Application "Learn English Grammar" and "Grammar Bahasa Inggris" of EFL Students

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Abstract. The purpose of this study is to see how combining the "Learn English Grammar" and "Grammar Bahasa Inggris" mobile applications affects grammar learning in the first semester of the English Education Study Program at Universitas PGRI Yogyakarta. The participants in this study were students from the English Education Study Program at Universitas PGRI Yogyakarta. The sample consisted of a first-semester students. To obtain samples, a purposive sampling strategy based on the Nonequivalent Control Group design was adopted. This study was conducted in three stages: data collecting, action, and data analysis. The ifirst-semester studentscnformation was acquired through observation, exams, questionnaires, and interviews. The data was analyzed using the following steps: finding the N-gain percentage, normality test, Wilcoxon test, and homogeneity test, analysis of observation sheets, questionnaire analysis, interview analysis, hypothesis testing, and conclusion. The findings of this study reveal that the mobile applications "Learn English Grammar" and "Grammar Bahasa Inggris" are ineffective for teaching grammar at the university level. It can be inferred that traditional learning methodologies outperform learning through media such as "Learn English Grammar" and "English Grammar" mobile applications.

Keywords: Learn English Grammar Application, Grammar Bahasa Inggris Application, Grammar mastery, Experimental research design

1. Introduction

The purpose of this study is to see how combining the "Learn English Grammar" and "Grammar Bahasa Inggris" mobile applications affects grammar learning in the first semester of the English Education Study Program at Universitas PGRI Yogyakarta. The participants in this study were students from the English Education Study Program at Universitas PGRI Yogyakarta. The sample consisted of a first-semester students. To obtain samples, a purposive sampling strategy based on the Nonequivalent Control Group design was adopted. This study was conducted in three stages: data collecting, action, and data analysis. The information was acquired through observation, exams, questionnaires, and interviews. The data was analyzed using the following steps: finding the N-gain percentage, normality test, Wilcoxon test, and homogeneity test, analysis of observation sheets, questionnaire analysis, interview analysis, hypothesis testing, and conclusion. The findings of this study reveal that the mobile applications "Learn English Grammar" and "Grammar Bahasa Inggris" are ineffective for teaching grammar at the university level. It can be inferred that traditional learning methodologies outperform learning through media such as "Learn English Grammar" and "English Grammar" mobile applications.

Grammar is a crucial language of all languages, where grammar works to combine words so that meaningful sentences occur [1]. Grammar is essential in everyday language life [2], grammar can help people run formal work in their fields, such as teachers, politicians, reporters, writers, translators, et cetera. There are linguistics fields in grammar, including lexicon, phonology, morphology, semantics, and syntax [3]. Grammar is essential, but many students feel pressured by the concept of systematic grammar learning, so it would be better if they made it to the fun [4]. Language without grammar would be chaotic: countless words without indispensable guidelines, for now, they can be ordered and modified [5]. English grammar is critical in language learning. It is also regarded as the foundation for a number of language skills (listening, speaking, reading, and writing) [6]. In English grammar, there are eight parts of speech: noun, pronoun, verb, adverb, adjective, preposition, conjunction, interjection [7].

Since technology is creating, technology will always go through more sophisticated changes and modern. One of the impacts of changes in technology is the creation of modern media called mobile applications [8]. A "mobile app" is a mobile application designed to run on mobile devices such as smartphones, computers, and Android. Although the mobile application device has limited

functionality, users of the mobile app can still have quality service and experience. In Android, there are various types of mobile applications, consisting of: Gaming Apps, Productivity or business Apps, Educational Apps, Lifestyle Apps, E-Commerce Apps Entertainment Apps [9].

Using mobile devices to learn is a new way of learning and reflects mobile learning (M-learning) [10]. Mobility and accessibility are the advantages of mobile learning, such as reaching distance learning so that access is more accessible in terms of time and any situation [11]. The use of apps in education has been done to find the effectiveness [12]–[14] and find out the better strategies in ELT[15]–[18]. In higher learner, it is usually used in raising the higher score. In addition there is connection between the students' motivation and students' achievement [19]–[21].

