

IMPROVING STUDENTS' VOCABULARY MASTERY USING VOCABULARY TREE

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Abstract

The main aims of this study was to examine the effectiveness of vocabulary trees to improve students' vocabulary mastery. The researcher used quasi experimental as the research method in order to investigate whether students' vocabulary mastery in experimental class can improve gradually after receiving treatment by using vocabulary trees, The researcher used a pre-test and a final test by involving 60 students as sample where they divided into 2 groups. The researcher used t-test to analyze data and conducted hypothesis testing. This finding of this study showed that $t_0 > t_t$ or $5.39 > 1.67$. It means that the the alternative hypothesis (H_a) was accepted while the null hypothesis (H_0) was also rejected. In other words, it may be concluded that there was significant effect of using vocabulary trees to improve students' vocabulary at the eighth grade of SMP Al-Irsyad Waringinkurung Serang regency. In addition, in qualitative sense, the finding of this study also revealed that vocabulary tree was very flexibility and east to use for students in learning process by giving opportunity to them to fill the vocabulary tree with appropriate words that related to the figure or place being described as well as it can be adapted to the material and learning objectives in the syllabus.

Keywords: *Vocabulary trees; English vocabulary; A quasi-experiment*

INTRODUCTION

This research aims to find the effectiveness of using media vocabulary tree on improvements of students vocabulary mastery. Vocabulary tree is also applicable and easy to practice in the classroom learning because because it is easy to practice and easy to apply in class according to students' vocabulary knowledge. This is related to the phenomenon that occurs at Middle School as a place or object of data collection, namely the lack of learning facilities or media that can invite students' interest in learning English, therefore, the author chooses vocabulary tree media as a supporting tool to provide a presentation of the learning process different and attractive to students.(Yasin & La Sitiha, 2021) , the authors are convinced to research the process of developing vocabulary mastery skills using vocabulary tree media that has never been done or applied by English teachers to students of Middle School. It is hoped that

this research can change students' perspectives on how difficult and uninteresting learning English is and can assist English teaching staff in providing solutions to encourage Students' desire in learning English, particularly in vocabulary mastery. Based on the argument above, there are two points that being the main problem that must be analyze in this research;

1. Students must explore and develop skills in mastering vocabulary because it is known that the ability to master vocabulary in these schools is still quite low.
2. Students must be able to take advantage of existing digital media to help students master a lot of vocabulary.

Also there are some supporting factors form three previous studies that explain the research of Using Vocabulary Trees As A Technique In Teaching Vocabulary At Elementary School, The Effect of Graphic Organizers on Language Teaching and Learning Areas: A Meta-Analysis Study, and The Implementation of Vocabulary Trees to Enhance Students' Vocabulary Achievement. From three previous studies above, all of it explains and analyse of the effectiveness and analysis of vocabulary trees as a part of graphic organizer and the influence of them for students especially for elementary students as the researcher mentions at the first previous study.

However, the researcher's gap analysis for this research is the effectiveness of using vocabulary trees as a part of graphic organizer media on the improvements of vocabulary mastery in the middle school. Also the objective of this research is;

1. To investigate the condition of students' understanding before using vocabulary tree learning media for vocabulary mastery skills.
2. To explore how students respond to vocabulary tree learning media.
3. To measure the extent of students' understanding in the development of vocabulary mastery after using vocabulary tree learning media

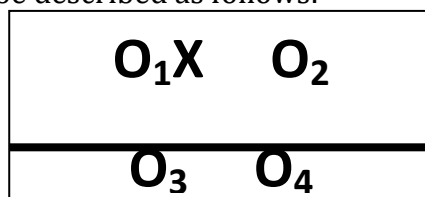
METHODS

In conducting this research, the researcher used the quasi-experimental method. The researcher uses this method because the researcher wants to measure the effectiveness of vocabulary trees on students vocabulary mastery. In their studies, independent and dependent variables are used by quantitative researchers because of their focus on the causal nature of the link between variables and the item under study. Experimental research looks for possible causes and effects by giving treatment to the experimental group and comparing it with the group that was not given treatment.(Raihan, 2017)

The researchers used pre-test and post-test in the control and experimental classes and compare the scores between the two classes. The experimental class give

a treatment while the control class is not given treatment. The experimental treatment the researcher did was to use vocabulary trees to improve students' vocabulary, in this treatment the researcher explained what vocabulary trees were and how to use them and then students were asked to describe an object in the form of vocabulary trees. Experimental research aims to identify whether certain treatments have an impact on outcomes. By giving one group a specific treatment while withholding it from another, researchers evaluate this by comparing the results of the two groups on an outcome.

