THE EFFECTIVENESS OF USING VISUAL DICTIONARY TO TEACH VOCABULARY AT THE GRADE STUDENTS

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Abstract.This basic problem comes to the students'low vocabulary mastery, teacher's low creativity in teaching, infectivity of general dictionary to teach vocabulary, teacher's low creativity in teaching, infectivity of vocabulary teaching and learning methods currently applied, students tend to get bored in learning vocabulary because of the use of monotonous methods. This fundamental problem then lead the researchers to do research which goal is to find out in whichusing visual dictionary more effective in teaching vocabularyfor junior high school. By applying quantitative research, the researchers did research in SMPN 36 Purworejo. Employing Class 8 Ataught using visual dictionaryand Class 8 Ctaught using general dictionary, the researchers then give 20 questions of multiple choice test to evaluate the result of teaching vocabulary. The result of this research shows that the mean score of 8 A is 81.96 and the mean of 8 C is 74.24. Then, from the computation of inferential analysis, it shows that the result of $Z_{value}(6.98)$ is lower than $Z_{table}(1.96)$. From the result, it can be concluded that use of Visual Dictionary in teaching vocabulary skill at the eighth grade is effective.

Keywords: visual dictionary; vocabulary skill; teaching.

1 introduction

Teaching English for junior high school gives its own challenge whether in material, classroom management system, and teaching strategy used. The problems can be identified such as the low vocabulary mastery, the teacher uses a general dictionary to teach vocabulary, teacher's low creativity in teaching, infectivity of vocabulary teaching and learning methods currently applied, students tend to get bored in learning vocabulary because of the use of monotonous methods.

In this research, the researchers use visual dictionary in teaching vocabulary for senior junior school. Having purpose of the research to describe the students' vocabulary achievement of the eighth grade and to find out effective or not in teaching vocabulary using visual dictionaryat the eighth grade, this research was taking place in SMPN 36 Purworejo. Having 8A and 8 C as the subject of the research, the researchers employ 66 students as the sample.

This research was done under the theories of teaching learning, teaching media, visual dictionary and vocabulary. Related to the theories of teaching, Maswan and Muslimin(2011: 220)[1]state that teaching is giving lessons to someone (students) by training and giving instructions so that they gain several experiences. According to Ladjid in Asmadawati (2014: 3)[2], a learning process can run effectively if all the components that influence each other support, namely 1) students, 2) curriculum, 3) teacher, 4) method, 5) facilities and infrastructure, 6) environment. Aunurrahman (2016: 35)[3] state that learning is a process carried out by individuals to obtain a whole new change in behavior, as a result of the individual's own experience in interaction with his environment. According to Reber in Syah M, quoted by Herawati (2018: 40)[4]in terms of the learning process, the process means specific ways or steps that cause some changes to achieve certain results. So, the learning process is the stage of cognitive, affective, and psychomotor behavior changes that occur in students. Shah also said that the changes that have occurred are positive in the sense that they are oriented towards being more advanced than in the previous situation according to According DePorter(2010: 110-112) [5]in Quantum Learning, there are 3 types of learning style, namely visual, auditory and kinesthetic.

Learning media is a tool used to convey learning material that can stimulate the thoughts and willingness of students so that it can help create the learning process. Arsyad (2011: 3)[6]the word media comes from the Latin medius which means "middle", "intermediary", or "introduction". According to Suranto (2011:112)[7]based on the form of communication media can be grouped as follows: print media, visual media, audio media, and audio-visual media. According to Anderson Ronal H in Asmadawati (2014: 4)[8], 1) Step one: Determine whether the message is instructional or informational. 2) Second step: Determine how to transmit the message, whether this is a medium to help an instructor or a medium that shows the occurrence of independent or group learning without an instructor. 3) Step three: Using diagrams will help define the characteristics of the lesson, and further reduce the number of media choices and guide the teacher to determine the specific media class that is suitable for the instructional purposes. 4) Step four: Determine the most suitable media in the category. 5) Step five: Going back to the media first and then studying the list of characteristics of this medium, as well as its limitations and advantages in the presentation. Acording toLevie and Lentz in Sanaky (2013: 7)[9], the functions of learning media, namely: attention function, affective function, cognitive function, and the compensatory function.

