**USING SEMANTIC MAPPING STRATEGY TO DEVELOP THE ELEVENTH GRADE STUDENTS’ VOCABULARY MASTERY AT SMK *PLUS INDONESIA TIMUR\****

(Menggunakan Strategi Semantik Mapping untuk Meningkatkan Penguasaan Kosa Kata Siswa Kelas XI di SMK *Plus Indonesia Timur)*

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**ABSTRACT**

The purpose of the research was to find out whether or not the use of semantic mapping develops the students’ vocabulary mastery in terms of meaning, spelling, and usage. The research employs a quasi-experimental reseach design, and took place at the Eleventh Grade students of SMK *plus* *Indonesia Timur* in academic year 2013/2014. The population of the research was 79 students. The sample consisted of 59 students which belonged to two groups; 30 students in experimental group and 29 students in control group, which were taken by using purposive random sampling technique. The instrument of collecting data was vocabulary test. The students’ mean score of posttest in experimental group is 7.9 and the mean score of posttest in control group is 7.1. The result of hypothesis testing showed that the difference of students’ posttest in experimental and control group was significant (0.01≤ 0.05). It means that the use of semantic mapping strategy can develop the eleventh grade students’ vocabulary mastery at SMK *plus Indonesia Timur*

Key words : vocabulary, semantic mapping, achievement

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**Introduction**

Vocabulary is one of the language elements that play an important role in mastering English, both in oral and written, and that is impossible to learn a language without vocabulary, because it is the basic requirement for learning English. Oxford Learner’s Pocket Dictionary by Manser (2005) defines vocabulary as (1) total number of words in a language, (2) words known in a language, (3) list of words with their meanings. Hornby (1995:1331) states that vocabulary is the total numbers of words that (with rules of combining them) make up a language. In addition, Dupuis et al (1989: 67) state that vocabulary refers to “a set of words or phrases which label the parts of material to be learned and which are necessary for students to use in talking and writing about the material”. Vocabulary mastery is a great skill of knowledge about a set of words known by a person as a part of specific language.

Brown (1993) defines vocabulary as the words that alphabetically arranged. This can be showed by the certainly of discipline, author, book, group and so forth. Wikipedia (2007) defines vocabulary as a set of words known to a person or other entity or what is part of a specific language. Anyway, vocabulary is central to language. It means that vocabulary is very important in language. If the students have enough vocabulary, they will be able to use language correctly. It is the building blocks of a language since they label objects, actions, ideas that convey the intended meaning. Nation (1990: 29) has divided vocabulary in the specific reference, such as receptive vocabulary and productive vocabulary.

Harmer (1991: 46) states that the teaching of English vocabulary as a second materials in the process of learning, and he says that teaching old vocabulary continuously is more important than teaching new vocabulary each day. Seven principles of vocabulary development are described by Gunning (1992:159), the description is as follows: Building experiential background, relating vocabulary to background, building relationship, developing depth of meaning, presenting several exposures, creating an interest in words, promoting transfer.

In curriculum 1994, it is explained that the purpose in teaching English is to make the students able to communicate in English with mastering 1000 vocabulary for junior high school and 2500 vocabulary for Senior high school. In curriculum 2004, explicitly, not explain the number of vocabulary that should be mastered by each education level. (Cited in Aswir A., dkk: 2006).

The Ten Best Vocabulary Learning Tips: (1) Read, Read, and Read! Most vocabulary words are learned from context, (2) Improve your context skills, (3) Practice, practice, practice, (4) Make up as many associations and connections as possible, (5) Use mnemonics (memory tricks), (6) Get in the habit of looking up words you do not know, (7) Play with words, (8) Use vocabulary lists, (9) Take vocabulary tests, (10) Get excited about words!. (The ten best vocabulary learning tips. <http://www.sheppardsoftware.com/vocabulary_tips.htm> Accessed on October 19, 2013). Wallace (1989) indicates the main principle of learning and teaching vocabulary. They are: Aim, Quantity, Need, Frequent exposure and repetition, Meaningful presentation, Situation presentation, Presenting in context, Learning vocabulary in the mother tongue and the target language, and Guessing (inference) procedure in learning vocabulary.

However, most of the students are lack of vocabulary that make them unable speak or write. It is one aspect of languages to be taught to the students who want to learn English. The mastery of it determines the mastery of four language skills. However, in mastering the four language skills, the students should develop their vocabulary. It is impossible to use language skillfully when the students have limited numbers of vocabulary stock in their minds. Vocabulary is the key of the language. In addition, the more words the students have, the more accurately they may express something. To accomplish a satisfactory result in improving the English vocabulary, a teacher needs a various strategies.