According Fraenkel and Wallen(Wallen, 2007) to the research design of quasi experimental design can be described as follows:



Where:

- O_1 : Experimental group before giving treatment
- O_3 : Control group without treatment
- X : Treatments
- O_2 : Experimental group after receiving treatment
- O_4 : Control group without receiving treatment

Population & Sample

To collect data for this study, the researcher took the population of this study was the eighth grade of Junior High School with a total of 365 students. because this study used a quasi-experimental design, the researcher took 2 classes from the eighth grade. The first class as a control class, and the other class as an experimental class.

The researcher has taken only 60 students in second grade for the sample. The researcher this study will involve two classes as the sample for the research. The first VIII class is an experiment class that consists At least 30 students for each class, and they have taught vocabulary mastery with Graphic Organizer. The second class is VIII class as control class which consists of 30 students, and they have not taught Vocabulary Mastery without using Vocabulary trees.

Technique of Collecting Data

The researcher uses classroom observation (pre-test and post-test) in collecting the data:

1. Observation

The activity of seeing a process or item with the goal of feeling and then understanding the knowledge of a phenomenon based on previously existing knowledge and ideas, in order to get the information needed to continue a research. In this study, the author personally observed the teaching learning for activity periods of English at SMP Al-Irsyad Kota Serang's eighth grade. The primary goal of this activity is to watch the teaching and learning process, particularly how the instructor assists students in learning vocabulary mastery and how the teacher works to overcome students' difficulties in learning vocabulary.

In the following line, the researcher will provide the observation sheet. Meanwhile, the result of observation have been attached in appendix. Teacher:

Class :

Topic :

Date Observation :

Time Observation :

2. Test

The test is a method for assesing a persons' ability, knowledge or performance is a matter. This is an instrument or technique that requires the performance of the test taker. In this study there are two tests, namely pre-test and post-test.

a. pre-test

b. post-test

Technique of Analysis Data

The focus of activity is to observe the teaching and learning process especially on how the teacher facilitate students in learning vocabulary mastery and teacher attempts to overcome students' problems in learning vocabulary From this study the researcher will obtain to kinds of data namely qualitative data (from classroom observation and interviews) and quantitative data (form pre-test and post-test). The findings of qualitative data will be presented descriptively in the following chapter. Meanwhile the finding of quantitative data from pre-test and post-test will be analyze statistically before being interpreted descriptively. Moreover, the result of post-test in experimental group was given name variable X1 and for control group was given name variable X2. Then, the steps of analyzing data are as follows:

1. Calculating student's reading comprehension tests (pre-test and post-test) by using the following formula:

$$Student\ Score = \frac{Student's\ right\ answer}{Total\ Items} \times 100$$

2. Determining mean of variable X1 with formula as follows:

$$M_1 = \frac{\sum X_1}{N_1}$$

3. Determining mean of variable X2 with formula as follows:

$$M_2 = \frac{\sum X_2}{N_2}$$

4. Counting standard of deviation score variable X1 with formula as follows:

$$X_1 = X_1 - M_1$$

5. Counting standard of deviation score variable X1 with formula as follows:

$$X_2 = X_2 - M_2$$

6. Testing normality of data by using Lilliefors method with formula as follows:

$$Z = \frac{X - \bar{X}}{SD}$$

7. Counting degree of freedom with formula as follows:

$$df = N_1 + N_2 - 2$$

8. Analyzing and comparing the result of post-test from both groups by using t-test formula as follows:(Darwyan Syah, 2006)

$$t_0 = \frac{M_1 - M_2}{\sqrt{\left\{ \frac{\sum X_1^2 + \sum X_2^2}{N_1 + N_2 - 2} \right\} \left\{ \frac{N_1 + N_2}{N_1 \cdot N_2} \right\}}}$$

