THE EFFECT OF SEMANTIC MAPPING STRATEGY ON STUDENTS' VOCABULARY ACHIEVEMENT

(An Experimental Research at the Eleventh Graders at MAN Kota Tegal)

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Abstract. The aim of the research is to find out the difference achievement after using Semantic Mapping strategy on students' and the effective to improve the students' achievement at the eleventh-grade. The problem formulation in this research are "Is there any difference in achievement after students taught by Semantic Mapping strategy?" and "Is there any positive effect of using Semantic Mapping strategy toward students' vocabulary achievement at the eleventh-grade students of MAN Kota Tegal?". This research is an experimental study and uses quantitative methods. In this research, a total of 70 students were taken as the research samples by applying a two-group design. They were the experimental group and the control group. In collecting data, it used a vocabulary test in multiple choice as the instrument of the test. The results of the t-test found a significant difference between the post-test experimental group of 78.03 and the control group of 69.16, and it is known that the sig. (2-tailed) is 0.000, meaning < 0.05. It means that the research hypothesis is accepted. The findings of this research is that using Semantic Mapping strategy results in a difference in students vocabulary achievement after being taught Semantic Mapping strategy, and which has a positive effect on students' vocabulary achievement in the eleventh grade. As a suggestion, the teacher should be able to use appropriate strategies in teaching English lessons, especially in teaching vocabulary.

Keywords: Semantic Mapping Strategy, Vocabulary.

1. INTRODUCTION

1.1 Background of the Problem

The primary means of intercultural communication throughout the world is language. Without language, it will be challenging to convey a message that is acceptable. It encourages people to pick up new languages, particularly English. Millions of words are used in English. People who desire to learn a language, especially non-natives, must first become proficient in its vocabulary because one cannot become proficient in a language without becoming proficient in its vocabulary. According to Bai (Bai, 2018), if students have a limited of vocabulary, the scope of their thinking will be narrow, and they will face many difficulties in communicating. Therefore, they should know that they will not suced if they do not work hard. The most important thing that everyone should remember is that studying hard is the basis of succes. No matter what strategy students use to learn vocabulary.

Based on my teaching practice at MAN Kota Tegal for two months, teaching a class consisting of many students' is not an easy thing. Moreover, in one class, the writer faced heterogeneous students both from a variety of dispositions, characters, and abilities. Each student has their own interests and talents. In one class, not necessarily all of them like the subject matter that we teach. Therefore, the writer feels that it is important for a teacher to recognize their students, be it their interests, characters, abilities, or just their names. By recognizing students, it is hoped that a teacher can create an effective teaching and learning.

In this research, the writer will focus on effect give by Semantic Mapping strategy toward students' vocabulary. The reason for choosing Semantic Mapping is because from several research this strategy is very suitable for vocabulary mastery and this research can be expected to give information what can be used as a reference for those who want to conduct a research in teaching English vocabulary. According to NA & NA (2019), it creates students enthusiasm for studying English, particulary in vocabulary lessons. Employing the Semantic Mapping technique enables students to improve the quality of their vocabulary learning.

1.2 Identification of the Problems

Based on the interview with the English teacher and students, the problem is, the first, because they think learning is not only English and there are many assignments from subjects other than English so they feel out of focus in learning vocabulary. Second, the number of English vocabulary writings that are the same but have different meanings makes it difficult for students to memorize. Third, because of the students' lack of interest in learning English, it makes them low in vocabulary mastery.

1.3 Statement of the Problems

Based on the background of the problem mentioned above, the writer identifies the problem as the followings:

a. Is there any difference in achievement after students taught by Semantic Mapping strategy?
b. Is Semantic Mapping strategy effective to teach students vocabulary?

