

**THE EFFECTIVENESS OF GRAPHIC ORGANIZERS TO
INCREASE STUDENTS' VOCABULARY MASTERY OF GRADE
SEVENTH STUDENTS AT SMPN 13 MATARAM
ACADEMIC YEAR 2014/2015**



A journal

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By

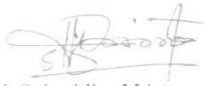
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**The Effectiveness of Graphic Organizers to Increase Students' Vocabulary
Mastery of Grade Seven of SMPN 13 Students Mataram Academic Year
2014/2015**

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ABSTRACT

This study aimed at investigating the effectiveness of graphic organizers to increase students' vocabulary mastery of grade seven of SMPN 13 students Mataram academic year 2014/2015. This research was conducted toward the seventh grader of junior high school students in the first semester. The researcher used random sampling technique. Seventh grader students of SMPN 13 Mataram were 300 students and the researcher took 25% of 300 students, 70 students participated in this study and became two classes (experimental group and control group) and two classes consisting of 35 students. The graphic organizers strategy was applied in experimental group as the treatment while control group was taught the same vocabulary items using traditional instruction, which is all students, were taught all the vocabulary items and their meanings in the first language, and they were encouraged to use dictionaries. The total score of pre-test and post-test from experimental group was 2705 and 2825, and the total score of pre-test and post-test from experimental group was 2685 and 3045. The mean score for control group was 3,43 and the mean score for experimental group was 9,57. The value of t-test after the data calculated ion the formula was 3,09 and higher than the critical of the t-table at the confidence level of .05 (95%) with 2,03 and .01 (99%) equals to 2,72 in degree of freedom 35. Therefore, Ho is rejected, and Ha which states "the use of graphic organizers strategy in increasing students' vocabulary" is accepted.

Key words: Graphic Organizers, Vocabulary, Vocabulary Mastery, Effectiveness, Increase.

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ABSTRAK

Penelitian ini bertujuan mengetahui efek dari grafik organizer untuk meningkatkan kemampuan siswa SMPN 13 Mataram kelas tujuh tahun ajaran 2014/2015 dalam menguasai kosakata. Penelitian ini lebih ditujukan pada murid kelas tujuh SMP pada semester pertama. Peneliti menggunakan teknik pengambilan contoh acak. Murid kelas tujuh dari SMPN 13 Mataram keseluruhan berjumlah 300 murid dan peneliti mengambil 25% dari 300 murid, 70 murid berpartisipasi dalam penelitian ini dan 70 murid dibagi menjadi dua kelas (grup eksperimental dan grup control) dan pada dua kelas, masing-masing kelas terdiri dari 35 murid. Strategi grafik organizer diterapkan pada grup eksperimental sebagai perlakuan sementara grup control telah diajarkan kosakata yang sama menggunakan instruksi tradisional, dimana seluruh murid diajarkan seluruh kosakata beserta artinya pada bahasa pertama, dan mereka dianjurkan untuk menggunakan kamus. Nilai total sebelum menguji dan setelah menguji pada grup control adalah 2705 dan 2815, dan nilai total sebelum menguji dan setelah menguji pada grup eksperimental adalah 2687 dan 3045. Nilai rata-rata untuk grup control adalah 3,43 dan nilai rata-rata untuk grup eksperimental adalah 9,57. Nilai dari t-test setelah menghitung data sesuai rumus adalah 3,09 dan lebih tinggi dari kekritisan dari t-table pada tingkat kepercayaan .05 (95%) dengan 2,03 dan .01 (99%) setara dengan 2,72 pada tingkat kebebasan 35. Maka dari itu, H_0 ditolak dan H_a yang mengatakan "Penggunaan strategi grafik organizer dalam meningkatkan kosakata murid" diterima.

Kata Kunci :Grafik Organiser, Kosakata, Menguasai Kosakata, Kefektifan, Meningkatkan.

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A Journal

One of the major problems most Indonesian students have when they read any texts in English language is the lack of vocabulary knowledge or unknown words. Therefore, the students begin to be panic and stop reading then open their dictionary and find out what the meaning of some words they do not understand, unfamiliar or new words. Many students admit that sometimes they do not understand what they are reading because the words are too difficult. This does not only happen in reading but also in other skills such as speaking, writing, and listening.

The purpose of this study is to examine the effect of the graphic organizer strategy on students' vocabulary mastery. Learning vocabulary can be rewarding, but I observe many students feeling frustrated and anxious about beginning to study vocabulary. As a student matures in age and move through the grades the complexity of vocabulary learning becomes more and more prevalent. Students are required to understand more and more words that might seem rudimentary to their teacher but foreign to them. Another students' problem of learning vocabulary are they never saw [the word] before,

they have heard of it [the word] before but they do not know what it means.

What students can do to improve vocabulary mastery? According to Novak (1991), graphic organizers are used to represent children's conceptual understanding. One of the powerful uses of graphic organizers is not only as a learning tool but also as an evaluation tool, thus encouraging students to use meaningful-mode learning patterns. Perhaps by using graphic organizers in classroom where I taught, the students' vocabulary will significantly improve because I assume that graphic organizers is one way to explain how to categorize word meanings which make it easier to visualize the meanings of the words.

