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The Effect of English Grammar Application Towards Students' Grammar Mastery in Present Perfect Tense

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ABSTRACT

The purpose of this research was to investigate the significant effect of an English grammar application on the students' grammar mastery in a present perfect tense lesson at the twelfth grade of SMAN 1 Banjarsari. The research approach used a quantitative approach and a quasi-experimental method with an achievement test to collect the data. The achievement tests were pre- and post-tests. The population was 216 students, and the sample of this research was 70 students, which consisted of 35 students from the control class and 35 students from the experimental class. The control class used a simpler application, whereas the experimental class used an English grammar application for the treatment. The data was analyzed using the statistical program SPSS 22 version. Based on the data analysis result, it was determined that the different mean values of the post-test in the experimental and control classes were 68.51 and 68.14. The t-test result retrieved a signed score of $0.000 \leq \alpha = 0.05$. The result showed that the null hypothesis was rejected and the alternative hypothesis was accepted. This means that there was a significant effect of using the English Grammar application on students' grammar mastery in the present perfect tense lesson at the twelfth grade of SMAN 1 Banjarsari.



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INTRODUCTION

English has been an important language that should be learned. It is because English is one of the international languages. The position of English in Indonesia is a foreign language because it is used for certain activities only. English is included in Indonesia's curriculum, considering the importance of the English language nowadays. According to Butarbutar & Simatupang (2020), "Teaching English as a foreign language (TEFL) in Indonesia means that English must be taught as part of the national curriculum". Furthermore, it can be proven that English is taught from elementary school to university. In English learning, four fundamental skills in language should

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be learned, such as listening, speaking, reading, and writing. Vocabulary, spelling, pronunciation, and grammar are fundamental abilities that are also important to learn for students to master English.

Grammar is the most crucial component of English. According to Sudirman (2015), "Grammar is a branch of study that provides the principles for generating sentences that employ syntax and morphology to create chains of words that may be accessible in language use, allowing sentences to be naturally accepted and understood". In addition, grammar is a set of language principles that students should master to obtain good English and understand the meaning of a sentence. In terms of grammar, students should be familiar with and comprehend sentence patterns, as well as be able to recognize each of the sixteen English tenses. As a consequence, the students can produce solid grammatically correct sentences so that the message's content is easily understood.

Becoming a high school student doesn't mean that learning English will be simple. The problems are found at SMAN 1 Banjarsari Lebak Banten based on the observation by the researcher. The teachers said that students' English understanding was still low. Students were still confused to write the correct sentence grammatically. Even, some of them still could not differentiate between the sixteen English tenses. The teacher frequently utilizes the lecturing method and the same media to teach grammar. Because of that, students become disinterested and bored with English subjects, specifically grammar. Therefore, the researcher focuses on students' understanding of grammar in the present perfect tense in this research.

Grammar should be taught with a new method and media for language learners to avoid many problems in learning English, especially in grammar. One of the media that could be used is technology. Destiana (2019) explained that using technology enables students and teachers to easily create, change, save, and even share information and knowledge, one of which is using android as a learning media.

Therefore, in this research, the researcher used an android-based application as one of the possible solutions to overcome the problems. The researcher used an *English Grammar* application that focuses on teaching merely the English language through the media as an alternative and new way to overcome grammar problems, especially the present perfect tense in SMAN 1 Banjarsari Lebak Banten.

According to Saengboon (2017), "Grammar as a language's structure of sounds, words, sentences, and meaning. Grammar controls how words are ordered to make meaningful units. It indicates that grammar is a framework that must be properly structured to have real meaning. If students do not use proper language, it may cause a misunderstanding between their minds and the readers". Fadhilawati (2019), defined grammar is the study of word classes, inflections, functions, and relationships in language sentences. Purpura (2004) also stated that grammar is defined as a systematic method of accounting for forecasting an ideal speaker's or listener's understanding of the language. This is accomplished by the application of a set of rules or principles that may be used to create all well-formed or grammatical utterances in the language.

From the definition above, the researcher might infer that grammar is the guideline for the methodical formation of sentence structures so that they can be easily understood. As a result, it may assist students in using English appropriately and successfully in all settings, including speaking and writing.

According to Lestari (2017), "The present perfect tense is used to convey a situation that started in the past and continued into the present or to describe an activity that started in the past but continued into the present, or the consequence of which is still ongoing". Azar & Hagen (2016) also explained that the present perfect tense is frequently used since and for to talk about circumstances that started in the past and are still happening now. In other words, present perfect tense is the present perfect tense is one of the tenses used to represent past activities that are

related to the present, as well as events that have previously occurred but the results of which can still be felt today, continuing into the present. According to (Suherman, 2018), there are two sentence patterns of present perfect tense:

Table 1 Present Perfect Tense

Verbal Sentence	Nominal Sentence
(+) S + have, has + V3 + O.	(+) S + have, has + been + 3C.
(-) S + have, has + not + V3 + O.	(-) S + have, has + not+ been+ 3C
(?) Have, has + V3 + O?	(?) Have, has + S + been + 3C?

