CHAPTER III

THE RESEARCH METHOD

This chapter presents the research method. For getting a new fact or additional information, research is the only way we can do. This chapter the researcher discusses some items related to this study. Those some items are research design, the population and sample, the instrument, the treatment procedure, the data Collection method, and the data analysis.

A. The Research Design

According to oxford dictionary research is detailed study of a subject to discover new facts about it[1]. Research is the way to find the truth of theory or to find out new fact using a new strategy to improve something that is useful for environment. The purpose is to answer research question through the application of scientific procedure.[2] The way to find the truth may use quantitative method. Quantitative method is kind of research use statistic to analyze the data. Experimental research is a procedure for testing a hypothesis by setting up a situation in which the strength of the relationship between variables can be tasted[3]. In experimental, the researcher manipulates at least one independent variable, control other relevant variable, and observe, the effect on one or more dependent variables. The research design use in this

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[1] *Oxford l earner's pocket Dictionary new edition.*(New York: Oxford university pres,2005),366.
[2] Jhon W. Best, *Research in Education.* Fourth edition (New Jersey: prentice hall INC Engle Wood, 1981), 73.
[3] David Nunan, *Research Methods in Language Learning* (Cambridge: Cambridge University Press, 1992), 25.

research is quantitative experimental. The researcher use quantitative experimental because the researcher want to compare achievement between the students being taught using sociodrama and the students not being taught using sociodrama. In this research the researcher is using experimental research.

According to Donald Ary case studies are sometimes concerned with small social units such as a family, a club, a school, or teenager gank.[4]Based on the statement above researcher wants to make small case to make the method success. The researcher divide students into two groups, they are an experimental group and control group. The experimental group taught using Socio drama and in the last section they give post test. The control group taught without using Socio drama but in the last they also receive post test. The result of the treatment of Socio drama can be seen from the post test result both of group.

B. The Population and the Sample

Research needs certain population and sample. The population and sample have function to take a group to be the subject of the research to choose some of the population to be specific subject, named sample.

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[4] Donald Ary, *an introduction to research in education Second addition* (Holt,Renehart and Winston inc.1975) ,295.

1. Population

Population is people or other things discussed in the research.[5] The other sentence population is group from the object research and has criteria in a research. From the sentences above researcher may take conclusion Population is a group of individuals that has special characteristic. Those characteristic help the researcher get the data for the research. There are two types of population in this research. The first type is target population; the target population is all of junior high school students because the purpose of this research is to give improving students' vocabulary. The second type is accessible population, and in this research the population is students at MTs Abdulloh Sukoanyar Mojo which the researcher chooses students at the eighth grade in the second semester in academic year of 2013/ 2014 especially B class consists of 34 students as the population.

2. Sample

Sample is part from population (populations' element) selected for observation and analysis. According to L. R. Gay, sample is one that is representative a population from which it was selected.[6] This research takes one class of eighth level. In this school consist of three classes for eighth grade; they are A, B, C classes. A, B, C class are parallel, and after doing the pre- test know that the result of A, B and C class score are not significant. The researcher chooses eighth grade exactly B class as sample

[5] Jhon W. Best. *Research in Education.* Fourth edition (New Jersey: prentice hall INC Engle Wood, 1981), 59-60.
[6] L.R Gay, *Educational Research: Competencies for Analysis & Application* (New York: Mc Millan Publising Company, 1992), 126.

randomly. The sample divides into two randomized groups. To get the experimental group and control group randomly, the students choose from the attendance list number. The attendance list number 1 until 17 was as experimental group and number 18 until 34 was as control group. The researcher takes 17 students for each group. The researcher selects the students of eighth year class as sample of this study; because they are on medium level to know the English Vocabulary and they have opportunity to explore their ability in fun situation.

C. The Instrument

According to oxford pocket dictionary instrument is tool or device used for a particular task, especially delicate or scientific work.[7] The instruments that are used by the researcher for this research are scripts, test, the test item, scoring system, and the characteristic of good test.

1. Scripts

    Scripts is a written version of a play or other dramatic composition; used in preparing for a performance. The scripts will use of the student to applying socio drama in increasing vocabulary. A scripts for socio drama including dialogue and descriptions of characters and sets.

2. Test

    Data is to make strong a scientific research, with data the researcher can answer and solve the research problem. The data of this study is obtained from the test. The tests have purposes to measure the students'

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[7] *Oxford l earner's pocket Dictionary new edition.*(New York: Oxford university pres,2005),225

ability and to know the students' progression before and after get the treatment. The researcher using two types of tests; it is pre-test and post-test.