English teacher should be able to find out solution in vocabulary teaching by creating various efficient and effective techniques. Besides that, they should establish conditions that make learning vocabulary occur within a reasonable period. The teacher is role in applying teaching methods is one of the important factors in creating a good atmosphere in the classroom activities. They should know how to build the learner’ interest during the class and know how to design materials that are easy to be understood by students. Teacher should be able to develop any kind of material in learning vocabulary. So that, the teacher can develops students’ vocabulary.

Based on the researchers’ observation, the English teacher at the Eleventh Grade of SMK *Plus Indonesia Timur* reported that the students had difficulty in mastering vocabulary. Their English achievement also still under KKM 7.0 that was determined by the school. The teaching method used by the teacher is exposition learning. The teacher just explains the materials and asks the students to make a note of those lists of vocabulary. In teaching vocabulary, various techniques need to be used, in order to motivate the learners to enjoy the English class and easy to memorize the vocabulary.

# Semantic Mapping

Semantic mapping is a strategy that can be used in all disciplines to demonstrate the relationships between ideas. In teaching vocabulary, it can be used as a tool for students to discover the relationships between vocabulary words (Gaut: 2002). Broomley (1992:218) explains that a semantic map or web is a graphic representation of categories of information and their relationship to each other. In relation to vocabulary development, the instructional sequence of semantic mapping is as follows: Johnson and Pearson (1984) cited in Gunning (1992:164) state that the procedures for presenting semantic mapping are as follows:

1. Introduce the concept, term or topic to be mapped. Write the key word for it on the chalkboard, overhead transparency or chart paper.
2. Brainstorm. Ask students to tell what other words come to mind when they think of the key word. Encourage them to volunteer as many words as they can. This may be done orally or students may write their list and share them
3. Group the words by category, discussing why certain ones go together. If the new words that you planned to teach are not suggested, present them and discuss them. Encourage students to supply category names.
4. Create the class map and put it on a large sheet of paper so that the class can refer to it and add it.
5. Once the map has been finished, discuss it. Encourage the students to add items to   already established categories or to suggest new categories.
6. Extend the map. As students discover, through further reading, additional new words related to the topic or key word, add these to the chart

Semantic mapping as one of the most popular techniques has been intensively discussed in relation to its effective applications of vocabulary instruction. (See Johnson & Pearson, 1984; Heimlich & Pittelman, 1986)

There are several forms of semantic mapping found from enchantedlearning.com: star diagram, spider diagram Cluster/ cloud diagram, tree diagrams, chain diagram, and cycle diagrams. Gairns and Redman (1986) “Semantic mapping is one of word association techniques. There were two previous related finding, who found that semantic mapping can develop the students’ vocabulary;Abdollahzadeh E (2009) statedthat utilizing semantic maps in vocabulary instruction enhancesword learning and vocabulary retention.And, Andriani G [(2012](http://andrianigita.wordpress.com/2012/02/07/increasing-vocabulary-mastery-through-semantic-mapping-to-the-sixth-grade-students-of-elementary-school-number-27-palembang-unpublished-undergraduate-thesis/" \o "6:59 PM)) found that semantic mapping strategy could increase students’ vocabulary mastery.

# Reseach Methodology

In this research, the researcher applied quasi-experimental method, because this research employed experimental design which took two goups; control group and experimental group. Both of groups were given pretest and posttest.

E O1 X O2

# C O1 X O2

(Adopted from Gay, 2006: 225)

* Participants

The population of this research was the Second Grade Students of SMK *plus Indonesia Timur;* there were three classes namely class XI *Nurse* consisted of 30 students, XI *Tkj* consisted of 20 students and XI *Pharmacist* consisted of 29 students. Therefore, the total number of population was 79 students.The sampling technique was used in this research is purposive random sampling technique. Here, the researcher took two classes; XI *Nurse* as an experimental group and XI *Pharmacist* as a control group. The researcher took the both of the classes because they had the big number of population than class *Tkj*, and as a consideration, the students have the same background knowledge in learning English.

* Instrumentation

In this research, the researcher used one kind of instrument namely test. The test consisted of 20 items in form of multiple choice, 10 items translating the words and 10 items making a sentence. The students were given 45 minutes to answer the test. In this case, the test consisted of nouns, verbs, and adjectives. The purpose of the test was to get data about the students’ improvement before and after the treatment.

* Data Analysis

The data from the test analyzed by using means score, the following formula applied:

Score =

After finding the mean scores of the test. The writer classified into seven levels as follows:

Classification of mean score

|  |  |  |
| --- | --- | --- |
| No | Classification | Range |
| 1 | Excellent | 9.6 – 10 |
| 2 | Very good | 8.6 – 9.5 |
| 3 | Good | 7.6 – 8.5 |
| 4 | Average | 6.6 – 7.5 |
| 5 | Fair | 5.6 – 6.5 |
| 6 | Poor | 3.6 – 5.5 |
| 7 | Very poor | 0 – 3.5 |

(Depdikbud, 1985: 6)

Calculating the mean score, standard deviation, the t-test and gain score between vocabulary test of the experimental and control group by using SPSS 20 version (Gay, 2006: 378).

