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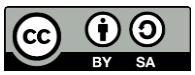

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Improve Students' English Vocabulary Using the Smart TTS game App

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Abstract

In learning foreign languages, especially English, students often need help with several obstacles, including requiring more vocabulary mastery. This research aims to improve students' vocabulary using the Smart TTS game application. The research method used in this study is quasi-experimental. The data processing results show that this application effectively improves students' vocabulary.

Keywords*: gaming application, Students' ability, vocabulary.*

Introduction

Language skills are one of the essential aspects of human life. It is important because humans can convey ideas, thoughts, and messages to others verbally using language. The language used can be a regional language, Indonesian, or an international language, such as English, depending on the person/subject as the interlocutor or the environment in which the language will be spoken. Menurut describes that it has a crucial position in the development of science in the era of globalization.

In Indonesia, language is one of the main lessons taught in primary education. In addition to Indonesian, foreign languages are also trained to increase students' skills. English is considered one of the international languages whose learners are included in

the Indonesian educational curriculum. (Sartika 2019) also states that the importance of English in this language is indispensable in various areas of life, such as education, work, and society. It makes mastery of English essential and needs to be improved.
In English mastery, vocabulary becomes the main and first thing that needs to be considered. It is because vocabulary is viewed as the basis for language. (Susanthi 2020) Vocabulary in English is essential as a start in improving English language skills; the more vocabulary students master, the easier it is to learn English.

However, this becomes difficult because the learning model is considered ineffective in improving students' vocabulary. Based on researchers' observations when conducting field studies in high schools, it is known that teachers still ask students to memorize vocabulary sequences. It is not a problem for some students, but this is considered problematic for students with low learning motivation. (Oktafiana and Magelang 2022) Stated that motivation also affects student learning outcomes. High motivation can improve student learning outcomes. Meanwhile, low motivation causes a decrease in student learning outcomes.

In addition to the memorization method, there are several other ways to improve students' vocabulary. One of them is to use a game-based application. According to (Ayu Annisa, Rusdiyani, and Nulhakim 2022), Nowadays, the development of technology is so fast and rapid all sides of life use technology as a tool, including utilization as a medium and learning resource. It is known that the development of the times has brought technology to blend into human life, one of which is the learning process. Gaming applications can motivate students in the learning process because they can be done with fun.

There are a variety of applications that can be used to improve student's vocabulary. In this study, researchers used the Smart TTS game application to enhance students' vocabulary. This app was chosen because it has various challenging features, so students are motivated to complete the entire series of games. In addition, this gaming application is also equipped with a grading system so that students can find out the score at the end of the game.

English lessons still need to be made easier for students. Meanwhile, English at this time has become a common thing that is always encountered in everyday life. But in reality, its use is still limited. One thing that makes this happen is the need for more vocabulary. This research is intended to be one of the learning innovations for students. Its fun and unconventional application is expected to be one way to improve student's vocabulary. Therefore, the researcher raised the research titled "Improving Students' English Vocabulary Using Smart TTS Game Applications."

Method

The research method used in this study is quasi-experimental. This method was chosen because the focus of this study was to notify students' abilities. According to (Shrout 1980), quasi-experiments are experiments with treatment, impact measurement, and experimental units but do not use random assignments to create comparisons to infer

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changes caused by treatment. This study applied pre-test and post-tests to experimental and control groups.

The duration of this study is for three months, starting from September to November 2022. The game application used in this study is Smart TTS, which can be downloaded free via Play Store. The population in this study was 35 people who were students of class XI of SMA NEGERI 14 LUWU. Then using random sampling techniques, 20 people will participate in the study. This group was then divided into two groups, namely the control group and the experiment group.

Data collection

The data collection process is an essential step in a study. The primary purpose of this process is to obtain data that will later be processed and analyzed to get research results. In this study, the data collection carried out was:

Pre-test

To run this pre-test, both groups of students, the control group and the experimenter, were given the exact instructions to use the Smart TTS gaming application and perform activities directed inside the application. After the activity is completed, the result is recorded with a screenshot. This pre-test is intended to record the initial abilities of both groups of students before using the Smart TTS gaming application. In this way, later, the post-test results can be compared with the pre-test to determine how far the student's vocabulary mastery is after using the application.