Dwimawanti (2014: 15)[10]a dictionary is defined as a reference source in print or electronic form containing words usually alphabetically arranged along with information about their forms, pronunciations, functions, etymologies,

meanings, and syntactic and idiomatic uses. The differences of dictionary and visual dictionaryHidayati (2014:14)[11]these dictionaries have one common thing that they are all text-based and contain only words. Meanwhile, the visual dictionary does not only present vocabulary text, but includes a simple picture of the vocabulary whether it is nouns, adjectives, and verbs so that students understand the meaning of vocabulary more easily and will find it easier to remember the vocabulary because students have a description of the meaning of the vocabulary in the brain memory. The advantage of visual dictionary based on Dwimawanti (2014: 30)[12]a visual dictionary does not only contain text and words, but a visual dictionary also contains simple pictures that can turn on students' imagination about the meaning of a vocabulary.

Soedjito in Febrisma (2013: 112) [13]states vocabulary is: 1) all words contained in one language, 2) the richness of words owned by a speaker, 3) words used in a scientific field, 4) a list of words arranged like a dictionary with brief and practical explanations. According to Febrisma (2013: 112-113) types of vocabulary can be categorized as follows [14]1) noun, 2) verb, 3) adjective, 4) adverb. Mastery of vocabulary is needed by someone to understand and use the collection of words they have to express thoughts and feelings in various spheres of life such as in language activities. Tarigan (2015: 2) [15]state that the quality of a person's language skills depends on the quantity and quality of his vocabulary. The richer the vocabulary a student has, the more likely the student is skilled at language. Vocabulary mastery is the vocabulary or wealth of words that a person controls. Mastery of vocabulary in sufficient numbers is needed to carry out activities to communicate in language. Djiwandono (2011: 126)[16]who divides vocabulary mastery into two, namely vocabulary mastery that is passive-receptive and active-productive.

2 method

In conducting research, the researchersused quantitative research methods with experimental research design to collect data and to obtain research results. According to Azwar (2015: 5)[17], Quantitative research is research that is usually carried out to test a certain hypothesis and emphasize its analysis on numerical data using statistical methods. According to Winarno (2018: 60)[18], the experimental research design aims to reveal the causal relationship between variables by manipulating the independent variables. Furthermore, experiments are research designs that provide the most rigorous and rigorous testing of hypotheses. Although correlational and comparative causal designs can reveal relationships between variables, experimental designs are used specifically to express causal relationships. In conducting the research, the researchers employed two variables namely independent variable (students' vocabulary achievement taught using visual dictionary - X) and dependent variable (students' vocabulary achievement taught using general dictionary - Y). From total Class 8 that is 192 students, the researchers took sample Class 8 A (33 students) and 8 C (33 students) as the subject of the research by using purposive sampling technique. The researchers took those two classes because they have the equal competence in pretest and it has almost the same in total students of the class. In order to get the data, the researchers use test as their instrument consists of 20 multiple choice vocabulary tests and the researchers uses pre-test and post-test (before and after being taught using visual dictionary and general dictionary) to know the students' vocabulary competencies. After getting the data, the researchers then applied descriptive and inferential analysis to test the hypothesis.

3 results and discussions

1. The students'vocabulary achievement

In the effort of recognizing the students' vocabulary achievement, the researchers has tested the students to answer 20 multiple choice questions proposes. Then, after those students being taught by using visual dictionary and general dictionary, the result can be seen below:

Table 1	٠	The result	OI	vocabulary	post-test

Ex	periment grou	ıp (8 A)	Co	ontrol group ((8 C)
No	Sample	Score	No	Sample	Score
1	Student 1	80	1	Student 1	75
2	Student 2	85	2	Student 2	75
3	Student 3	85	3	Student 3	70
4	Student 4	70	4	Student 4	70
5	Student 5	85	5	Student 5	90
6	Student 6	90	6	Student 6	75
7	Student 7	90	7	Student 7	70
8	Student 8	95	8	Student 8	80
9	Student 9	85	9	Student 9	75
10	Student 10	85	10	Student 10	80
11	Student 11	80	11	Student 11	50
12	Student 12	90	12	Student 12	50
13	Student 13	85	13	Student 13	70