2. REVIEW OF LITERATURE

2.1 Definition of Semantic Mapping Strategy

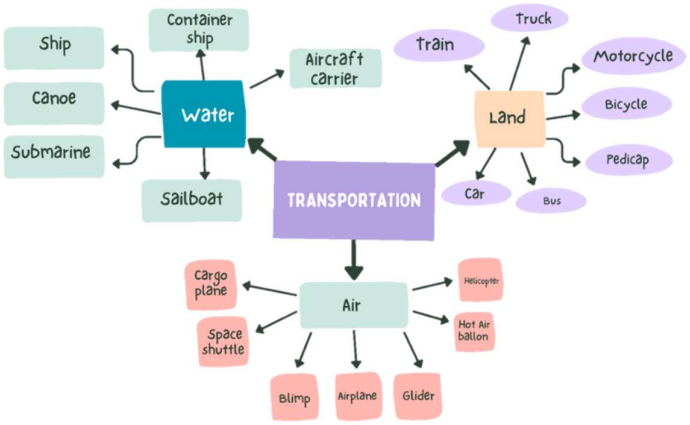
Semantic Mapping is a learning strategy that utilises diagrams or graphs that contain words that are interconnected with each other within a certain topic or theme, this strategy helps students to find several words that are related to each other, so as to expand students' understanding of the meaning of the word (Mufiah, 2019).

2.1.1 Implementation Semantic Mapping Strategy

According to Erikson (2019), an illustration of a step-by-step set of instructions for teaching vocabulary is provided below:

a. Select a word a text they are reading that they are unfamiliar with, then underline it. The teacher may underline, bold, or highlight a word if they are utulizing digital text.
b. Start with a blank map or web a web and draw it (on paper or with an online tool).
c. Center the term on the map that they do not know.
d. Request that they say the term aloud. They can get assistance from an online dictionary with audio if necessary.
e. Request that they read the sentences that contain the words to see if there are any related words they can add to your cloud. If they are utilizing digital text, they can use the text to speech feature of the computer to have it read the content out to the class.
f. Search up the word and its definition in an internet dictionary of synonyms. Ask them to come up with words and phrases that fit the meaning.
g. Choose images from the internet or other sources, or create drawings that correspond to the meaning. Add these terms, expressions, or pictures to your semantic map. Print the map if they maps with their peers, ask them to read the text again while applying the definition of each word to the the text.

Picture. 1



Picture 1 shows the example of Semantic Mapping strategy. This semantic map displays various models of transportation. After completing a topic based on transportation, teachers can show this map to the students to help them better connect with the knowledge they have gained on the topic. A variety of vocabulary related to land, water, and air transports are displayed on this map to improve the vocabulary and fluency of students while also enabling them to know more about common modes of transportation.

2.2 Definition of Vocabulary

Vocabulary is essential in understanding material and in developing macro skills, especially reading. When reading, one may overestimate or underestimate he/her

vocabulary knowledge, thinking that he/she knows the meaning of the words in the text. Moreover, to correct the lack of knowledge of the words in the text an to ensure comprehension, one can use vocabulry learning strategies (Santillan & Daenos, 2020).

2.2.1 The importance of Vocabulary in Senior high school

For high school students, we may realize that having a vocabulary is essential for reading, writing and speaking. In grades ten through twelve, students are not only working on high-level coursework, but they are also preparing for their future lives outside of school. The vocabulary they understand now will carry over into their future education and careers, and this makes it very important to hone their vocabulary, reading, writing and spelling skills. According to Kusmastutik & Henita (2019), vocabulary is one of the language components that is needed by students to master the four language skills of reading, listening, speaking, and writing in English language learning, especially for senior high school.

2.3 Hypothesis

H0 : There is no positive effect of using Semantic Mapping strategy on vocabulary achievement of the eleventh graders at MAN Kota Tegal.
H1 : There is a positive effect of using Semantic Mapping strategy on vocabulary achievement of the eleventh graders at MAN Kota Tegal.

3. METHODOLOGY

3.1 Approach, Type, and Design of The Research

The approach used in this research is quantitative. Quantitative research is an approach that uses causal relationships, involves research variables, tests hypotheses, and presents numerical data. Based on Sugiyono (2013), if you want to know the effect of certain treatments on others. The experimental method is most suitable. In this study, the writer used experimental research as a research method. The research comparing two groups, namely the experimental group and the control group to obtain data. According to Sugiyono (2013), the main feature of true experimental is that the sample used for the experiment and as a control group is drawn randomly from a certain population. So the characteristics are that there is a control group and the sample is randomly selected. They are experimental group and control group. After giving treatment to the experimental group, the writer conducted a test to see students' achievement in vocabulary. This approach makes it easier for the writer to analyse the research findings by providing numerical data of the effectiveness of Semantic Mapping strategy.