Pre- test is a test done to know the students competence in language learning. Pre test have the reason to know competence level of the students to reach the material. The text of the questions test here is taken from the curriculum of junior high school. Pre-test done by experimental group and control group before they gets treatments in the first meeting is given before the method is applied. The students had 45 minutes to do the pre-test.

The opposite of the pre-test, post test was done in the last program. Post test have the reason to know progressing level of language skill. Post-test done by experimental group and control group in the last meeting after the method is applied. To measure how far the students improve their vocabulary after experimental group got treatment. The purpose of the test is to know about progression both experimental and control group. The students had 45 minutes to do the post test.

3. The Test Item

In the pre- test and post test have same question. There is multiple choice forms which consists of 25 items, each item has four options, one is correct answer and the other 3 are destructors. In the multiple choices all of answer alternative made almost same so all of answer alternative look like correct answer, although actually just one the correct answer.

4. The Scoring System

Good scoring in a test does in two stages they are correction stage and scoring stage.[8] In correction stage each work sheet is correcting to find is the answer right or false. In the last correction does scoring stage. The correction system of multiple choices is the right answer of each items get 4 score and the wrong answer gets 0. Than scoring system is look at the amount of correct answer.

5. The Characteristics of a Good Test

Test is important component in doing research especially scoring result of study. The good test has some characteristic such as: reliability, validity, level difficulty, and discrimination power.

a. Reliability

Reliability is one of test characteristic which have the capability to produce measuring continually. Reliability means that there will be no change in the quality or construct being measured, there are consistency of the scores resulted from the test. The reliability of multiple choice tests can be using formula K- R 21[9]:

$$r = 1 - [0,8R \, (k-R)] : (k \times SD^2)$$

r: Reliability   *k : Number of the item test*

R: Mean of the score   *SD²: Variance*

From the formula above, Djiwandono divides five grades of correlation, they are as follows:

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[8] M Soenardi Djiwandono, *Tes Bahasa dalam Pengajaran* (Bandung: Penerbit ITB, 1996),117.
[9] M Soenardi Djiwandono, *Tes Bahasa dalam Pengajaran* (Bandung: Penerbit ITB, 1996),152.

Very high   = 0, 90 – 1, 00

High   = 0, 70 – 0, 89

Moderate   = 0.50 – 0.69

Low   = 0.30 – 0.49

Very low   = less than 0.30

Table 3.1 : The General Score of Try Out

NO	NAME	SCORE	NO	NAME	SCORE
1	Ahmad Mubarok Bakkah Azizi	50	9	M. Ma'ruf	46
2	Danang Widiyanto Eka Sakti	46	10	M. Syahrul Fauzi	56
3	Devi Eristiana	64	11	M. Zainal Mustofa	34
4	Dewi Rosalia Khumairoh	40	12	M. Zanu Fauzi Nizam	52
5	Dewinta Feny Santika	40	13	M.Syahrul Mukhtarom	52
6	Eka Purwanto	38	14	Moch. Dziyak Uddin Azzamzani	40
7	Elly Lia	56	15	Moh. Sukron Ni'am	38
8	Fauzan Ali Ashar	46	$\sum$		698

From the table above, the researcher take the conclusion that the try out test is too difficult. It is means the difficult question must change.

Table 3.2 : The Result of Try Out

X	$(X - \overline{X})$	$(X - \overline{X})^2$
64	17.47	305.20
56	9.47	89.68
56	9.47	89.68
52	5.47	29.92
52	5.47	29.92
50	3.47	12.04
46	-0.53	0.28
46	-0.53	0.28
43	-3.53	12.46
40	-6.53	42.64
40	-6.53	42.64
40	-6.53	42.64
38	-8.53	72.76
38	-8.53	72.76
34	-12.53	157
Σ 698		Σ 999.9

From the result of the try out the researcher calculate the mean as follow:

$$\text{Mean} \ (X) = \frac{698}{15}$$

$$= 46.53$$

After measure the mean, the researcher calculates the standard deviation as follow[10]:

$$SD = \sqrt{\left(\ \underline{\Sigma \overline{x^2}} : n\ \right)} \qquad\qquad SD^2 = (\Sigma \overline{x^2} : n)$$

$$= \sqrt{999.9 : 15} \qquad\qquad = (999.9 : 15)$$

$$= \sqrt{66.66} \qquad\qquad = 66.66$$

$$= 8.16$$

K- R 21[11]

$$r = 1 - [0{,}8R\ (k\text{-}R)] : (k \times SD^2)$$

$$= 1 - [0.8 \times 46.53(50 - 46.53)]: 50 \times 66.66)$$

$$= 1 - [37.22 \times 3.47]: 3333)$$

$$= 1 - [129.15: 3333]$$

$$= 1 - 0.03$$

$$= 0.97$$

Reliability is indicate by coefficient 0f 1.00 and perfect positive reliability is indicate by coefficient of 1.00. Based on these criteria, the reliability estimate for 50 items is 0.97. It means that the test of try out is reliable.

b. Validity

Validity is suitability between test with something want measure using that test. A test is valid if the subject will measure the subject itself not other than it.