Shortly, M-learning will become a critical learning platform driven by the increasing number of mobile users instead of computers [22]. Therefore, the researcher will compare the learning between conventional learning and learning by using two mobile applications in mobile learning, namely, "Learn English Grammar" and "Grammar Bahasa Inggris."

"Learn English Grammar" Application

English Grammar is an application that belongs to the category of educational applications. This application uses English; English Grammar was created and developed by Vivo (Visual Education) in 2016 until now-2022.
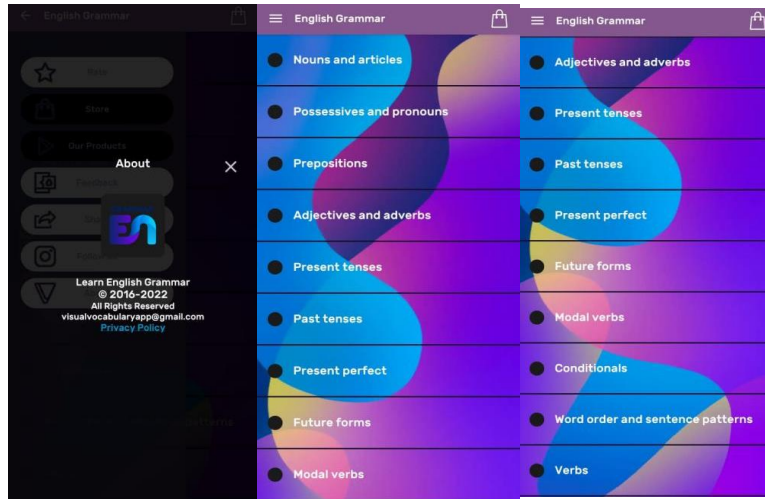

Figure 1. Learn English Grammar App

Grammar Bahasa Inggris Application

Developed by *Nofta Studio* is an application made by the nation's children. This application used the Indonesian language and has released on February, 22nd 2018. Of course, this application tailors to the Indonesian people's target users. There are seven features in this app, consisting of the following: Part of Speech, Phrase, Basic English, Tenses, English Structure, English Exercise, Examinations.

Figure 2 Grammar *Bahasa Inggris* App

2. Method

This research was conducted in September-November 2022 with a sample of 27 students from English Education. The control group applied conventional learning, and the experimental group applied learning using a combination of grammar application media "Learning English Grammar" and "English Grammar."[23]

Table 1. Research Design

0_1	x	0_2
0_3		0_4

Description:
0_1: experiment group pretest
0_2: experiment group posttest
X: treatment of experiment group using the application "Learn Grammar English"
and "Grammar *Bahasa Inggris*."
0_3: control group pretest
0_4: control group posttest

Taking measurements is the same as researching, and the measuring instrument is known as a research instrument. A *research instrument* is a tool used to measure observed natural or social phenomena [24]. The pre-test and post-test group design is classic, giving pre-test and post-test to 2 groups, but only the experimental group gives different treatments [25]. The pre-test determines the research object's essential ability (subject) before being given an experimental intervention. Then a post-test is given to determine the impact after being given an intervention [26].

The pre-test and post-test designs aim to compare or measure changes in a group after undergoing a series of experimental treatments usually used in behavioral research [27]. The pre-test and post-test group comparison design is the most existing method to evaluate clinical research. [5]

Data analysis is a process that occurs after collecting data from respondents or other sources [28]. The following steps are included in the data analysis procedure: Experimental research carries out by the researchers aiming to conduct experiments classified as quantitative methods [29]. Therefore, this study used an experimental research design. There is only one method trusting in testing the causal hypothesis, and that method is the experimental method [30]. To find the effect of a treatment using experimental research methods. The control group is used in experimental research to control conditions; often, research carries out in the laboratory [31].

Quasi-Experimental Design is a developmental form of True Experimental Design because it is difficult to get a control group for conducting research [32]. In using Quasi-Experimental Design, this study uses the Nonequivalent Control Group Design [33]. The Nonequivalent Control Group Design is almost identical to the pretest-posttest Control Group Design, but the sample chooses randomly [34].