The same instruction is given to both groups of students so that the pre-test results can be compared fairly and objectively. Moreover, the screenshot-taking is done consistently and is well documented. With well-done pre-tests, post-test results can be used to evaluate the successful use of the Smart TTS game application in improving students' vocabulary.

Treatment

The next stage is the treatment given only to the experimental group. The treatment given to the experimental group was vocabulary comprehension training using the Smart TTS game application. This training was conducted in as many as six meetings for 90 minutes each session. The training is carried out to improve students' English vocabulary skills, especially in common words often used. Using the Smart TTS game application, students can learn to improve their vocabulary in a more interactive and fun way. It is expected to increase student motivation and interest in learning.

Each 90-minute training session can allow students to study more intensively and focus on the material provided. In each session, students are given varied and challenging material so that students do not feel bored and are constantly motivated to learn. Researchers measure and evaluate students' abilities periodically to monitor student progress during

training. With structured and consistent training, it is hoped that students in the experimental group can improve their vocabulary skills after using the Smart TTS game application for six training sessions. It can later be compared with the student's initial ability before the pre-test treatment to determine how much improvement is achieved.

post-test

In this last data collection stage, both groups of students will work on the Smart TTS game application. The results of this post-test will determine the success of using the Smart TTS game application in improving students' vocabulary. After both groups of students have completed the post-test, the results will be recorded with screenshots to be processed and analyzed. The data obtained from the post-test can be used to determine how much the vocabulary ability of students from both groups has improved after using the Smart TTS game application.

Data analysis

To analyze the data on the application of Smart TTS game applications in improving students' vocabulary in English, it is essential to choose an analysis method that suits the type of data obtained and the purpose of the study. In addition, it is also necessary to carry out statistical calculations carefully to ensure accurate and reliable analysis results. In this study, processed data using SPSS V.26 The data analysis used is:

Normality test

In data analysis techniques, it is necessary to do a normality test because it is one of the prerequisites before conducting a hypothesis test or t-test. The purpose of the normality test is to determine whether the data used in the study has been distributed normally or not. The basis of decision-making was testing the normality of Kolmogorov-Smirnov data calculated with the help of SPSS. The results that will be obtained from the normality test use this formula:

1. If the significance value (p) > 0.05, then the data is expressed as customarily distributed, on the contrary;
2. If the significance value (p) < 0.05, the data is declared not normally distributed.

Homogeneity test

A homogeneity test is a test that is carried out to find out that two or more groups of data of a sample derived from the population used have the same average (homogeneous). This test is required before conducting other tests such as T and Anova. This test is carried out to ensure whether the data group comes from a population with the same average (homogeneous) or not. The homogeneous test in this study used the Leneve Test with the help of SPSS. The results obtained from the normality test use this formula:

1. If the value of Sig > 0.05, then the distribution data are homogeneous or have the same average.

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2. If the Sig value < 0.05, the distribution data is not homogeneous, or the average value is not the same.

Uji-T (paired sample t-test)

Paired t-test using the SPSS application or program help. The SPSS program is computer software for statistical analysis. In addition to accurate results, this software is compatible with other software such as MS Word, MS Excel, and MS PowerPoint (Mustari, 2012). The t-test is carried out to determine the presence/absence of a significant influence on free variables and bound variables. The SPSS program is one of the computer software for statistical analysis. In addition to accurate results, this software is compatible with other software such as MS Word, MS Excel, and MS PowerPoint (Mustari, 2012). The hypothesis of a research case is carried out using the paired sample t-test formula as follows (Mustari, 2012):

$$Fell = \frac{D}{SD}$$

$$SD = \sqrt{\mathbf{var}}$$

$$(s^2) = 1 + \frac{1}{n-1} + \sum_{i=1}^{n} (xi - xj)^2$$

Information:

T = calculated T value

D = average of pre-test and post-test sample measurements

SD = standard deviation difference between pre-test and postest sample measurements

N = number of samples

Xi = pre-test sample

Xj = post-test sample

To interpret the T-test, the value of the α (0.05) must first be determined (0.05), after which a comparison between the t-value and t-table = α:n-1 if the Thitung > Ttabel is significantly different, then H0 is rejected and if the Ttabel < calculation does not differ significantly, then H0 is accepted.