**Finding and discussion**

**Reseach finding**

In the experimental group of this research, after giving pretest to know the students’ prior knowledge about some vocabulary, they were given a treatment. As long as the treatment process, the students and the teacher discussed about the words that related with the main topic, and each meeting, the students were introduced the different topic. The students found some vocabulary with the meaning, wrote the spelling of the words and used the word in sentences level.

In the first until the sixth meeting, the teacher gave a topic. The teacher asked the students look for some words and wrote them on the board to develop the map. After this process, the teacher discussed with the students about the words. Then, the students looked for the meaning of the words, and made in sentences level.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Classification | Score | Pre-test | | Post-test | |
| (f) | (%) | (f) | (%) |
| Excellent | 9.6 – 10 | - | - | - | - |
| Very good | 8.6 – 9.5 | - | - | 2 | 6.7 |
| Good | 7.6 – 8.5 | - |  | 23 | 76.7 |
| Average | 6.6 – 7.5 | 11 | 36.7 | 5 | 16.7 |
| Fair | 5.6 – 6.5 | 15 | 50.0 | - | - |
| Poor | 3.6 – 5.5 | 4 | 13.3 | - | - |
| Very poor | 0 – 3.5 | - | - | - | - |
| Total | | 30 | 100 | 30 | 100 |

In control group, after giving pretest to know their prior knowledge about some vocabulary, the students were given treatment. As long as the treatment process, the teacher served some of vocabulary related with the main topic and the students made a list of the words, and each meeting, the students were introduced the different topic. The students found the meaning, wrote the spelling of the words and used the word in sentences level.

In the first until sixth meeting, the teacher gave a topic. The teacher asked the students to make a note of words and found the meaning of the words. After that, the students made them in sentences level.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Classification | Score | Pre-test | | Post-test | |
| (f) | (%) | (f) | (%) |
| Excellent | 9.6 – 10 | - | - | - | - |
| Very good | 8.6 – 9.5 | - | - | 2 | 6.9 |
| Good | 7.6 – 8.5 |  |  | 10 | 34.5 |
| Average | 6.6 – 7.5 | 7 | 24.1 | 8 | 27.6 |
| Fair | 5.6 – 6.5 | 14 | 48.3 | 7 | 24.1 |
| Poor | 3.6 – 5.5 | 8 | 27.6 | 2 | 6.9 |
| Very poor | 0 – 3.5 | - | - | - | - |
| Total | | 29 | 100 | 29 | 100 |

*The mean score and standard deviation of the students’ pretest and posttest of control and experimental group.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group | Mean Score | | Standard Deviation | |
| Pre-test | Post-test | Pre-test | Post-test |
| Experimental | 6.3 | 7.9 | 0.63 | 0.46 |
| Control | 6.0 | 7.1 | 0.70 | 1.10 |

*Group Statistic value of Gain score in posttest of experimental and control groups*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group Statistics** | | | | | |
|  | groups | N | Mean | Std. Deviation | Std. Error Mean |
| Gain | exp. | 30 | 1.6367 | .72230 | .13187 |
| cont. | 29 | 1.1552 | .76091 | .14130 |

*T-test value of Gain score in posttest of experimental and control groups*

|  |  |  |
| --- | --- | --- |
| Variable | Alpha (ɑ) | Probability Value |
| post- test | 0.05 | 0.016 |

The table above shows that the probability value is smaller than alpha (0.01 6≤ 0.05). It means that there is a higher change of the students’ vocabulary of posttest in experimental group and control group.

**Discussion**

In this section, the researcher presents the interpretation of test result of students’ vocabulary mastery both pretest and posttest of experimental and control group. The result showed that the use of semantic mapping in learning vocabulary improved significantly to the students’ vocabulary knowledge. It means that there is a good applicable technique in teaching vocabulary. It based on (Johnson & Pearson, 1984; Heimlich & Pittelman, 1986), “Semantic mapping as one of the most popular techniques has been intensively discussed in relation to its effective applications of vocabulary instruction”. It also found by Abdollahzadeh E (2009) that utilizing semantic maps in vocabulary instruction enhancesword learning and vocabulary retention. In addition, Andriani G [(2012](http://andrianigita.wordpress.com/2012/02/07/increasing-vocabulary-mastery-through-semantic-mapping-to-the-sixth-grade-students-of-elementary-school-number-27-palembang-unpublished-undergraduate-thesis/" \o "6:59 PM)) found that semantic mapping strategy could increase students’ vocabulary mastery.

