The Effectiveness Of Using Duolingo Application For Students` Grammar Ability In English

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	ABSTRACT
	The purpose of this research is to investigate wheather or not Duolingo can improve students' grammar ability in English. This research use quantitative method and conducted in VII-B SMP Satria Dharma Perbaungan. In this research, the reasearcher used one class as the sample with total number of 26 students. The data was collected by giving pre-test and post-test as the instruments. The result of this research was calculated by using T-test. The findings showed that the students' post-test scores was (80,76) it was higher than their pre-test scores (61,73). The result that is showed by using t-test, the scores of tcalculation (8,57) was higher than score of ttable (1,705) at significant level 5%. This finding reveals that Duolingo gives the significant result at 7th grade students of SMP Satria Dharma Perbaungan to increase students grammar ability in English.
Kata Kunci	*Duolingo, Language Learning Application, Grammara Ability*

INTRODUCTION

The study of the way words are used to make sentences defined as grammar. English learners should study grammar because the skills of grammar itself will support English learners to organize words and messages and make them meaningful. Knowing more about grammar will enable English learners to build better sentences in speaking and writing performances. Grammar is the essential thing in learning English.

However, Based on the researcher observation there were still many students of SMP Satria Dharma Perbaungan have difficulties in mastering grammar such as distinguishing gender identity, putting subject, verb and predicate in a sentence properly. It was found that beside those students difficulties in learning English Grammar, the media used also still far from the implementation of technology. This reality also informed that most of students did not know about the existence of language learning applications. Students did not even know how to download the application or log in via the link provided. Then, the evidence of those problems absolutely narrowed their access to learn English grammar properly.

It was a big deal to the researcher to do a deeper experimental research which implemented an English Learning. In this research the researcher used Duolingo application for supporting students in mastering grammar. This application could run on Android-based smartphones. The application provided a facility which can be access easily, so that the students can learn in a flexible time and place. Duolingo application consists of many materials of English particularly grammar and some practice questions for later application users to answer those questions. The English grammar learning application was expected to be an alternative medium in mastering English grammar. Therefore the Android-based English grammar learning

Duolingo is very helpful in supporting students to achieve the English learning outcomes. It is proven by ndah Sri Redjeki1, R.Muhajir2 (2020) on their research stated that: "All the students enjoyed learning English with Duolingo as it was fun, quite interesting, simple, modern, and easy to use (user-friendly) as long as they have an internet quota and a good internet connection. They only need to have an email or Facebook account to install the application. It is also suitable to all levels, so everyone can learn English even from basic."

Based on the evidence narrated   above, the researcher was interested in taking up the tittle of the research: "The Effectiveness of Using Duolingo Application for Students' Grammar Ability in English".

RESEARCH METHOD

This research is conducted by using an experimental research. According to Gay (2012), "Experimental research is the only type of research design that can test hypothesis to establish cause-effect relations". This research design involves two groups; an experimental group and a control group. The experimental group is given treatment (using Duo lingo application), whereas the control group is not. In this research, a control group is required for comparison purposes in order to determine the effect of the treatment is more effective than others.

The design of this research is shown below.
Hatch and Farhady in Pertiwi (40: 2018) proposed the design as follows:

$$T_1 \ X \ T_2$$
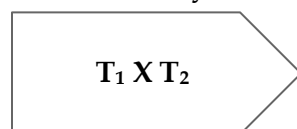
T_1 : Pre test
X : Duo lingo Treatments
T_2 : Post test

The population in this research is all of SMP Satria Dharma Perbaungan. The researcher would use purposive sampling. The participants are selected based on the purpose of the sample. Class VII-1 will chosen as experimental class that is consist of 26 students.

In this research, there are two variables: an independent variable (X) that may affect the outcome, and a dependent variable (Y) that is influenced by independent variables. The independent variable (X) in this research is Duo lingo, while the dependent variable (Y) is the students grammar ability. The indicator of this research are the students improve their grammar ability and the students are able to use learning application.