3.2 Population, Sample and Technique of Sampling

The population in this research were eleventh-grade students of MAN Kota Tegal academic year. There are 10 classes with 30 until 36 students in each class. In this research, the writer used probability sampling to take the research sample so all subjects from the population have the same possibility of being selected as sample members. This research used two-group design. There are two classes, namely the experimental class with 34 students and the control class with 36 students. The sampling technique is a technique to obtain a research sample. This study used simple random sampling. This sample was taken from the class that became the population. According to Sugiyono, (2013:80), it is said to be simple because the taking of sample members from the population is done randomly without regarding to the strata in the population.

3.3 Data Collecting Technique

To collect the data of this study, the writer used method of data collection as follows:
a. Treatment
Giving the treatment for the experimental group by using Semantic Mapping and for the control group not using Semantic Mapping
b. Vocabulary Test

After giving the treatment for both of group, the writer gave vocabulary test for each group and then the writer had been collected the score or the data.

3.4 Research Instrument

The writer used a multiple-choice vocabulary test to determine students vocabulary achievement. The students had to answer 30 multiple-choice questions that were validated and reliable using the SPSS26 program. The test took 60 minutes to complete. The test was structured according to the given material. To determine the validity and reliability of the instrument, the writer conducted a trial of the instrument. The writer took another class, namely class XI MIPA 1.

3.4.1 Validity

Table 1. *Percentage of Calculation Results of Validity of Test Items*

Criteria	r Count	Question Number	Amount	Percentage
Valid	0,361	3,4,5,13,14,15,17,18,19,21,22,24,25,29,30,31,32,35,36,37,38,39,40,42,43,45,46,47,49 & 50	30	70%
Not Valid		1,2,6,7,8,9,10,11,12,16,20,23,26,27,28,33,34,41,44 & 48	20	30%

To test the validity of the instrument, the writer used SPSS 26 software and the testing technique used the Pearson Bivariate correlation (Pearson Product Moment). The number of test participants, N = 30 and significant level of 5%, r table = 0.361, so the item is said to be valid if r count > 0.361. The results of the validity test in the table above are that the questions are counted from 50 questions, after checking into SPSS 26 valid questions there are 30 items.

3.4.2 Reliability

Table 2. Reliability Statistics

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standarized Items	N of Items
0,878	0,894	50

Based on the results of the reliability test in table above, the Cronbach's Alpha value is 0.878 which is in the high reliability category (located in the range 0.70-0.90). Therefore, it can be interpreted that the concept of measuring variables used in this study is reliable.

3.5 Technique of Analysing Data

1. Normality Test

   Finding out whether the acquired data is regularly distributed or drawn from a normal population, using the normality test is useful. In this case the writer used the Shapiro-Wilk method to determine the normality of the study with a significance level of 0.05. If the score

is more than 0.05, the distribution data is considered normal. On the other hand, if the score is less than 0.05, then the distribution of the data is not normal.

2. Homogeneity Test

   To evaluate if the data gathered had the same variance or not, a homogeneity test was carried out. The writer used Levene statistic in the SPSS 26 application to conduct a homogeneity test with a value of 0.05. Similarly, if the normality test value is greater than 0.05, the data are homogeneous and has similar variances. On the other hand, the value 0.05 indicates that the data are not homogeneous.

3. T-test

   The research hypothesis uses a t-test of two independent samples (Independent sample t-test). This independent sample t-test compares the average of two sets of samples from different populations (independent). The aim is to determine whether the average of two populations or samples is different. To determine whether the experimental class that has been given a learnifng startegy, then the control class which is not given the strategy as the experimental class, and see the average students learning outcomes of each class.

4. RESULTS AND DISCUSSION

4.1 Research Results

Table 3. Test of Normality

Tests of Normality

	Class	Kolmogorov-Smirnova			Shapiro-Wilk		
Students Vocabulary Test Results		Statistic	df	Sig.	Statistic	df	Sig.
	Pre-test Experiment (SMS)	.196	31	.004	.934	31	.056
	Post-test Experiment (SMS)	.110	31	.200*	.951	31	.168
	Pre-test control (Conventional)	.151	31	.071	.930	31	.045
	Post-test control (Conventional)	.122	31	.200*	.961	31	.309

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

In the normality test, the writer used Shapiro-Wilk for test normality. In the results above, the significance value in each test was found to be greater than 0.05. Therefore, the sample is drawn from a regularly distributed population.