English Grammar Application is one of innovative and easy-to-use Android apps for learning English, especially grammar. Milinix created this application, which was released on July 17th, 2019. This application has been downloaded by over 100,000 users and has gained over 2,000 reviews on Google Play. Almost all of the reviewers give this application positive ratings. English Grammar Application has objectives to make it easy to improve English grammar and practice for English grammar examinations, as well as just for improving writing and speaking skills rapidly. Not only that, this application also has complete explanation of grammar subjects, including part of speech, tenses, passive voice, conditional sentences, Modals, and other subjects that related to grammar with exercise are about 20,000 questions. The main menu and sub menu are simple and there are light and dark mode for screen display.



Figure 1. English Grammar Application Icon

Based on the explanations above, the *English Grammar* application was expected to be a new medium that can help students overcome learning problems with grammar. Then, this research only uses the topics that are related to present perfect tense.

METHOD

The researcher used a quantitative approach that used collecting numerical data to analyze the influence of the media in this research. In this approach, the researcher applied a quasi-experimental design with two variables. This research used two classes as a sample, which have been separated into two groups: the experimental class and the control class. Ary et al in Allawiah (2022) claimed that the variation of an independent variable is known as a quasi-experimental design; its designs resemble randomized experimental designs, but the participants are not randomly allocated to treatment groups. Pre- and post-tests had been given to the experimental and control classes. The pre-test was used to determine the students' abilities and scores before conducting the treatment. The post-test was used to assess the skills and value after conducting the treatment. The tests helped determine whether there was a difference or not. The researcher used achievement test as the instrument test. The instrument test consisted 50 questions with 30 multiple-choice items questions and 20 essay item questions in present perfect tense.

The population of this research was twelfth-grade students from SMAN 1 Banjarsari Lebak Banten in the academic year 2023-2024. The total number of them was 216, and they were divided into 6 classes: XII IPA 1, XII IPA 2, XII IPA 3, XII IPS 1, XII IPS 2, and XII IPS 3. The researcher used the purposive sampling approach in this research, which was a type of nonprobability sampling. Sharma (2017) described that purposive sampling also known as judgmental, selective, or subjective sampling, refers to a group of sampling techniques that rely on the researcher's

judgment when selecting the units to be analysed (e.g., persons, cases/organizations, events, or pieces of data). As a result, the researcher chose a sample as well as those who were likely to have the required information and considered XII IPA 3 as the experimental class taught using the English Grammar application and XII IPA 2 as the control class taught using the Simpler application, while the instrument test class was held in XII IPA 1. These classes were taught by the same teacher at different times and had the same level of English ability. They were made up of 106 students.

In data collecting technique, the researcher used an achievement test in the pre-test and post-test to investigate the effect of English Grammar application towards students' grammar mastery in the present perfect tense. The test that used in the research was using multiple choice in error recognition test and essay in rearrangement and additional test. The pre-test consisted of 20 multiple-choice questions and 10 essay questions of present perfect tense; the total questions were 30 questions. The test aimed to determine the students' grammar mastery in the present perfect tense before implementing the treatment. After giving the pre-test, the researcher carried out the treatment. The experimental class was implemented using the English Grammar application, while the control class was implemented using the Simpler application. Then, the researcher's last to do was to conduct pos-tests in both the experimental and control classes with the same questions as pre-test. The test aimed to determine the students' grammar mastery in the present perfect tense after implementing the treatment.

In data analysis technique, the researcher used normality test, homogeneity test, and hypotheses test. According to Nuryadi et al. (2017), "Normality test is a procedure used to determine whether the data comes from a normally distributed population or is in a normal distribution". It is also can be used to ensure that the data is distributed correctly. This is because the parametric technique requires normal data. Normality test is used to determine whether the data from the experimental and control groups is normal. Homogeneity test is a statistical test procedure intended to show that two or more groups of sample data come from populations that have the same variance. homogeneity test is used to evaluate if the data obtained from the experimental class and the control class have relatively similar variations or not. Hypothesis can be speculated as a conjecture about something, a temporary solution to a problem, or a temporary conclusion about the connection of a variable with one or more variables. A hypothesis test is required in the study to determine if the hypothesis is rejected or accepted.