RESULTS AND DISCUSSION

Based on the mean score trough the pre-test of class VIII C was 36,6 meanwhile the mean score for class VIII D was 63,5. Actually, the scores of both classes were below Minimum Completeness Criteria the English teacher namely 75. The low score of students in mastering vocabulary understanding is due to several factors. Based on the researcher's observation, these factors are: First, many students have low motivation to learn English. Based on the researcher's interview with students, students said that English is a very difficult subject and students tend to be lazy to learn English. Second, the lack of interesting media to make learning English interesting and less boring, Third, many students missed understanding about the urgents of learning English. They were taught that English was only used when they wanted to go abroad. Fourth, the lack of teacher emphasis on students to memorize vocabulary. So that students think learning English is not important. Fourth, many students have low motivation to learn English. Fifth, many students have low vocabulary mastery. This is because students do not have English books and english dictionary.

After conducting the pre-test, checking the student answer sheets, and calculating the average score of both classes. The researcher then gave the treatment. In addition, before giving the treatment, Researcher along with English teacher simultaneously also designed lesson plans by integrating Vocabulary trees as the first The main learning media for For increasing students' vocabulary mastery. Then the teacher asks one of the students to lead the prayer before learning. The last, the teacher explains the learning objectives and relate the subject matter into students'

prior knowledge and past experiences before going the main activity of learning process. Second is the main learning activity, in this activity the teacher explains first what is "Vocabulary trees" and how to use the media in learning descriptive text. Moreover, the teacher provides a video and displays in front of the vocabulary trees to make it easier for students to create descriptive text using vocabulary trees.

a. Normality test

Before measuring the effectiveness of Vocabulary trees in improving students' vocabulary mastery ability on descriptive text using the t-test formula. Post test data from both classes must be tested for distribution using the normality test. The normality test is used mainly to show that the sample data comes from a normally distributed population. A normally distributed population. In this study, the researcher used Lilliefors method to test the normality of the post-test data of the experimental and control groups. Control group. The table below illustrates the results of the normality test as follows:

Table 4. 1

The Result Score Post test from Experimental group (X1) and control group(X2)

Class	Total Score	Average
Experimental Class	2455	81.8
Control Class	1745	58.16

The calculation above indicates that the mean score was 58.16 and the standard deviation was 28.84. The L0 score (-0.0539) Lt (0.161), according to an aide table. The sample data from the control group has a normal distribution, which suggests that it can be utilized to generate research data.

b. T-Test

The researcher first checked for normality before collecting data from both groups' post-test results and using the t-test formula to assess the data:

Table 4. 2

The Calculation Scores of Experiment and Control Group

No	X1	X2	x_1	x_2	x_1^2	x_2^2
1	$\Sigma X_1 =$ 2455	$\Sigma X_2 =$ 1745	$\Sigma X_1 = 0$	$\Sigma X_2 = 0$	$\Sigma X_1^2 =$ 2000. 8	$\Sigma X_2^2 =$ 16671 .7

The results above show that the effect of using vocabulary trees on students' vocabulary mastery in making descriptive texts is 29%. It can be seen that vocabulary trees can improve students' vocabulary mastery skills in making descriptive texts. This

shows that the use of vocabulary trees in students' vocabulary mastery in making descriptive texts has a moderate effect according to Gravetter's criteria.:

$r^2 < 0.25$ = large effect

$0.09 < r^2 < 0.25$ = moderate effect

$0.01 < r^2 < 0.09$ = small effect.

For both experimental and control classes, the following assumptions were used to calculate the data:

- If $t_o > t_t$: The alternative hypothesis is accepted. From the previous results, the value of degrees of freedom or $df = 58$, the value of (t_o) or $t_{\text{observation}} = 5.39$, at a significance degree of 1% = 2.39 and at a significance degree of 5% = 1.67. After that, the researcher compared the data with t_t (t table) at both the 1% and 5% significance levels. Thus, $t_o: t_t = 5.39 > 2.39$ at 1% significance degree and $t_o: t_t = 5.39 > 1.67$ at 5% significance degree. This means that there is a significant effect of using vocabulary trees to improve students' vocabulary mastery in descriptive text than teaching without using vocabulary trees.