The research instrument for this research is a grammatical multiple choice test which consists of 10 questions as a pre-test and post-test. The data will be analyzed by using the dependent (paired sample) t-test. the dependent test will computed using the SPSS 24 for Windows program. After getting t value (t obtained), then it will compared with the t critical. If t obtained ≥ t critical at the level of significance (p) = 0.05, the null hypothesis (H0) is rejected and accepts the alternatives hypothesis (H1). However, if t obtained ≤ t critical then the null hypothesis is accepted.

RESUL AND DISCUSSION

Table 1.
Difference between Pre-Test Scores and Post-Test Scores

		Pre-Test	Post-Test
	TOTAL	1605	2100
N=26	MEAN	61.73	80.76
	MAX	70	95
	MIN	55	70

Table 1 shows that there is a considerable difference in score between the pre-test and post-test, as evidenced by the scores of 1605 for the pre-test and 2100 for the post-test. The pre-test average was 61.73, and the post-test average was 80.76. It signifies that the pre-test and post-test variations are dissimilar. Based on the statistical calculations above, it is clear that there is a significant difference in the average score obtained from learning grammar using Duo lingo versus learning grammar without it.

Table 2.
Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		26
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	7.90321115
Most Extreme Differences	Absolute	.125
	Positive	.125
	Negative	-.119
Test Statistic		.125
Asymp. Sig. (2-tailed)		.200[c,d]
a. Test distribution is Normal.		
b. Calculated from data.		

Based on the calculation table data normality above, the result of pre-test and post- test scored showed significant (2-tailed) result of .200 > α (0.05) where the significant score was higher than α = 0.05. It means the data of pre-test and post –test in experimental group is normal. Therefore the used data in this research is normal so it can be preceded to the next statistical test.

Table 3.
Paired Sample Statistics

Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test	61.7308	26	5.46668	1.07210
	Post-test	80.7692	26	8.32974	1.63360

This second output is paired samples statistic, the table showed averages score in pre-test was 61.73 and the post-test was 80.76, N referred to total amount of the sample, i.e. 26. Standard deviation showed the heterogeneous that occurred in the data before and after using Duo lingo were 5.4666 and 8.329 and standard error of mean before and after using duo lingo were 1.072 and 1.633.

Table 4.
Paired Samples Correlations

Paired Samples Correlations		N	Correlation	Sig.
Pair 1	Pre-test & Post-test	26	-.316	.116

In this output of paired samples, it can be seen that the significance score $(0,116) > \alpha (0.05)$ and can be concluded that there are no significance correlation using and without using Duo lingo in the test.

Table 5.
Paired Sample 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-test Post-test	-19.036	11.31541	2.21913	-23.60885	-14.46807	-8.579	25	.000

Based on the calculation above of T-test, this research data showed the significant results, it can be seen from the mean result is 19.036 in which standard deviation was 11.31541 standard error mean was 2.219 the result of t-test was 8.579 and Significant (2-tailed) was 0.000<α (0,05). The scores of $t_{calculation}$ (8.57) were higher than score of t_{table} (1.705) at significant level 5%. It can be concluded that the result is significant and it was proven that H0 was rejected and H1 was accepted which means that there is an effectiveness of Duo lingo on students grammar ability.

CONCLUSION

It can be concluded, based on the findings and analysis of the data presented before, that utilizing Duo lingo to improve grammatical skills for seventh grade students at SMP Satria Dharma Perbaungan is effective. This strategy has a positive impact on the students' English grammar abilities and resulted in higher results. Multiple choice and essay grammar tests were used to obtain data (Pre-test and Post-test).

The result of t-test calculation can be concluded that Duo lingo give significant influence in students grammar ability. It was proven by getting 1605 for Pre-test and 2100 for Post-test. The average for pre-test was 61.73 and 80.76 for post-test. The result of the scores of $t_{calculation}$ (8.57) was higher than score of

t$_{table}$ (1.705) at significant level 5%. It means that Duo lingo increases students grammar ability of 7th grade students SMP Satria Dharma Perbaungan was accepted.

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