The students of the experiment group were introduced how to make semantic mapping in learning vocabulary. The students were asked to looked find the words that have relationship to each other. In vocabulary development, Gunning (1992:159) said that show new words are related to each other to build relationship can develop the vocabulary. And, Broomley (1992: 218) explains that a semantic map or web is a graphic representation of categories of information and their relationship to each other.

Each meeting, they were given different topic, which the materials were made by the teacher. The materials were given is based on students background of education. Wallace (1989), It is necessary to select the words that teachers serve to students. Its selection process is based on the aims of the course and the objectives of the individual lesson and students’ background and language need.

In this case, the students more active looked find the words, grouped the words by category and discussed the relationship between these words, found the meaning and use them in sentences level. It based on Johnson and Pearson (1984) steps in learning process. Moreover, the steps that are used in this strategy agree with the principle of vocabulary development which are described by Gunning (1992) “Building relationship *(point 3),* it explain that Show how new words are related to each other. For example, students are about to read a selection about autobiographies and biographies that include the unfamiliar words accomplishment, obstacles and nonfiction along with autobiography and biography. Instead of simply presenting them separately, demonstrate how they are related to each other. Autobiography and biography are two similar types of nonfiction, and they often describe the subject’s accomplishments and obstacles that he/she had to overcome”. it also based on the best vocabulary learning tips; “the fourth tip is make up as many associations and connections as possible. Say the word aloud to activate your auditory memory and relate the word to words you already know. List as many things as you can and create pictures of the word's meaning that involve strong emotions”.

And based on the result of the reseach, the reseacher take implication that the principle of vocabulary development is relate among the words as many as possible and it is demonstrated by using graphic or scheme, the students can associate their familiar and unfamiliar words. It can make the students easily to find the words and recall them on their memory. And also, as much as possible the students play the word, it can enable students to save the words automatically.

The use of semantic mapping in improve the students’ vocabulary knowledge as indicated by the significance different, the percentage of the students’ vocabulary achievement in experimental and control group as show in the following description. The mean score of pretest in experimental group was 6.3 and the mean score of control group was 6.0. It means that both had the same ability in mastering vocabulary before conducting the treatment. The both of these groups from the same variant and homogeny based on the result of SPSS.

The score of students’ posttest showed improvement. It can be seen on students’ mean score. The mean score of experiment group was 7.9 while the control group was 7.1. It showed that both groups had different score. It can be proved by using t-test to find out the significant and the result showed that the mean score of both group was significantly different after conducting the experiments. The students’ score of experimental was higher than score of control group. It also had tested using t-test of gain score, and the result of the data showed that semantic mapping strategy in experimental group develops the students’ vocabulary mastery than the using of exposition learning in control group. It means that the use of semantic mapping in teaching vocabulary gave bigger effect than the use of non-semantic mapping technique. It can help the students to gain more words and easy to memorize.

The result of this research concluded after each meeting by using semantic mapping, most of the students were in good category. It means that, using of semantic mapping strategy gives better effect on the Eleventh Grade Students’ Vocabulary at SMK plus Indonesia Timur Makassar in Academic Year 2013/2014.

**The Limitation of the Study**

The strength of this research is through the strategy the students can think more about the word around the topic. They can recall the vocabulary easily by using graphic. This strategy can help the students to play the word as they can.

In this research, the reseacher focuses not only students’ vocabulary development but also how they can use them in sentences level. In the previous findings, they used and asked the students to make a map by their selves, but in this reseach, the teacher saw the condition of the students, where they were difficult to develop the map by theirselves, so the teacher decided to develop the map and found the meaning together on the whiteboard. And this way seems make the students more attractive to followed the process of learning and expressed their ideas.

Besides gave effect for the students’ vocabulary mastery, the researcher also found that some of the students still difficult to use the words in sentences level, there still many errors that is made especially in present continuous tense. It is caused the students not quite practice using the words in sentences level and also the reseacher has less of time to guide the student in this process. And also the reseacher didn’t give a change to the students to make a group as long as the learning process.

**Conclusion**

Using semantic mapping strategy able to develop the students’ vocabulary mastery, the students’ achievement that is the mean score of experiment group in posttest was higher than control group. Using semantic mapping strategy enables students to recall the vocabulary easily, by using graphic, the students can relate among the words as many as possible that connect each other. And, the most important reason for using semantic mapping focus on students’ cognitive feature, and creative thinking skills. In spite of the mean score of posttest in control group was lower than the experimental group. It had the improvement from pretest to posttest after giving treatment.

**Suggestion**

1. For the teacher, it is suggested that using of semantic mapping strategy as one way to avoid monotonous teaching technique especially in teaching vocabulary.
2. For the policymaker, it is suggested that to improve the students’ achievement and knowledge in vocabulary, the using of semantic mapping strategy should be maintained frequently and recommended for English teaching vocabulary.
3. Based on the limitation of the study, for the next researcher, the researcher suggests preparing more time to give train the students in using the words in sentences level.

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