- If $t_o < t_t$: the null hypothesis is rejected. That is, there is no significant effect of using vocabulary tree media in students' descriptive text.

There is an effect of using vocabulary tree in students' vocabulary development ability in creating descriptive text compared to without using vocabulary tree, because the statistical hypothesis shows that t_o is higher than t_t , it can be stated that the result (alternative hypothesis) is accepted and the result (null hypothesis) is rejected. This means that there is a significant effect of using vocabulary tree in students' vocabulary development ability in creating descriptive text.

At first, the eighth graders of SMP Al-Irsyad Waringinkurung had some problems in reading comprehension. These problems are caused by several factors such as: 1) many students do not master vocabulary; 2) many students have low motivation to learn English; 4) many students lose their understanding of the urgency of learning English; 5) many students have poor reading comprehension skills; 6) many students are less exposed to reading English texts, especially recount texts; 7) many students teach that learning English is a boring activity.

The main purpose of this study is to determine how well vocabulary trees help students learn and acquire new English vocabularies at the eighth grade of SMP Al-Irsyad Waringinkurung Serang Regency. To determine whether students' vocabulary mastery skills improved gradually or not after receiving treatment by using vocabulary trees, researcher used pre-test and post-test for both experimental and control class then compare the result of t-test with t-table with the degree of significance 5%. .

After calculating and analyzing the pre-test and post-test score from both classes. On one hand, the researcher found that the highest pre-test score in the experimental class was 75 and the lowest score was 10. Meanwhile the mean score was 36.6. On the other hand, the highest score in the control class for pre-test was 95 and the lowest score was 35 with the mean score was 63.5. This finding shows that

students' vocabulary mastery ability is low or below minimum completeness criteria namely 75.

The finding of this study was in line with the study of Binta Nugroho Septiyantono's, which found that students gained better understanding when they used vocabulary trees as a medium to improve students' vocabulary mastery compared to using conventional methods(Septiyantono, 2017). The mean pre-test score of the experimental group was 50.53 while that of the control group was 48.33. In the post test, the average score of the experimental group was 81.07 and the control group was 69.73. The t-test result based on the pre-test was 0.86, while the post test result was 4.52 and the critical value was 2,000. So it can be concluded that teaching vocabulary by using vocabulary trees results in better learning achievement.

Additionally this study also almost similar findings which study of Hasan Basri Kansizoglu that revealed that it has been concluded that graphic organizers have a broad measure of effects on academic success than traditional teaching methods(Kansizoglu, 2017). Moreover, the results of this study are also in accordance with previous research which conducted by Yustih Yasin and Hasmirawati Injar La Sitiha. In their research, they found that the vocabulary tree can increased students' vocabulary achievement and made students active and creative in learning. This is evident when they play vocabulary most of them are active, so that during vocabulary play activities they can find out new vocabulary.(Yasin & La Sitiha, 2021)

In the final analysis, this study has proven that vocabulary trees are an effective medium for improving students' vocabulary mastery. On the one hand, quantitatively the improvement of students' vocabulary mastery can be seen from the mean score of the experimental class on the post-test and the result of t-test. On the other hand, qualitatively the effectiveness of the vocabulary tree can be seen from the flexibility of students to fill the vocabulary tree with words (from any word classes) that are appropriate to the figure or place being described. In practice, while giving treatment the vocabulary tree media was also easy to use and can stimulate students' background knowledge, and can be adapted to the material and learning objectives in the syllabus.

CONCLUSION

Based on the research findings and data interpretation in eighth grade of junior high school, this research can be summarized into the following points:

1. Students' vocabulary mastery skills before treatment were very weak. This can be seen from the mean score pre-test results in the experimental class is 36.6. While vocabulary mastery skills increased after treatment using Vocabulary trees media, it can be seen that there was an increase in the mean post-test of 81.8.
2. Based on the data analysis conducted using the t test, it shows that $t_0 > t_t$ or $5.39 > 1.67$. Based on the previous comparison, the t-test in accepting the alternative hypothesis (H_a) is accepted, the null hypothesis (H_0) is also rejected. In other

words, it can be concluded that the vocabulary tree significantly improved students' vocabulary knowledge in the eighth grade of Junior High School.

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