The design of this research is experimental research. Experimental research is a research where the investigator deliberately controls and manipulates the condition which determines the events in which he/she is interested in,(Yusra,2006).Random sampling was used as the design of this research by rearranges the existing classes. This design chooses pre-test and post-test as a group comparison. In this design the observation took two activities, i.e before treatment and after treatment.

The population in this research was theseventh grade students of SMPN 13 Mataram in academic year 2013/2014. This research was conducted toward the seventh grader of junior school students in the first semester. There were seven classes for seventh grader from A to H, the total is about 280 students, the total students that involve in this research are 70 students and each class consists of 35 students.

According to Arikunto (1992: 134) if the number of population is less than one hundred, it is better to take all of the number of population. However, if the number of population is more than one hundred, it is suggested to take 10%-15% or 20%-25%. In this research, the researcher used random sampling technique. The sample of this study was seventh grade at SMPN 13 Mataram in academic year 2014/2015. The sample of this research used random sampling. Seventh grade students in SMPN 13 Mataram were 300 students and the researcher took 25% of 300 students became two classes and two classes consisting of 35 students.

The technique in collecting the data by using vocabulary test: The test was done before the treatment (pre-test) and after treatment (post-test). Consider the following explanation:

a. Pre-test

In this step, students of both classes were given the pre-test on their vocabulary knowledge before the study began. The kind of test given to the students was objective test (15 multiple choices and 2 essay). The A section is multiple choice and B section is essay, the score for A section is 15 and B section is 10.

b. Treatment

- Experimental group: The experimental group students were given the first several sessions to train their vocabulary through the use of graphic organizer strategy following two steps; presentation and practice. In the presentation step: Graphic Organizers was introduced to students like a normal classroom lesson plan, with the researcher showed them the different kind of Graphic Organizers and their

features, the advantages of Graphic Organizers and creating Graphic Organizers. In the practice step: the researcher guided the students to apply what they learned inside and outside classroom to cover all the vocabulary items in the whole study material. The researcher gave paper with blank column and bellow the column there is a box with some vocabulary in it and the researcher asked the students to fill the blank column with words bellow, and another graphic organizer is more visual, the students were ask to draw something and mention words around and make a sentence base on what they were draw.

- Control group: All students of the control group were taught all the vocabulary items and their

meanings in the first language as they appear in the different units and in the wordlist. Students were also asked to study those items outside the class. In addition, they were encouraged to use English-Indonesian dictionaries but without any kind of training. They were allowed to ask and consult the researcher about the meaning of any item anything they wish.

c. Post-test

After giving the treatment, all students were sat for an evaluation test. It aims to measure how far the development of the students' vocabulary after being given a treatment. In order to guarantee the students seriousness the researcher told them that all the tests would be part of the requirements of the class work mark.

To answer the first question of the study, relating to whether the Graphic

Organizers has an effect on students' vocabulary, the researcher can find out the mean of pre-test and post-test and use a formula as follows:

- a. Formulation the mean scores of group X:

$$\bar{D}_x = \frac{\sum dx}{Nx}$$

Notes:

\bar{D}_x = the mean score of dx

$\sum dx$ =the total sum of the deviation of individual scores of experimental group

Nx = the number of samples of experimental group

- b. Formulation the mean scores of group Y:

$$\bar{D}_y = \frac{\sum dy}{Ny}$$

Notes:

\bar{D}_y = the mean score of dy

$\sum dy$ =the total sum of the deviation of individual scores of control group

Ny = the number of samples of control group

- c. Calculate the degree of difference between the two groups of scores, t_{test} , and d_f

t_{test} =

$$\frac{\bar{D}_x - \bar{D}_y}{\sqrt{\frac{\sum dx^2 + \sum dy^2}{(Nx + Ny) - 2} \left(\frac{1}{Nx} + \frac{1}{Ny} \right)}}$$

$$\bar{D}_y = \frac{\sum dy}{Ny}$$

$$d_x = x_2 - x_1$$

$$d_y = y_2 - y_1$$

$$df = (Nx + Ny) - 2$$

t_{test} = the degree of differences

$\sum d_x$ = the total sum of the deviation of individual scores of experimental group

$\sum d_y$ = the total sum of the deviation of individual scores of control group

N_x = the number of samples of experimental group

N_y = the number of samples of control group

\bar{D}_x = the mean score of dx

\bar{D}_y = the mean score of dy

df = Degree of freedom

(Yusra,2009)

This is the formula to test hypothesis

1. If $t - \text{test} \geq t - \text{table}$ at the confidence level of .05(95%), H_a :

The effect of using Graphic Organizers strategy in increasing student's vocabulary is "accepted".

2. If $t - \text{test} \leq t - \text{table}$ at the confidence level of .05(99%), H_o :

"The effect of using Graphic Organizers strategy is not effective in increasing student's vocabulary.

