IMPROVING STUDENTS' VOCABULARY THROUGH WORDS MAPPING STRATEGY AT SMP NEGERO 6 TONDANO

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Abstract: English is an international language or number one language in the world. In Indonesia, English is considered as a foreign language (EFL), because English is rarely found in the daily communication of Indonesian people. This research aims to find out whether words mapping strategy is effective in improving students' vocabulary or not. This research was conducted at ninth grade students of SMP Negeri 6 Tondano in academic year 2021/2022. In term of research, this research was quantitative research through pre-experimental design one group pre-test and post-test by using mean score formula. The research instrument was used in two forms that are multiple choice and true-false test. This test was intended to measure students' vocabulary. The data were collected through descriptive text in form multiple choice and true-false test. Data were collected twice, before the treatment (pre-test) and after the treatment (post-test). The result of this research showed that the mean score of post-test Y = 81.60 was higher than the mean score in the pre-test $\overline{X} = 46.04$. And result 7of standard deviation of Pre-test (Sdx) = 4.94 and standard deviation of Post-test (Sdy) = 4.59. It means that student achievement in vocabulary in the post-test after treatment is higher than these of the pre-test. From this result, the researcher put the conclusion that the application of words mapping strategy effectively improves students' vocabulary. It Is recommended that improving vocabulary through words mapping strategy can be useful and help the ninth grade students of SMP Negeri 6 Tondano.

Keywords: ***Improving, Vocabulary, Words Mapping Strategy, EFL.***

INTRODUCTION

In this modern era, people demand to have more than one language. Language as a tool of communication plays an important role in the world, especially for human beings to interact. Without language for communication, we will be left behind. Beside that Language used to express ideas, thought and feelings. As stated

by (Liando and Lumettu, 2017:21) it is very clear that, "As a tool communication, language is an essential part in human life. It is used to share experience and express feelings and ideas". And accoding to (Maru. et al., 2018:7) "Language is fundamental to all social processes, and human do need language to communicate to each other". "Communication is always important in everyday life. People need to communicate by using language to interact with other people and to express their feelings or share ideas and thoughts". (Liando, N.V .F, Sahetapy R.J.V and Maru, M.G, 2018:1). In our own country is Indonesia, there are several languages in claimed as a foreign language which is used to communicate. One of them is a very important and most widely used language in the world, and even we often hear it is English.

English is an international language or number one language in the world. There are some contries that have used it as their daily language (as the first language or not as foreign Language). English has an abbreviation, namely EFL (English Foreign Language) which means English as a Foreign Language. Where EFL teaching applies in countries where the majority do not use English for daily communication, but still learn English as preparation for career prospects in the international world.

English is not only used to communicate, but as a bridge to get information, knowledge and culture in the world. English is also used in many fields of life such as education, science, politics, technology, entertainment and economics. Same as stated by (Mogea 2019:9) that "English is an international language used all over the world, for education, technology, political, and commercial purpose". Many people are interested in English, especially Indonesian people. The English language is the first second language to be taught in Indonesian schools. In Indonesia, English teaching is considered as essential to be taught in formally students from elementary until university and this English subject has been applied in the curriculum. Even English become an obligatory subject to be taught and learnt in school. According to (Maru 2009) "For most Indonesian, the aim of learning English as a foreign language is to be able to communicate in English".

In learning English there are four important skills they are listening, speaking, reading, and writing. In learning English, there is one important aspect that must be known and mastered is vocabulary.

Vocabulary is a set of words or phrases owned, mastered, and understood by someone who is usually arranged sequentially and that will be used to arrange a new sentence. The types of words are nouns, adjective, verbs, etc, which are used in language use. Vocabulary plays a great role in learning a language, particularly a foreign language. (Harmon, Wood, and Keser 2009) state that learners' vocabulary development is an important aspect of their language development. Furthermore, vocabulary knowledge is often viewed as a critical tool for second language learners because a limited vocabulary in a second language impedes successful communication. According to (Pikulski 2004 : 4), the students or the learners have to increase their vocabulary around 3.000 words a year. It's mean that the number of vocabulary will influence well for the students' language.

Although vocabulary is very important, there are still many people who realize that they lack vocabulary, making it difficult for them to communicate in foreign languages, especially English. The problems of the lack of vocabulary is also faced by students at SMP Negeri 6 Tondano. I realized that, when I did the teaching practices in there. I found that they often switch to a print or online dictionary when trying to understand the reading text assigned to read.