It is necessary to identify variables to design a quantitative research project; this research uses two variables. Everything is determined and studied to obtain information to conclude [35]. The following variables can identify: 1) The dependent variable is a variable that influences by other variables. The dependent variable in this study is students who learn grammar in class. 2) Independent variables, also known as the stimulus, predictor, and antecedent variables, cause the dependent variable. The independent variable in this study is the mobile applications that are "Learn English Grammar" and "Grammar Bahasa Inggris." [36]

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
			Descriptive Statistics		
Pre-test Experiment	14	27	80	48.00	20.670
Post-test Experiment	14	20	80	45.36	21.521
Pre-test Control	13	27	67	47.69	12.652
Post-test Control	13	33	80	61.92	13.450
Valid N (listwise)	13				

3. Findings and Discussion

The primary goal of the research is to determine the effectiveness of the learning strategy when using a mobile application media consisting of "Learn English Grammar" and "English Grammar." after treatment from the control and experimental groups, which are concluded into a descriptive statistics. The lowest score of the pre-test of the experiment group is 27, and the highest score is 80, with a mean is 48.00 Then the lowest post-test of the experiment group is 20, and the highest is 80, with a mean is 45.36. However, the lowest score of the control group`s pre-test is 27, and the higher score is 67, with a mean is 47.69.

The experimental group had an average of **48.00** in the **Fair category**. In contrast, the pre-test of the control group had an average of **47.69**, which was included in the **Fair category**. Then for the post-test activities, the experimental group was in the **Poor category** with an average score of **45.36**, while the control group was in the **Fair category** with an average post-test score of **61.92**.

Table 3. N-Gain Per cent Score Results

No	Experiment Group	Control Group
	N-Gain Score (%)	N-Gain Score (%)
1	.00	8.22
2	.00	17.50
3	40.30	21.67
4	-22.22	11.32
5	10.45	49.06
6	.00	54.79
7	-8.96	18.18
8	-21.21	.00
9	-8.96	42.55
10	-8.96	57.45
11	.00	20.90
12	.00	42.55
13	-100.00	.00
14	.00	8.22
Mean	-8.5	26.4
Minimal	-100.00	00.00
Maximal	40.30	57.45

The table above shows that, the results of the average N-gain score for the experimental group with application learning media are -8.5% are included in the ineffective category, with a minimum N-gain score of -100.00% and a maximum of 40.30%. Meanwhile, the average N-gain score for the control

class (conventional learning method) is 26.4% and is considered ineffective, with a minimum N-gain score of 00.00% and a maximum of 57.45%. So it can be concluded that, using a combination of media applications from "Learn English Grammar" and "Grammar *Bahasa Inggris*" is not effective.

The Normality Test

The normality test determines whether or not the sample is drawn from a normally distributed population. The researcher used the Shapiro Wilk because the research object is less than 50 objects, and if the significance value was more significant than 0.05, the data was declared normal. After that, it is continued with data analysis to prove the hypothesis if it is known to be normal.

Table. 4 Tests of Normality

	Group	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Student Learning Outcomes	Pre-test Experiment (Apps)	.337	14	.000	.801	14	.005
	Post-test Experiment (Apps)	.232	14	.040	.850	14	.022
	Pre-test Control (Conventional)	.201	13	.155	.924	13	.280
	Post-test control (Conventional)	.186	13	.200[*]	.918	13	.237

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

Based on the data above, it can be concluded that, the data is abnormal distributed because some variables of Shapiro-Wilk have a significance value of less than 0.05.

Homogeneity Test

Table 5.Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Student Learning Outcomes	Based on Mean	8.040	1	25	.009
	Based on Median	3.028	1	25	.094
	Based on Median and with adjusted df	3.028	1	22.131	.096
	Based on trimmed mean	7.645	1	25	.011

The sample is considered homogeneous if the significance value is more significant than 0.05. Therefore, based on the table above, it can be seen that not all data is significantly higher than 0.05, so all data is not homogeneous.