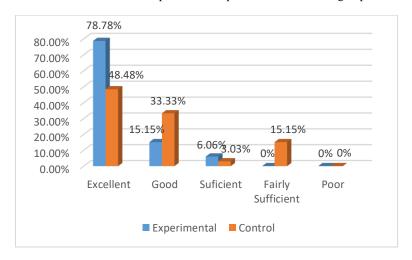
14	Student 14	70	14	Student 14	75
15	Student 15	90	15	Student 15	80
16	Student 16	85	16	Student 16	90
17	Student 17	70	17	Student 17	80
18	Student 18	85	18	Student 18	65
19	Student 19	90	19	Student 19	50
20	Student 20	60	20	Student 20	90
21	Student 21	80	21	Student 21	80
22	Student 22	80	22	Student 22	80
23	Student 23	90	23	Student 23	75
24	Student 24	85	24	Student 24	80
25	Student 25	90	25	Student 25	90
26	Student 26	90	26	Student 26	85
27	Student 27	90	27	Student 27	80
28	Student 28	85	28	Student 28	80
29	Student 29	70	29	Student 29	80
30	Student 30	70	30	Student 30	70
31	Student 31	80	31	Student 31	90
32	Student 32	80	32	Student 32	50
33	Student 33	60	33	Student 33	50

The result of post-test of experimental and control group is distributed based on the classification of students' achievement by Arikunto (2013: 281)[19], It is shown in the following table.

Table 2. The frequency distribution of students' score in post-test

Interval	Interpretation	Frequency		Percentage	
		Experimental	Control	Experimental	Control
80 - 100	Excellent	26	16	78.78 %	48.48 %
66 - 79	Good	5	11	15.15 %	33.33 %
56 - 65	Sufficient	2	1	6.06 %	3.03 %
40 - 55	Fairly Sufficient	0	5	0 %	15.15 %
< 39	Poor	0	0	0 %	0 %
Total		33	33	100 %	100 %

Chart 1. The result of post-test in experimental and control group



From the table 1 and the chart 1 above, it can be seen that that most of students got the score included in the excellent category (80-100) there are 26 students (78.78~%) of 8 A class. In the good category (66-79) that are 5 students (15.15~%) of 8 A class. While, in sufficient category that are 2 students (6.06~%) of 8 A class. There is no fairly sufficient category in 8 A class. In the excellent category (80-100) there are 16 students (48.48~%) of 8 C class. In the good category (66-79) that are 11 students (33.33~%) of 8 C class. While, in sufficient category that is 1 student (3.03~%) of 8 C class. In fairly sufficient category that are 5 students (15.15~%) of 8 C class.

2. The comparison between experiment group and control group

Then, to find out effective or not there are significant differences of students' vocabulary achivement between those taught using visual dictionary and those taught using general dictionary, the researchers used a series of statistical computation as follows:

a. Descriptive statistic

According to Arifin (2011: 251)[20].descriptive statistics are statistics that provide the task of collecting, processing, and analyzing data, then presenting it well. Therefore, descriptive statistics only describe a phenomenon, such as the mean, mode, and median of a particular group. The result of computation can be seen in the table below:

Table 3. The vocabulary result post-test of experimental and control group

Source	M	Me	Mo	SD	V	R	Max	Min
Experimental	81.96	85	85	8.92	79	35	95	60
Control	74.24	75	80	12.25	150	40	90	50

From the table above, it can be seen thatthe mean of experimental group is 81.96 and control group is 74.24. Then, the median and mode of experimental group is 85. The median of control group is 75 and the mode of control group is 80. The highest score of experimental group is 95 and control group is 90. The minimum score of experimental group is 60 and control group is 50.

b. Inferential statistic

This analysis is implemented to find out the comparative study of students' vocabulary achievement between using visual dictionary and general dictionary. Before the researcher did computation to test the hypothesis, she did a computation of pre-requisite test at first and the test are as follows:

1) Test of Normality

The test is intended to decide the distribution of maximum and minimum values as well as the variability of research data. The formula used to do test of normality is Chi Square (X^2) . The result of computation is as follows:

Table 4. The result of normality test for post-test of experimental group

INTERVAL	$\mathbf{f_o}$	$\mathbf{f_h}$	$\mathbf{f_o} ext{-}\mathbf{f_h}$	$(f_0$ - $f_h)^2$	$(\mathbf{f_0}\text{-}\mathbf{f_h})^2/\mathbf{f_h}$
60-66	2	0.89	1.11	1.23	1.38
67 - 73	5	5	0	0	0
74-80	6	11	-5	25	2.27
81 - 87	10	11	-1	1	0.09
88 - 94	9	5	4	16	3.2
95 - 100	2	0.89	0.11	1.23	1.38
SUM	33	33	0	44.46	8.32

Based on the computation, the value Chi Square obtained is 8.32. After being compared wih Chi Square table with the degree of significance 5% that is 11.07, it is known that the Chi Square Obtained is higher than Chi Square Table (8.32< 11.070). It indicates that the data distribution of the students' vocabulary taught by using visual dictionary (8 A) is normal.