From the problems above, one of the suggested or needed strategies to improve the students vocabulary is Words Mapping. And also, this strategy can help teachers to convey learning in the classroom. So, the researcher using the word mapping strategy helped the students connection between previous vocabulary and new vocabulary. Word mapping is one of the strategies that very creative, effective and efficient in time. Word mapping is a game technique that can encourage students to actively explore the relationships of each word, thus leading to a deeper understanding of word meanings by developing their conceptual knowledge related to words. The concept of a word mapping game is actually not much different from mind mapping. It's just that word mapping prioritizes vocabulary that comes from a word and its form is more free, not only one main idea, but can consist of several main ideas. It aims to enrich students' understanding of a new concept. Word mapping can help students train their brains to develop an understanding of the meaning of interconnected words.

The purpose of this study is to determine whether the words mapping strategy can improve the vocabulary of the ninth graders at SMP Negeri 6 Tondano in the 2021/2022 academic year or not. This research is delimited to the use of adjective to improve vocabulary for students in Junior High School, especially at SMP N 6 Tondano through Word Mapping Strategy. Broadly, the function of an adjective in English are to subjective complement, objective complement, modifier of noun phrase, head of adjective phrase, and comparison degrees. So, the function of an adjective is to explain nouns and pronouns in an English sentence. The text book is *Think Globally Act Locally.*

RESEARCH METHOD

This research was conducted using a descriptive quantitative approach, which seeks to describe situations, problems, or phenomena that are systematic, actual, accurate and objective (Creswell, 2003). Quantitatively, this study uses scores in a given task and is used for further statistical treatment.

In conducting this research, one must go through a pre-experimental design with a one group pre-test and post-test design. Pre-test is a test given to students before being given the material / before being taught. Then the post-test is a test given to students after being given treatment and steps to determine student achievement after being taught.

According to (Hatch and Farhady 1982:20) stated: One group pre-test and post-test design similar to the one shot case study. There were two tests, T_1 is the pre-test and T_2 is the post-test. X is used to symbolize the treatment in the following representation of the design:

T1	X	T2
Pre-test	Treatment	Post-test

The subject of this research ware all students of class IX A of SMP Negeri 6 Tondano, with an average age of 13-15 years. Where in class IX A, there are 18

male students and 9 female students. So the total number of students are 27 students.

The data collection are a way to apply the method to the problem being studied. Data collection in this research were carried out by tests, namely pre-test and post-test. Pre-test is a test conducted to measure the level of understanding, knowledge and initial ability to students to the material to the provided and before participating in learning activities / before treatment was given. And in this research a pre-test was given to see how much vocabulary the students had before teaching words mapping strategy. While the post-test is a test carried out after students take learning / treatment activities, where to measure and find out the result of students' achievement towards the final knowledge and ability of students. And a post-test was given to find out whether the students' vocabulary increased or not after being taught the words mapping strategy. The test in this study was measured by giving an objective test to students.

The objective tests that used in this research are questions in the form of Multiple Choice and True-False. Therefore, in the objective test, multiple choice and true-false types reveal many aspects of students' understanding. Refer to expert opinion, the types of objective tests used in this research were multiple choice and true-false. Where, each pre-test and post-test in this research has questions consisting of 30 questions of objective type, of which 20 multiple choice items contain options a, b, c, d and 10 items in a true-false format. Then students choose the correct answer. And the researcher gives points for each question that is answered correctly.

Analysis of Data that the data representing the participants' improvement in vocabulary were statistically analysed using descriptive statistics. In the analysis, frequency of score distribution, the mean and the standard deviation of both pre-test and post-test were computed and later on compared to see the effect of mapping words strategy on the participants' improve in vocabulary. From the analysis of data will be obtained, the researcher will calculate the mean scores using this formula:

$$\overline{X} = \frac{\Sigma x}{N}$$

(Moore, 1983:38)

Where:

$\overline{X}$ **=** Mean

Σx = Sum of X

N = Total number of subjects

Standard deviation is calculated using raw score method:

$$S = \sqrt{\frac{\Sigma x^2}{N} - (\overline{X})^2}$$

(Moore, 1983:251)

Where:

S = Standard deviation

$\overline{X}$ = Mean square

Σx = Sum of X

N = Total number of subjects

Result of the statistical analysis are compared to see the effect of the experimental treatment.