FINDING AND DISCUSSION

This research was conducted around one month in the Twelfth grade of SMAN 1 Banjarsari Lebak Banten. Pre-test and post-test of this research were preceded by a tryout with students from class XII IPA 1, so that test results could be obtained to be handed out to students. The questions were provided as multiple-choice items with up to 30 questions and essay items with up to 20 questions, for a total of 50 questions. 30 of the 50 questions were valid, with 20 multiple-choice questions and 10 essay questions.

The researcher used the computer-assisted software SPSS 22 version to assess the correctness of the validity instrument. The data were confirmed valid if the result of r -count is more than r -table, and invalid if the result of r -count is less than r -table. In this research the correlation value of the subject of provisions was $df = N-2$. For $N = 36$, the calculation used a significance level of 5% or 0,05 and the results were $36-2 = 34$. As a result, the value of r -table is 0,3291. In the research, the researcher not only did the validity test of the data but also did a reliability test to determine the data's validity if it is examined repeatedly. The instrument test was found to be reliable based on the results of reliability test above since the reliability coefficient r_{11} was 0.821 for multiple choice item and 0,827 for essay item and interpretation of the score was excellent.

Furthermore, this research was undertaken in seven meetings, starting with a pre-test given to students in both experimental and control classes at the first meeting to assess the student's

understanding of the present perfect tense material before receiving treatment. Students received their treatments in the next meeting, which was spread out over five meetings. In the experimental class, the English Grammar application and the textbook were used as the learning medium by students and teachers in every. Before starting the teaching and learning process, students were directed into learning activities using the English Grammar application, and the activities were started once all students had understood. In the control class, the Simpler application was used as a learning tool to equalize the learning media used in both the experimental and control classes. In the last meeting, Students were given the same questions to answer that commonly known as the post-test, to assess their knowledge of the present perfect tense after receiving treatment.

The purpose of the research was to investigate the significant effect of using the English grammar application on twelfth-grade students in SMAN 1 Banjarsari Lebak Banten. In the learning activities that were carried out, the researcher used a different treatment. The difference in treatment involves determining whether there is an improvement from the treatment that was given by comparing the data from the pre-test and post-test.

The data analysis showed that there was a significant improvement in student achievement before and after treatment. It is showed in the table of descriptive data statistics below, which include the minimum, maximum, mean, and standard deviation values based on the pre-test and post-test data gathered. The researcher used the SPSS version 22 computer program to find out all of the descriptive data statistics, and the results are as follows:

Table 2 Descriptive Statistics

Class	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test Experimental Class	35	42	80	58.86	10.091
Post-test Experimental Class	35	49	90	68.51	9.208
Pre-test Control Class	35	42	80	58.40	10.250
Post-test Control Class	35	49	90	68.14	9.711

According to the statistical results of the descriptive data above, the minimum score for the 35 students (N) in the experimental class pre-test was 42, and the maximum score was 80; therefore, the average or mean of the score was 58.86, and the standard deviation was 10.091. The experimental class post-test had a minimum score of 49 and a maximum score of 90, for a post-test average or mean of 68.51 and a standard deviation of 9.208. Meanwhile, the minimum pre-test score for the control class of 35 students (N) was 42 and the maximum score was 80; therefore, the average of this test was 58.40 and the standard deviation was 10.250. The minimum score for the control class post-test was 49, and the maximum score was 90, for a post-test average of 68.14 and a standard deviation of 9.711.

The normality test was used to find out the normality of the data to be analyzed in order to determine whether or not the two classes had a normal distribution. The researcher used Kolmogorov-Smirnov with a significant level of 5% ($\alpha = 0.05$) to examine the normality data. In this case, the researcher uses the following formula to assess data normality:

If Significance > 0.05 = data is normal distribution

If Significance < 0.05 = data is normal distribution

The following are normality test results of pre-test and post-test performed with the SPSS version 22 computer program:

Table 3 Normality Tests (SPSS)

Class	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pre-Test Experimental Class	.094	35	.200*	.962	35	.261
Post-Test Experimental Class	.108	35	.200*	.985	35	.910
Pre-Test Control Class	.124	35	.194	.954	35	.150
Post-Test Control Class	.135	35	.108	.956	35	.177

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Based on the data above, the significance of the experimental class and control class data using Kolmogorov-Smirnov is more than 5% (>0.05), for the experimental class pre-test is $0.200 > 0.05$ and post-test is $0.200 > 0.05$, and the control class pre-test is $0.194 > 0.05$ and post-test is $0.108 > 0.05$. As a result, each class's data scores are normally distributed.