Results

This study aims to improve students' vocabulary in English by using the Smart TTS Application for class XI (Eleven) high school (SMA) students. Twenty students were used as samples in this study throughout class Eleven (XI), consisting of 20 students. The students were then divided into classes, namely the control class composed of 10 students, where the control class itself was not given treatment. And for the experiment class consisting of 10 students, the experimental class was given treatment in the form of

training using the Smart TTS game application to improve student vocabulary. The results of the pre-test class experiment can be seen in table 1 as follows:

Table 1
Pre-test Scores Students of Experimental and control groups (Using Smart TTS app)

No	Name	Pretest	Post
1	A-1	34	70
2	A-2	26	65
3	A-3	46	75
4	A-4	60	91
5	A-5	35	70
6	A-6	30	65
7	A-7	43	82
8	A-8	61	85
9	A-9	55	84
10	A-10	28	82
11	**Ss**	25	58
12	Dw	40	45
13	Fd	35	35
14	Mh	25	30
15	To	35	45
16	Pt	32	32
17	In	34	40
18	Mt	55	34
19	That	20	55
20	Nd	30	50
	Sum		

After determining the indicators to improve students' vocabulary skills using the Smart TTS application, pre-tests and post-tests are carried out. The average score for the experiment class pre-test was 76.90, while the experimental class post-test results were 41.60. For the control class, the average value for the pre-test is 34.10, while for the post-test value, the control class is 42.40. While the minimum pre-test value for the experiment class is 26, and the maximum value is 61, while for the post-test, the minimum experimental group is 65, and the maximum is 91. For the control class, the minimum pre-test value is 20, and the maximum is 55; for the postest, the minimum value is 30, and the maximum is 58.

The data on the results of the pre-test and post-test of the control class and experimental class can be seen in the table below:

Table 2. recapitation of pretest and posttest of students' vocabulary skills using the Smart

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TTS Application

Table 2

Descriptive Statistics

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Pretest experiment	10	26	61	41.90	2.885	9.122
Postest experiment	10	65	91	76.80	4.189	13.248
Pretest control	10	20	55	34.10	3.103	9.812
Postest control	10	30	58	42.40	3.121	9.871
Valid N (listwise)	10					

Data Normality Test Results

Data normality tests were performed on pre-test and post-test results in control and experimental classes to determine whether the result data improved students' vocabulary ability to distribute usually or not and to find out the follow-up statistical tests used to test hypotheses. The test criterion is generally distributed if the Sig value > 0.05, then the distribution data is homogeneous or has the same average. The post-test and pre-test results of the normality test value improve students' vocabulary ability using the Smart TTS application can be seen in the table below:

Table 3

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Class	Statistic	Df	Itself.	Statistic	Df	Itself.
Result	Experiment Pretests	.196	10	.200*	.903	10	.234
	eksperiment posts	.175	10	.200*	.937	10	.517
	pretest control	.175	10	.200*	.935	10	.502
	Postest Kontrol	.175	10	.200*	.937	10	.517

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 2 above shows the values of the normality test for the pre-test, post-test control class, and experimental class in the Kolmogorov-Smirnov type table of Sig. where Sig.0.200 is the more significant standard deviation (0.05) so that the data above is normally distributed.

Homogeneity test results

Results Of Data Homogeneity Test The homogeneity test is carried out on the data of the post-test results of the control class and experimental class to determine whether

the data is homogeneous or not. The results of the homogeneity test of the post-test data of the control class and the experimental class can be seen in the table below:

Table 4

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Itself.
Value	Based on Mean	.614	1	38	.438
	Based on Median	.164	1	38	.688
	Based on Median and with adjusted df	.164	1	29.493	.689
	Based on trimmed mean	.557	1	38	.460

Source: data obtained via SPSS v.26

From table 4 above, it can be seen that Sig. is 0.43 > from 0.05. The data above is homogeneous, meaning the two have the same variant.