FINDINGS

The researcher measured the students' vocabulary mastery by using multiple choice questions and true and false questions. The scores obtained from every test of pre-test and test of post-test questions are shown in table 1:

Table 1. Scores of Multiple Choice and Scores of True-False:

No.	Name of Students	Pre-test (X)		Post-test (Y)	
		MC	TF	MC	TF
1.	Airin Rompas	46,66	40	83,32	70
2.	Alfriano H. Kusen	56,66	30	80	80
3.	Beauty Sumelang	50	50	85	80
4.	Beril Tumelap	63,32	30	90	70

No.	Name				
5.	Christiano Kumontoy	50	30	85	60
6.	Dirly Kolly	53,32	40	86,66	80
7.	Exel Gumalang	63,32	30	86,66	70
8.	Fransisko Tamuntuan	53,32	40	86,66	80
9.	Giovanny Solang	40	40	83,32	70
10.	Intan Katuuk	53,32	60	90	80
11.	Jonathan Korengkeng	63,32	30	86,66	70
12.	Juan Lintang	46,66	40	83,32	70
13.	Katlean Surentu	56,66	30	80	80
14.	Kierra Rampen	53,32	60	90	90
15.	Maria Regah	53,32	40	86,66	70
16.	Marsya Rambi	56,66	30	80	80
17.	Marvel Polii	35	50	76,66	70
18.	Mikha Punuh	46,66	40	76,66	70
19.	Miracle Sirang	50	30	85	60
20.	Natanael Kamagi	40	40	80	80
21.	Prayshe Manawan	63,32	30	85	80
22.	Rafael Dio Regah	50	50	86,66	80
23.	Renatha Tangkuman	56,66	30	80	80
24.	Rivaldo Kamasi	60	40	86,66	80
25.	Sevanya Lumoindong	70	30	90	80
26.	Stery Rey	56,66	30	80	80
27.	Vylette Senduk	53,32	60	90	90

Catatan:

+ MC => Multiple Choice
+ TF => True-False

After conducting the research, the researcher obtained data on student scores on the pre-test and post-test of the class. In collecting data, researchers used tests in the form of pre-test and post-test. To make it clear, we can see the result of Pre-test and Post-test in table 2 below:

Table 2. The score of students in Pre-test (x) and Post-test (y)

No.	Name of Students	Pre-test (X)	Post-test (Y)
1.	Airin Rompas	43,33	76,66
2.	Alfriano H. Kusen	43,33	80
3.	Beauty Sumelang	50	86,66
4.	Beril Tumelap	46,66	80
5.	Christiano Kumontoy	40	76,66
6.	Dirly Kolly	46,66	83,33
7.	Exel Gumalang	46,66	83,33
8.	Fransisko Tamuntuan	46,66	83,33
9.	Giovanny Solang	40	76,66
10.	Intan Katuuk	56,66	86,66
11.	Jonathan Korengkeng	46,66	83,33
12.	Juan Lintang	43,33	76,66
13.	Katlean Surentu	43,33	80
14.	Kierra Rampen	56,66	90
15.	Maria Regah	46,66	83,33
16.	Marsya Rambi	43,33	80
17.	Marvel Polii	40	73,33
18.	Mikha Punuh	43,33	73,33
19.	Miracle Sirang	40	76,66
20.	Natanael Kamagi	40	80
21.	Prayshe Manawan	46,66	86,66
22.	Rafael Dio Regah	50	86,66
23.	Renatha Tangkuman	43,33	80
24.	Rivaldo Kamasi	50	83,33
25.	Sevanya Lumoindong	50	86,66
26.	Stery Rey	43,33	80
27.	Vylette Senduk	56,66	90

The data collected were statistically analysed using descriptive statistics. Statistical analysis would include calculation of score frequency distribution, calculation of mean, and standard deviation of each test (pre-test and post-test).

Frequency distribution of pre-test data were then calculated based on the data mentioned in Table 2. Result of the calculation of frequency distribution of pre-test scores is presented in Table 3.

Table 3. Frequency Distribution of Pre-test Scores

Score	Tally	Frequency	Freq - %	Cum – Freq-	Cum - %
56,66	*III*	3	11%	27	100%
50	*IIII*	4	15%	24	89%
46,66	*IIIII II*	7	26%	20	74%
43,33	*IIIII III*	8	30%	13	48%
40	*IIIII*	5	19%	5	19%

Note:

