significance value (Sig) > 0.05 , the null hypothesis (H_0) is accepted, meaning that students have neutral or negative perceptions of the application.
- If the Significance value (Sig) ≤ 0.05 , the alternative hypothesis (H_a) is accepted, meaning that students have positive perceptions of the LearnEnglish Grammar application.

The result of the Paired Sample T-Test for testing the third hypothesis is presented in Table 7.

Table 4. the Result of Paired Sample T-Test

Paired Samples Test									
		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre_Questionnaire - Post_Questionnaire	-25.643	3.272	.875	-27.532	-23.753	-29.320	13	.000

The table above presents a significance value (2-tailed) of <0.000 , which is lower than the 5% significance threshold (0.05). Therefore, the significance value satisfies the criterion of $\text{sig} < 0.05$. Based on the results of testing the third hypothesis, it can be concluded that the alternative hypothesis (H_a) is accepted, indicating that students hold a positive perception of the LearnEnglish Grammar application.

To address the first research question, "Does the use of the LearnEnglish Grammar application influence the grammar mastery of eighth-grade students at MTS Muhammadiyah Metro?" the findings show a clear positive impact. The results of the paired samples t-test demonstrated a significant increase in students' grammar scores in the experimental group, with an average improvement of 11.78 points and a significance level of <0.000 , which is below the standard threshold of 0.05. This indicates that the application contributed effectively to improving students' grammar mastery. These findings are consistent with those of Azzuhrah et al. (2024), who showed that the "Grammar Root" media enhanced grammar comprehension. Similarly, Huda and Sujannah (2024) found that their "Code Hunting" method, which combines technology with outdoor activities, made grammar learning more engaging and improved students' motivation.

In relation to the second research question, "Is there a significant difference in grammar mastery between students using the LearnEnglish Grammar application and those taught with conventional methods?", the analysis revealed no statistically significant difference between the two groups. The independent samples t-test produced a significance value of 0.057, which is higher than 0.05. Although students in the experimental group showed better performance, the difference was not strong enough to confirm the application's superiority over traditional textbook-based teaching. This contrasts with findings from studies such as Nesa et al. (2023) and Ngoc Vu et al. (2023), which reported notable advantages of grammar apps over conventional learning. However, this outcome aligns with Erlinda and Agamas (2024), who suggested that the integration of technology in grammar learning is still developing and may require extended periods of implementation to produce more pronounced effects. Likewise, Syakira et al. (2024) highlighted that limited time allocation for using interactive media in class can restrict its overall impact.

For the third research question, "What are students' perceptions of the LearnEnglish Grammar application in grammar learning?" the results indicated

overwhelmingly positive responses. The paired samples t-test conducted on the perception questionnaire showed a significance value of <0.000 , confirming that students had favorable attitudes toward the application after using it. Most students described the app as interactive, user-friendly, and helpful in understanding grammar concepts. This finding is supported by similar studies, including those of Nesa et al. (2023) and Ngoc Vu et al. (2023), which highlighted that mobile grammar applications not only support language skill development but also increase learners' motivation and engagement.

These findings suggest that the LearnEnglish Grammar app is an effective tool for improving students' grammar mastery and positive perceptions. However, the absence of significant differences between the experimental and control groups suggests that the effectiveness of this app may depend on factors such as the duration and consistency of its use in the classroom. Previous research by Sitanggang et al. (2023) and Taka (2022) emphasized that longer and more frequent exposure to interactive media can yield stronger results in grammar learning.

These findings confirm that while digital tools like LearnEnglish Grammar hold considerable potential for supporting grammar instruction, their success requires careful planning and sustained integration into teaching practices. Although the app improved grammar mastery and student perceptions, optimizing its use in the curriculum could produce even greater benefits in the long term.

CONCLUSION AND SUGGESTIONS

This study concludes that the LearnEnglish Grammar application has a positive influence on students' grammar mastery. The improvement in post-test scores within the experimental group after the treatment provides evidence of the application's effectiveness in enhancing grammar learning. Despite this positive outcome, the Independent Samples T-Test indicated no statistically significant difference between the experimental and control groups. This finding suggests that while the application contributes to students' grammar development, its short-term use may not produce results that are substantially superior to traditional teaching methods. Furthermore, the analysis of students' perceptions revealed an overall positive response to the application, with higher post-questionnaire scores reflecting their increased engagement and satisfaction with this mobile learning tool.

In light of these findings, English teachers are encouraged to incorporate digital learning media, such as the LearnEnglish Grammar application, as part of their instructional strategies. Integrating such tools can create more interactive and engaging learning environments while offering additional opportunities for grammar practice beyond the classroom. However, these applications should be used to complement, rather than replace, conventional teaching methods to maintain a balance between structured instruction and technology-based learning. Students are also recommended to explore and utilize the application independently outside of class hours to reinforce their grammar skills and develop autonomous learning habits. For future research, it would be valuable to conduct

studies with extended treatment durations and larger sample sizes to better assess the long-term impact of mobile applications on grammar mastery. Additionally, employing qualitative methods, such as interviews or classroom observations, could provide deeper insights into learners' motivation, engagement, and challenges when using digital learning tools.

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