Hypothesis Test

Based on the results of the normality test and the homogeneity test of the data resulting from students'. Vocabulary ability in the control and experiment classes with a normal and homogeny distribution (the same). The hypothesis was tested using a paired sample t-test smaller than 0.05. Then H 0 was accepted, H 1 was rejected, and vice versa if Sig. More significant than 0.05, H 0 is rejected, and H 1 is accepted. The results of the analysis of the post-test and pre-test from the experimental class and the control class resulted in the ability to write student narrative texts can be seen in the table below.

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	Pretest - PostEST	-3.200	15.800	3.533	-10.595	4.195	-.906	19	.376

Based on the pre-test and post-test results, values can be seen in the pre-test and post-test columns of -0.906 < 0.05. Then H1 is accepted, and H0 is rejected. Thus, the Smart TTS application improves the vocabulary ability of XI (SMA) students.

Discussion

In learning foreign languages, especially English, several obstacles are often faced

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by students, one of which is the need for mastery of vocabulary and learning techniques that are less interesting. Hence, students need to be more motivated in learning and make students feel bored in accepting learning. Based on the problems found, one of the proper methods in vocabulary learning is to use game media through the Smart TTS application. Crossword games are one way that aims to improve the mastery of English vocabulary in a fun way.

The design of this study is to conduct tests in the form of pre-test and postest for the control and experiment classes, which aims to see the students' initial ability where the pre-test results show different results so that it can be continued to provide treatment (treatment) to the experimental class. The results of this study stated that there was a positive and significant influence of learning media using the Smart TTS application in improving students' vocabulary in English. It is shown based on the average value of the control and experiment classes.

Based on the results of experimental research conducted by class XI (SMA) students, it is known that the application of the Smart TTS Application in improving students' English vocabulary is stated to be very effective in enhancing their vocabulary mastery of English. The Smart TTS Application's effectiveness can be seen in increasing student score achievement in pre-test and post-test results. It is known that the pre-test value for the average value of the experimental class was 76.90 while for the post-test results of the experimental group, it was 41.60. For the control class, the average value for the pre-test is 34.10, while for the post-test value, the control class is 42.40. While the minimum pre-test value for the experiment class is 26, and the maximum value is 61, while for the post-test, the minimum experimental group is 65, and the maximum is 91. For the control class, the minimum pre-test value is 20, and the maximum is 55; for the post-test, the minimum value is 30, and the maximum is 58.

Based on the results of the normality tests, in Kolmogorov Smirnov above, the value of Sig.0.200 is greater than the standard deviation (0.05) so that the above data for the experiment class and control class are normally distributed. As for the results of the test of homogeneity to find out whether the two classes, namely the experiment class and the control class, have the same variant, the value of Sig. which is 0.43 > from 0.05, it can be concluded that the data above is homogeneous means that the two data have the same variant. It is in line with the research conducted (Agustin 2015) that obtained the results of using crossword media very efficiently to improve student vocabulary. It is shown by the average value of the effects of using crossword puzzle media in enhancing students' vocabulary obtained improved results after being given treatment

Conclusion

This research was conducted to open insights for learners and teachers on improving students' abilities. This research focuses on improving students' vocabulary skills using gaming applications. The data that has been carried out found that using the Smart TTS game application to improve student vocabulary is very positive. It can be proven by acquiring pre-test and post-test scores from the experimental and control

groups. The experimental group that received treatment in vocabulary improvement training using the Smart TTS game application obtained significant results compared to the control group. Smart TTS game applications can ultimately be maximized to improve students' vocabulary. Furthermore, the results of this research can be used as a basis for the development and improvement of intelligent TTS game applications in the future, as well as contribute to the development of English education.

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