Freq-   = Frequency

Cum-Freq-   = Cumulative Frequency

Cum-%   = Cumulative Percentage

As seen in table 3, the highest score was 56,66 and the lowest score was 40. Of 27 subjects who took the pre-test, 3 (or 11%) students got a 56, 66 4 (or 15%) students got a 50, 7 (or 26%) students got a 46,66, 8 (or 30%) students got a 43,33, and 5 (or 19%) students got a 40. Frequency distribution of pre-test scores is visually shown in Figure 1.
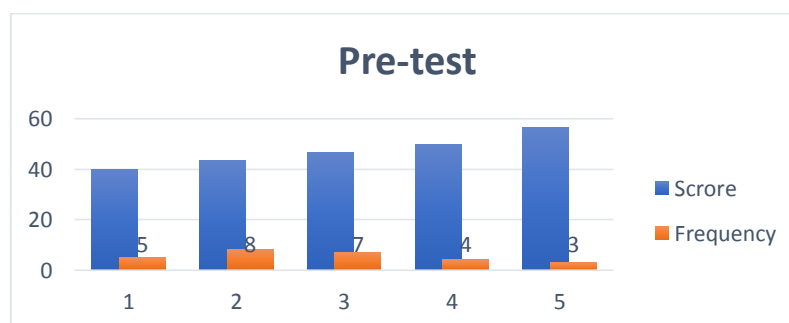

Figure 1. Frequency Distribution of Pre-test Scores

After calculating the frequency of pre-test scores, frequency distribution of post-test score was calculated. The result is in Table 4.

Table 4. Frequency Distribution of Post-test Scores

Score	Tally	Frequency	Freq - %	Cum – Freq-	Cum - %
90	II	2	7%	27	100%
86,66	IIIII	5	19%	25	93%
83,33	IIIII I	6	22%	20	74%
80	IIIII II	7	26%	14	52%
76,66	IIIII	5	19%	7	26%
73,33	II	2	7%	2	7%

As seen in table 4, the highest score was 90, and the lowest score was 73,33. Of 27 subjects who took the pre-test, 2 (or 7%) students got a 90, 5 (or 19%) students got a 86,66, 6 (or 22%) students got a 83,33, 7 (or 26%) students got a 80, 5 (or 19%) students got a 76,66 and 2 (or 7%) students got a 73,33. Frequency distribution of pre-test scores is visually shown in Figure 2.

Figure 2. Frequency Distribution of Post-test Scores

The calculated the mean and standard deviation of both the pre-test and post-test scores, it was necessary to firstly calculated the sums and sum square of

both pre-test (x) and post-test (y) scores. As seen in table 5, the sums of pre-test and post-test scores, symbolized as $\sum X$, $\sum Y$, $\sum X^2$, and $\sum Y^2$.

Table 5. Sums of Pre-test (X) and Post-test (Y) scores.

No.	Name of Students	Pre-test (X)	X^2	Post-test (Y)	Y^2
1.	Airin Rompas	43,33	1.877,48	76,66	5.876,75
2.	Alfriano H. Kusen	43,33	1.877,48	80	6.400
3.	Beauty Sumelang	50	2.500	86,66	7.509,95
4.	Beril Tumelap	46,66	2.177,15	80	6.400
5.	Christiano Kumontoy	40	1.600	76,66	5.876,75
6.	Dirly Kolly	46,66	2.177,15	83,33	6.943,88
7.	Exel Gumalang	46,66	2.177,15	83,33	6.943,88
8.	Fransisko Tamuntuan	46,66	2.177,15	83,33	6.943,88
9.	Giovanny Solang	40	1.600	76,66	5.876,75
10.	Intan Katuuk	56,66	3.210,35	86,66	7.509,95
11.	Jonathan Korengkeng	46,66	2.177,15	83,33	6.943,88
12.	Juan Lintang	43,33	1.877,48	76,66	5.876,75
13.	Katlean Surentu	43,33	1.877,48	80	6.400
14.	Kierra Rampen	56,66	3.210,35	90	8.100
15.	Maria Regah	46,66	2.177,15	83,33	6.943,88
16.	Marsya Rambi	43,33	1.877,48	80	6.400
17.	Marvel Polii	40	1.600	73,33	5.377,28
18.	Mikha Punuh	43,33	1.877,48	73,33	5.377,28
19.	Miracle Sirang	40	1.600	76,66	5.876,75
20.	Natanael Kamagi	40	1.600	80	6.400
21.	Prayshe Manawan	46,66	2.177,15	86,66	7.509,95
22.	Rafael Dio Regah	50	2.500	86,66	7.509,95
23.	Renatha Tangkuman	43,33	1.877,48	80	6.400
24.	Rivaldo Kamasi	50	2.500	83,33	6.943,88
25.	Sevanya Lumoindong	50	2.500	86,66	7.509,95
26.	Stery Rey	43,33	1.877,48	80	6.400
27.	Vylette Senduk	56,66	3.210,35	90	8.100

Σn = 27		ΣX = 1243,21	ΣX^2 = 57.890,94	ΣY = 2.203,24	ΣY^2 = 180.351,34
Average		46,04		81,60	
Min		40		73,33	
Max		56,66		90	

It is mentioned in table 5, N = 27, ΣX = 1.243,21, ΣX^2 = 57.890,94, ΣY = 2.203,24, and ΣY^2 = 180.351,34. Based these result, mean and standard deviation of pre-test and post-test scores were computed.