The homogeneity test was used to evaluate the data obtained from the pre-test and post-test experimental classes and the control class to determine whether or not they have relatively identical variations. The following are the homogeneity criteria:

If Significance > 0.05 = homogeneous

If Significance < 0.05 = not homogeneous

The following are the results of the homogeneity test of the pre-test and post-test of both the experimental class and control class using the computer-assisted program SPSS 22 version:

Table 4 Homogeneity of Pre-Test Experimental Class and Control Class

Levene Statistic	df1	df2	Sig.
.000	1	68	.991

The data is homogenous if the significance is higher than 5% ($>=0.05$). According to the table above, the data of the pre-test for both the experimental and control classes are homogenous since the significance score is higher than the level of significance, which is $0.991 > 0.05$. So, the variations in the experimental and control classes' pre-tests are identical.

Table 5 Homogeneity of Post-Test Experimental Class and Control Class

Levene Statistic	df1	df2	Sig.
.018	1	68	.895

Furthermore, the post-test data is homogenous if the significance is higher than 5% ($> = 0.05$). Based on the test homogeneity, it is demonstrated that the significance score is greater than the level of significance, where $0.895 > 0.05$. As a consequence, the data are specified to be homogeneous, which indicates that post-test, both the experimental and control classes have identical variants.

A hypothesis test is required to determine whether the hypothesis is accepted or rejected. The researcher used the Paired Samples T-test with the SPSS version 22 program to analyze the hypothesis test. The paired sample t-test is used to evaluate whether there is a difference in the average or mean of two paired samples.

Table 6 Paired Sample Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test Experimental Class	58.86	35	10.091	1.706
	Post-Test Experimental Class	68.51	35	9.208	1.556
Pair 2	Pre-Test Control Class	58.40	35	10.250	1.733
	Post-Test Control Class	68.14	35	9.711	1.641

According to the paired sample statistics above, the average pre-test of the experimental class was 58.86 and the post-test was 68.51. The average pre-test for the control group was 58.40, while the post-test was 68.14. So, there is a difference in learning outcomes between the pre-test and post-test, which is discovered descriptively since the average value or mean of the pre-test is lower than the post-test. The paired sample t-test results are required to assess whether or not the suggested hypothesis has a significant impact, and the statistical hypothesis:

H_a: There is a significant effect of using the *English Grammar* application towards students' grammar mastery in present perfect tense at twelfth grade of SMAN 1 Banjarsari Lebak Banten.

H₀: There is no significant effect of using the *English Grammar* application towards students' grammar mastery in present perfect tense at twelfth grade of SMAN 1 Banjarsari Lebak Banten.

The criteria of paired samples T-test according to Santoso (in Seto & Septianti, 2021) are:

If the probability (Asymp. Sig) < 0.05, it means that H₀ is rejected and H_a is accepted.

If the probability (Asymp. Sig) > 0.05, it means that H₀ is accepted and H_a is rejected.

The paired sample T-test results are as follows:

Table 7 Homogeneity of Post-Test Experimental Class and Control Class

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-Test – Post-Test Experimental	-9.657	5.831	.986	-11.660	-7.654	-9.799	34	.000
Pair 2	Pre-Test – Post-Test Control	-9.743	7.253	1.226	-12.234	-7.251	-7.947	34	.000

According to the paired samples t-test table, the null hypothesis (H₀) is rejected and the alternative hypothesis (H_a) is accepted since the significance level is lower than the 5% (2-tailed) significance test result (0.000 < α = 0.05) for both experimental and control classes.

Hence, the results show that there is an average or mean difference between the pre-test and post-test results, indicating that the media used has a significant effect on both the experimental and control classes. Furthermore, based on the average results obtained from the two different media used by each class, the experimental class gained a more significant difference in the average outcomes of the pre-test and post-test using the *English Grammar* application media. To summarize, employing *English Grammar* application media may provide a more significant effect on students' grammar mastery in present perfect tense lessons at the twelfth grade of SMAN 1 Banjarsari Lebak Banten.

CONCLUSION

Based on the findings and discussion chapter, it is possible to conclude that teaching English in the twelfth grade of SMAN 1 Banjarsari using the English Grammar Application as a learning medium is effective, specifically for students' grammar mastery in the present perfect tense lesson. It may be found in the descriptive statistics data about the comparison between the post-test results of both the experimental and control classes after receiving treatment. The experimental class result is 68.51, whereas the control class result is 68.14, indicating that the experimental class result is higher than the control class. Furthermore, based on the paired samples t-test with the level significance 5% ($\alpha = 0.05$), it was determined that the alternative hypothesis (H_a) was accepted and the null hypothesis (H_0) was rejected because the significance (2-tailed) results for the experimental class were less significant than the level significance 5% ($0.000 < \alpha = 0.05$).

To sum up, the English Grammar application is an efficient teaching medium for teaching and learning grammar in the present perfect tense lesson in the twelfth grade of SMAN 1 Banjarsari. Using the media made students more enthusiastic and inspired to study grammar, particularly in the present perfect tense. As a consequence, it is feasible to significantly improve students' understanding of the present perfect tense.

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