By applying the same formula (Chi Square), the researchers then did computation to know the normality of the data of the students' vocabulary achievement taught using general dictionary. The result of the computation is as follows:

Table 5. The result of normality test for post-test of control group

INTERVAL	$\mathbf{f_o}$	$\mathbf{f_h}$	$\mathbf{f_o} ext{-}\mathbf{f_h}$	$(\mathbf{f_o}\text{-}\mathbf{f_h})^2$	$(\mathbf{f_0}\text{-}\mathbf{f_h})^2/\mathbf{f_h}$
50-57	5	0.89	4.11	16.89	18.97
58–65	1	5	-4	16	3.2
66 - 73	5	11	11	36	3.27
74 - 81	16	11	11	25	2.27
82 - 89	1	5	5	16	3.2
89 - 96	5	0.89	0.89	16.89	18.97
SUM	33	33	33	126.78	49.88

From the computation as shown in the table above, the value Chi Square obtained is 49.88. Then, after being compared wih Chi Square table with the degree of significance 5% that is 11.07, it is known that the Chi Square Obtained is higher than Chi Square Table (49.88 > 11.07). It indicates that the data distribution of the students' reading achievement taught by using small group discussion (MIPA 6) is abnormal.

Because of the data distribution in the manual computation are abnormal, the researchers encloses the computation SPSS 16.0 using the Shapiro-Wilk formula. The table below will show about SPSS result.

	KolmogrovSmirnova			Shapiro Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Post_exp	.117	33	0.200	.963	33	.304
Post_ctrl	.212	33	< 0.001	.898	33	.005

The data could be said normal if the significance value is higher than 0.05. Then, the data could be said abnormal if the significance value is lower than 0.05. From the table above, it is known thatthe significance value of experimental group is 0.200 is higher than 0.05. While, the significance value of control is <0.001 is lower than 0.05. Therefore, it can be conclude that the distribution of the post-test experimental is normal and the post-test of control group is abnormal.

2) Test of Homogeneity

Test of homogeneity is used to measure the obtained score whether it is homogeneous or not.

 $F = \underline{\text{the highest variance}}$

the lowest variance

F = 150

79

F = 1.89

From the computation above, the value of F is 1.89. Then, it is compared to the F table with df numerator (33 - 1 = 32) and df denominator (33 - 1 = 32). The F table on the significant level 5 % is 3.29. Because of F obtained is lower than the value of F table (1.89 < 3.29), it means that the variance of two sample is homogeneous. The researcher also calculate the homogeneity test using SPSS is as the table follow:

Table 7. Test of homogeneity of variance using SPSS

	Levene	df 1	df 2	Sig.
	Statistic			
Based on Mean	1.713	1	64	.195
Based on Median	1.893	1	64	.174
Based on Median and	1.893	1	61.945	.174
with adjusted df				
Based on trimmed mean	1.576	1	64	.214

From the table above, it shows that (Sig) on mean are higher than 0.5. In the table above, the value of Sig (0.195) is higher than 0.05. It means that the data is homogenous.

3) Test of Hypothesis

After knowing the data has abnormal distribution, the researcher uses Mann Whitney U-test as a technique to find out effective or not the hypothesis is accepted. The manual computation is as follows:

Table 8. Getting the rank

No	Sample	Score	Rank	No.	Sample	Score	Rank
1	Student 1	80	1.5	1	Student 1	75	1.5
2	Student 2	85	1.5	2	Student 2	75	1.5
3	Student 3	85	3.5	3	Student 3	70	3.5
4	Student 4	70	3.5	4	Student 4	70	3.5
5	Student 5	85	5.5	5	Student 5	90	5
6	Student 6	90	5.5	6	Student 6	75	6
7	Student 7	90	7	7	Student 7	70	7.5
8	Student 8	95	8.5	8	Student 8	80	7.5
9	Student 9	85	8.5	9	Student 9	75	9.5
10	Student 10	85	10.5	10	Student 10	80	9.5
11	Student 11	80	10.5	11	Student 11	50	11
12	Student 12	90	12.5	12	Student 12	50	12.5
13	Student 13	85	12.5	13	Student 13	70	12.5
14	Student 14	70	14.5	14	Student 14	75	14.5
15	Student 15	90	14.5	15	Student 15	80	14.5
16	Student 16	85	16.5	16	Student 16	90	16.5
17	Student 17	70	16.5	17	Student 17	80	16.5
18	Student 18	85	18.5	18	Student 18	65	18.5
19	Student 19	90	18.5	19	Student 19	50	18.5