Thus, the mean of pre-test ($\overline{X}$):

$$\overline{X} = \frac{1.24321}{27} = 46,04$$

The mean of post-test (Y)

$$Y = \frac{2.203,24}{27} = 81,60$$

As can be seen, the mean of the pre-test was 46,04 whereas the post-test was 81,60. Thus, the mean of the post-test was bigger than that of the pre-test which means that there was improve of the students in vocabulary after being exposed to the treatment.

Standard deviation refers to the spread of scores along the normal curve from the mean which indicates homogeneity or heterogeneity of students' improvement in their knowledge of vocabulary before and after the experimental treatment. In this study, standard deviation was calculated using raw score method. Thus, the standard deviation of the pre-test was:

$$S(X) = \sqrt{\frac{57.890,94}{27} - (46,04)^2}$$

$$S(X) = \sqrt{2.144,10 - 2.119,68}$$

$$S(X) = \sqrt{24,42}$$

$$S(X) = 4,94$$

The standard deviation of the post-test was:

$$S(Y) = \sqrt{\frac{180.351,34}{27} - (81,60)^2}$$

$$S(Y) = \sqrt{6.679,67 - 6.658,56}$$

$$S(Y) = \sqrt{21,11}$$

$$S(Y) = 4,59$$

Result of the computation indicated that the standard deviation (Sx) of pre-test was 4,94 whereas that of the post-test (Sy) was 4,59. Thus, Sx was larger than that of the post-test meaning that before the experimental treatment, the students' knowledge of vocabulary before the experimental treatment was a little bit heterogeneous that after that the treatment.

DiSCUSSION

After implementing the use of words mapping strategy to improve students' vocabulary, the researcher got the data of pre-test and post-test. The result showed the score of pre-test was lower than the score of post-test. In other words, words mapping strategy was effective in improving ninth grade students' ability in understanding English learning.

The result of data analysis reveals that: (1) The highest score in the pre-test was 56,66 and the lowest 40. On the other hand, the highest score in post-test was 90 and the lowest 73,33. Thus, students' performance in the post-test is better than that in the pre-test. (2) The mean of the pre-test is 46,04 whereas that of the post-test is 81,60. This also indicates that there is an improve in students' performance, from 46,04 to 81,60. And (3) The standard deviation (Sx) of the pre-test is 4,94 whereas that of the post-test (Sy) is 4,59, which indicates that the students' knowledge of vocabulary before the experimental ptreatment was a little bit heterogeneous that the after the treatment. It can then be said that the higher score in the post-test, higher mean, and students' less heterogenous knowledge of vocabulary are due to the application of words mapping strategy.

So, the data above showed some students' score improved significantly. In pre-test students score law because student lack vocabulary in English, so students cannot express ideas in the teaching and learning process. Therefore, the implementation of word mapping strategy can improve students vocabulary in

English, and students can express ideas and information that students get well and smoothly, and even students can stored new vocabulary in their memory. With words mapping strategy, it can make students easier to get a lot of new vocabulary from only one word (from one word that students know) and can make students more interested and not bored in the teaching and learning process. By this strategy, the students will enjoy the lessons. Based on the explanation above, it can be claimed that using word mapping strategy to the students vocabulary mastery has significant effect on students' motivation and also activeness in joining the English class. Moreover, it was also supported by the expert statement.

CONCLUSION

Based on the result of research and data analysis, the researcher concluded that by using words mapping strategy, effectively to improve vocabulary in students so that students better understand English lessons because they already have a lot of vocabulary. This can be shown in statistical analysis that researcher have been obtained, that: (1) The post-test scores are better (higher) than the pre-test; (2) The post-test mean is bigger (higher) than that of the pre-test; and (3) The students' knowledge of the vocabulary is less heterogeneous after the experimental treatment than before that the treatment.

The result of this statistical analysis leads researcher to come to the conclusion that the application of words mapping strategy significantly experienced an increase in students' knowledge in English. Thus, this strategy helps students remember more vocabulary. Not only that, with the improvement in vocabulary of students, it will be greatly facilitate students to communicate, answer questions, and express the ideas and information that get into English well and smoothly. So, it can be concluded based on data, that using word mapping strategy in the classroom learning process have a significant influence on mastery of students vocabulary.

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