The design of this research is quasi-experimental where vocabulary items were taught to the experimental group students

using the graphic organizer strategy while they were taught to the control group students using the traditional instruction. The independent variable is graphic organizer strategy and the dependent variable is increase students' vocabulary mastery. In order to analyst the data of the research, the researcher used the statistical package to calculate the mean score of both groups.

After obtaining the student's scores for both experimental and control group, then the researcher computed by using the following formulas:

$$D \bar{y} = (\sum dy) / N_y = 120 / 35 = 3,43$$

$$D \bar{x} = (\sum dx) / N_x = 335 / 35 = 9,5$$

The result of the above computation is shown in the following table.

After computing the mean score of both groups, the researcher follows the

analysis by obtaining whether there is a significance difference between the mean score of experimental and the control group by applying the t-test as shown in the following.

$$\begin{aligned}
 t_{\text{test}} &= \frac{\bar{D}_x - \bar{D}_y}{\sqrt{\frac{\sum dx^2 + \sum dy^2}{(Nx + Ny) - 2} \left(\frac{1}{Nx} + \frac{1}{Ny} \right)}} \\
 &= \frac{9,57 - 3,43}{\sqrt{\frac{4050 + 700}{(35 + 35) - 2} \left(\frac{1}{35} + \frac{1}{35} \right)}} \\
 &= \frac{6,14}{\sqrt{\frac{4750}{68} \left(\frac{2}{35} \right)}} \\
 &= \frac{6,14}{\sqrt{\frac{9500}{2380}}} \\
 &= \frac{6,14}{\sqrt{3,99}} \\
 &= \frac{6,14}{1,99} = 3,09
 \end{aligned}$$

To check the significance in the t-table it is important to find out the degree of freedom, by using this formula:

$$\begin{aligned}
 Df &= (N_x + N_y) - 2 \\
 &= (35 + 35) - 2
 \end{aligned}$$

$$= 68$$

Based on the computation above, it is clear that the t-test score obtained after dividing the total number of the both groups and the result of the square deviation is 3,09.

t-test	t-table		
	Df	.05	.01
3,09	68	2,03	2,72

Based on the analysis, it can be explained that the graphic organizer has an effect towards the 7th grade students at SMPN 13 Mataram in building their vocabularies. It can be seen from the mean score of experimental group (9,57) is higher than the mean score of control group (3,43). It also shows from the calculation of the t-test of both groups = 3,09. This was higher than t-table at the confidence level of .05 (95%) and .01 (99%).

This higher score could be attributed to two reasons. First, students learned another features together for each

vocabulary item they came across; that is spelling, pronunciation, part of speech, meaning in the first language, and using it in a sentence. The second reason might be the use of the graphic organizer strategy to teach different vocabulary items. This strategy might have enabled those students to visually see all learned features as important parts of the same vocabulary item that they were trying to learn. The reason is justified by the notion that today's students are more like visual learners who had grown up on using video games and computers to get new knowledge while control group were taught by traditional strategy.

The result data analysis could be taken by considering statements below:

1. If $t - \text{test} \geq t - \text{table}$ at the confidence level of .05(95%), H_a :

The effect of using Graphic Organizers strategy in increasing student's vocabulary is "accepted".

2. If $t - \text{test} \leq t - \text{table}$ at the confidence level of .01(99%), H_o :
 "The effect of using Graphic Organizers strategy is not effective in increasing student's vocabulary."

The t-test result (3,09) is higher than the critical value of t-table at the confidence level of .05 (95%) with 2,03 and .01 (99%) equals to 2,72 in degree of freedom (df) 35. It means that null hypothesis (H_o) is rejected and alternative hypothesis (H_a) which states "the use of graphic organizers strategy in increasing student's vocabulary" is accepted.

After analyzing the results of this research, the researcher can conclude that students show more growth in vocabulary when using a graphic organizer as a part of the vocabulary test process. The use of graphic organizers at the 7th grade of SMPN 13 Mataram did have a significant influence on students' vocabulary.

Based on the result of statistical computation in chapter four there is no significant difference of means score between experimental group and control group. Even though student's vocabulary with graphic organizers, which is experimental group, gained better achievement, the other class without graphic organizers, which is control group, also gained the score. It is concluded that the use of graphic organizer strategy is not really influence the result to increasing students' vocabulary. This result could be because the topic when the researcher applied the graphic organizers in learning process was easy for students.

The results of the study suggested that the graphic organizers strategy was more effective than the traditional instruction in increasing students' vocabulary. Yet, the researcher still has some suggestions.

1. For teacher.

Teachers have proven that graphic organizer can increase students' vocabulary by preparing a creative technique, make complex information and convert it into a simple and meaningful graphic organizer.

2. For students

Through graphic organizer, it is expected that students participate actively in classroom activity and able to write or mention vocabulary around them to prove that they learned from graphic organizer.

3. Future researcher

Another research area of interest may replicate this study to increase the sample size for an extended period of time, or replicating it with other sample types of students

such as students in elementary school or junior high school, and future research should compare graphic organizers

with different types of graphic organizers for the same activity.