Table 4. Test of Homogeneity

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Students Vocabulary Score	Based on Mean	0,253	1	60	0,617
	Based on Median	0,271	1	60	0,604
	Based on Median and with adjusted df	0,271	1	59,973	0,604
	Based on trimmed mean	0,280	1	60	0,599

Based on the homogeneity test, it is known that the significance value is 0.617 > 0.05, it can be concluded that the value is homogeneous.

Table 6. Table of Group Statistic

	Class	N	Mean
Students Vocabulary Score	Post-test Experiment (SMS)	31	78,03
	Post-Test control (Conventional)	31	69,16

Based on the t-test using SPSS, the average academic performance of the experimental group is well-known is 78.03 to while the average learning outcome of the control group is 69.16. This shows that the average learning outcomes of greater than the control group for the experimental group. Therefore, the learning outcomes of the experimental group and the control group may be seen as considerably varying from one another.

4.2 Discussion

Based on the results of the research, the writer found several things that can be noted from the results of the research during the use of the Semantic Mapping strategy. This can be seen from the development of students' vocabulary mastery. In this case, the writer observed what happened in several activities.

In the first meeting the writer met some problems in teaching and learning process. The problems are as follows:

1. The students said that English lessons are difficult and make them bored. Because their teachers teach without using interesting strategies and methods.
2. They were confused to understand the Semantic Mapping strategy because they had never known this strategy before.
3. They have a lack of vocabulary. This is reinforced because they are basically not interested in learning English.
4. They usually chat with their friends and do not pay attention to the teacher.

The writer tried to overcome these problems, such as, first when they felt that learning English is difficult and bored, the writer gave advice and motivation to them that learning English is fun, interesting and the writer applies the Semantic Mapping strategy in teaching English. This strategy is fun and does not make them bored. According to Santillan & Daenos (2020), to correct the lack of knowledge of words in the text and to ensure comprehension, one can use vocabulary learning strategies. As an example of the many strategies is the Semantic Mapping strategy. Second, when they were confused with this strategy in the first meeting, the teacher gave an explanation about the definition, steps, and advantages for students. Third, when they lacked vocabulary in the first meeting, the writer gave instructions to them to find out the meaning, find out the synonym or antonym, or asked them to open the dictionary to find out the meaning.

The Semantic Mapping strategy focuses students' attention on the details of learning activities and they interact actively. Students feel interested in the learning process so they are active in classroom activities. This strategy can also overcome the problem of students' ability to master vocabulary that is still lacking. As well as According to Saputri (2016), maps help us to visualize the information we have learned about a particular topic. To get the right information about a topic or, in certain situations, the entire subject matter being studied, maps made by teachers can be very useful.

5 CONCLUSION AND SUGGESTION

5.1 Conclusions

The results showed that the average of the experimental group was greater than the average of the control group based on the post-test results (78.03 > 69.16). The results of the t-test research showed that there was a significant difference between learning using Semantic Mapping strategy and conventional learning in improving English vocabulary in grade XI MIPA

2 students of MAN Kota Tegal, this caused the average use of Semantic Mapping strategy can improve learning outcomes compared to the use of conventional methods because the use of this strategy makes students learn and guess with vocabulary-based, and also students are more active and not easily bored in learning. The writer concludes that there is a significant difference between students who are taught using the Semantic Mapping strategy and students who are not. Therefore, hypothesis of the research is accepted. Since the result of this research is “There is a positive effect of using Semantic Mapping strategy towards students' vocabulary achievement in class XI MIPA 2 students of MAN Kota Tegal”.

5.2 Suggestions

1. For the Teacher

   The writer recommends the English teachers to use Semantic Mapping strategy as one of the alternatives in teaching English in order to develop students' vocabulary achievement. The use of Semantic Mapping strategy makes the class more interesting. The English teacher easily gets the students attention to learn English especially to develop the student's vocabulary achievement in the fun way by using Semantic Mapping strategy.
2. For the other researcher

   For further researchers can apply, introduce this strategy to various aspects of education not only for English language learning, but Semantic Mapping can also be applied to various other language learning.

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