Wilcoxon Test

After determining the abnormally distributed data in the normality test, the next step is to carry out the Wilcoxon Test

Table 6. Ranks

		N	Mean Rank	Sum of Ranks
Post-test Experiment - Pre-test Experiment	Negative Ranks	6[a]	3.92	23.50
	Positive Ranks	2[b]	6.25	12.50
	Ties	6[c]		
	Total	14		
Post-test Control - Pre-test Control	Negative Ranks	0[d]	.00	.00
	Positive Ranks	11[e]	6.00	66.00
	Ties	2[f]		
	Total	13		

a. Post-test Experiment < Pre-test Experiment
b. Post-test Experiment > Pre-test Experiment
c. Post-test Experiment = Pre-test Experiment
d. Post-test Control < Pre-test Control
e. Post-test Control > Pre-test Control
f. Post-test Control = Pre-test Control

From the data above, it can be seen that, the experimental group's negative rankings included six students who experienced a decrease in learning outcomes, and positive rankings indicated that two children experienced increased learning outcomes. The Ties indicated that six students had the same learning outcomes. Then, it can be seen that, there was no negative ranking/decreased learning outcomes from the control group. Positive rankings contained 11 children who experienced increased learning outcomes, and the Ties showed that two students had the same learning outcomes.

Hypothesis
The following is a description of the hypothesis:
1)   H0 is accepted if the significance value < 0.05 and Ha is rejected.
2)   H0 is rejected if the significance value > 0.05 and Ha is accepted.

Table 7. Test Statistics[a]

	Post-test Experiment - Pre-test Experiment	Post-test Control - Pre-test Control
Z	-.781[b]	-2.941[c]
Asymp. Sig. (2-tailed)	.435	.003

a. Wilcoxon Signed Ranks Test
b. Based on positive ranks.
c. Based on negative ranks.

Based on the output of the experimental group, a score of Sig. was obtained. (2-tailed) of 0.435 > 0.05 means H0 is rejected, and Ha is accepted. It can be concluded that, there is no significant difference between the average pre-test of the experimental group and the post-test of the experimental group after treatment. While, the output of the control group obtained a score of Sig. (2-tailed) of 0.003 < 0.05 means Ha is accepted, and H0 is rejected. It means that, the combination of applications of "Learn Grammar English" and "Grammar Bahasa Inggris" is not effective in. So it is concluded that, there is a significant student's difference in learning using conventional media. Learning using conventional media is more effective than using the mobile application media "Learn English Grammar" and "Grammar Bahasa Inggris."

4. Conclusion
Based on the data analysis findings. It is concluded that the mobile phone applications "Learn English Grammar" and "Grammar Bahasa Inggris" are ineffective in improving the grammar learning abilities of first-semester students of the English Language Education Study Program, Universitas PGRI Yogyakarta. However, learning with conventional media is effective when teaching grammar for first-semester students of the English Language Education Study Program at the University of PGRI Yogyakarta.

There is also a correlation between the results of the experimental group questionnaires that were given different treatments. From the questionnaire results, 86% of students found it difficult to understand when using the application, 78% preferred to use conventional learning methods, and only 14% felt their grammar skills improved after using the application. The results of the control group questionnaire stated that 92% of students did not find it difficult to learn grammar using conventional methods, 62% preferred conventional learning, and 92% felt an increase in grammar mastery after treatment.

The results of interviews and questionnaires also support this statement. In the interviews, the experimental group students said they felt interested in the application but did not concentrate because of distractions when using a mobile phone. this statement is also in line with previous research entitled "The Influence of the Use of Mobile Communication Devices (HP) on Student Learning Activities at SMP Negeri 66 South Jakarta." The study states that student learning activities are affected by as much as 65.28%. So mobile phones have a terrible effect on learning in student activities. Some students are comfortable with learning with conventional media.

From the statistical data output of the Wilcoxon test, it can be seen that the significance value of the experimental group is 0.435, which is higher than 0.05. It can be interpreted that Ha is accepted and H0 is rejected, so there is no significant positive difference after receiving treatment using "Learn English Grammar" and "Grammar Bahasa Inggris" learning media. However, in the control group using conventional learning, Sig. 0.003, which is lower than 0.05, so it can be concluded that conventional learning is more effective than using mobile phone application media "Learn English Grammar" and "Grammar Bahasa Inggris."

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