20	Student 20	60	20.5	20	Student 20	00	20.5	_
		60	20.5			90	20.5	
21	Student 21	80	20.5	21	Student 21	80	20.5	
22	Student 22	80	22.5	22	Student 22	80	22.5	
23	Student 23	90	22.5	23	Student 23	75	22.5	
24	Student 24	85	24.5	24	Student 24	80	24.5	
25	Student 25	90	24.5	25	Student 25	90	24.5	
26	Student 26	90	26.5	26	Student 26	85	26.5	
27	Student 27	90	26.5	27	Student 27	80	26.5	
28	Student 28	85	28.5	28	Student 28	80	28	
29	Student 29	70	28.5	29	Student 29	80	29.5	
30	Student 30	70	30.5	30	Student 30	70	29.5	
31	Student 31	80	30.5	31	Student 31	90	31.5	
32	Student 32	80	32.5	32	Student 32	50	31.5	
33	Student 33	60	32.5	33	Student 33	50	33	

Then, after calculating the rank, the next step is finding U which is the process of computation is as follows:

$$U1 = n1n2 + \frac{n1 (n1+1)}{2} - R1$$

$$U1 = (33) x (33) + \frac{33 (33+1)}{2} - 561$$

$$U1 = 1089 + \frac{1122}{2} - 561$$

$$U1 = 1089 + 561 - 561$$

$$U1 = 1089$$

Then, calculating the value of z-test with the z formula is:

lculating the value of z
$$Z = \frac{U - \frac{n1.n2}{2}}{\sqrt{\frac{n1.n2.(n1+n2+1)}{12}}}$$

$$Z = \frac{1089 - \frac{33 \times 33}{2}}{\sqrt{\frac{33 \times 33 \times (33+33+1)}{12}}}$$

$$Z = \frac{1089 - \frac{1089}{2}}{\sqrt{\frac{1089 \times 67}{12}}}$$

$$Z = \frac{1089 - 544.5}{\sqrt{6080.25}}$$

$$Z = \frac{544.5}{77.97}$$

$$Z = 6.98$$

Absolute value = 0.576

Considering the computation above, the research of z value is 6.98. To calculate using u-test, the researcher uses absolute value 6.98. After found the z value the researcher compares it with z table. The table value in z table, two – tailed with $\alpha = 5$ % is 1.96. The computation shows that z value is higher than z table (6.98 > 1.96). It means that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. The researcher also encloses the computation of SPSS to make sure that the computation done using manual computation is correct. Below is the result of SPSS computation.

Table 9. Test of hypothesis using SPSS

	N	Mean	Sum of
		Rank	Ranks
Pre_exp	33	40.24	1328.00
Post_ctrl	33	26.76	883.00
Total	66		

Test Statistics^a

	Count
Mann – Whitney U	322.000
Wilcoxon W	883.000
Z	-2.902
Asymp. Sig. (2-tailed)	.004

From the previous analysis, it shows that with the number of samples n 1 = 33 and n 2 = 33, the result of the computation of Mann-Whitney U test is .004 and based on the significance level 0.05, the value of z table. It can be seen that Mann-Whitney U test is lower than z table (.004 < 0.05), so the

alternative hypothesis is accepted. It means that "The use of Visual Dictionary in teaching vocabulary skill at the eighth grade students at SMPN 36 Purworejo in the academic year of 2020/2021 is effective."

conclusion

After doing a series of research from gathering information, teaching the students using visual dictionary and general dictionary, then testing the students after being taught using those two strategies, the researchers come to conclusion that first, seeing from the descriptive analysis as it has been discussed before, it can be seen that the mean score of the students are closely equal that is 81.98 for 8 A and 74.24 for 8 C. Then, as it also be seen in table 3, that maximum score of experimental group is 95 and control group is 90. Second, from the result of inferential analysis consisting test of normality, test of homogeneity, and test of hypothesis, it can be seen that the data of the students' vocabularyachievementhave abnormal distribution (49.88 > 11.07)and homogeneous (0.195> 0.05). Because of the data have abnormal distribution, so that the researchers uses Mann-Whitney U Test to test the hypothesis. From the computation, it is known that the Z value is lower than Z table in which (.004 < 0.05), so the alternative hypothesis is accepted. It means that "The use of Visual Dictionary in teaching vocabulary skill at the eighth grade students at SMPN 36 Purworejo in the academic year of 2020/2021 is effective."

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