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[10] M Soenardi Djiwandono, *Tes Bahasa dalam Pengajaran* (Bandung: Penerbit ITB, 1996),149.
[11] M Soenardi Djiwandono, *Tes Bahasa dalam Pengajaran* (Bandung: Penerbit ITB, 1996),152.

c. Level of difficulty (*p*)

According to Djiwandono the pattern is:[12]

P = (JJB: JPT) x 100%

P: index of difficulty   *JJB: the number of correct answer*

JPT: the number of students who take the test

From the formula above, there are some question's criteria of index difficulty as follows:

The question is easy if *(p)*   = 0, 81 – 1, 00

The question is fair if *(p)*   = 0, 20 – 0, 80

The question is difficult if *(p)*= 0, 00 – 0, 20

The complete result of level of difficulty can see on appendix 3.

For example take items no. 1

JJB: 9

JPT: 15

So, P = $\dfrac{9}{15}$ x 100%

P = 0, 60

After getting the P value, we could say that item number 1 is medium. It because the P value 0, 60 belongs the interval 0, 21 – 0, 80 whose criteria is fair level or medium. The whole competitive results of difficulty index for each item are number 8, 20, 42, 43, 46, 48, and 49 as difficult items and item number 1, 2, 3, 4, 5, 6, 9, 11, 12, 13, 14, 15, 16, 17,18, 19,21, 22, 23, 24, 25, 26, 27, 28,29, 30,31, 32,33, 34,35,

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[12] Ibid, 140.

36,37, 38,39, 40,41, 44,45,47, and 50 as medium items and 7and 10 as easy items.

d. Discrimination power (D)

The formula used to know the discrimination power is as follow[13]:

D = (T – R): N

D: the index of discrimination

T: the number of the students in the upper group who answer the

item correctly

R: The number of the students in the low group who answers the

item correctly

N: Number of the students in each group[14]

The criteria items index discrimination is:

0   = no discrimination

Less than 0, 20   = less

0, 02 – 0, 50   = enough

0, 50 or more   = good

So, Less than 0, 20 are not acceptable.

The complete result of index discrimination power can see on appendix 3.

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[13] Ibid 143
[14] Ibid, 143.

For example take items no. 1

$$T = 2$$

$$R = 2$$

$$\text{So, } D = \frac{2 - 2}{15}$$

$$D = 0, 00$$

After getting the D value, we could say that item number 1 is no discrimination. It because the P value 0, 00 belongs the interval 0. 0,80 whose criteria is fair level or medium. The whole competitive results of difficulty index for each item are number 2, 11 as difficult items and item number 1, 3, 4, 5, 7, 8, 9, 12, 14, 18, 19, 23 as medium items and 6, 10, 13, 15, 16, 17, 20,21,22, 24, 25 as easy items.

D. Treatment Procedure

The treatment betwen experimental group and control group is different in terms of teaching media usage. The experimental group was treated by using Socio Drama, while the control group was treated by the Conventional Method.

The procedure of Vocabulary use Socio Drama for 2 x 45 minutes. The treatment of the teacher did in sixth times. In treatment, the teacher did some procedures.

Table3.3: The Procedure of Vocabulary Using Socio Drama

NO	STAGE	ACTIVITY	STAGE AIM	TIME
1.	**Opening**	● Teacher **(T)** says greeting, Students **(S)** answer greeting	● To get students attention	5'

		● **T** takes class attention by saying "**Class**" and **S** answer " **Yes**"		
2	**Explanation**	● **T** explains what will they do (in this time **T** explain about Vocabulary and especially Holiday Topic)	● To get the students understood	10'
3	**Reading**	● **T** asks the students to read and memorize the script of the Socio Drama in several minutes and ask if they have questions with the difficult Vocabularies.	● To get the picture about the content of the script of Socio Drama and Understand the meaning from the difficult Word.	15'
4	**Treatment Process**	● **T** asks the **S** to make a group, each group consist 4 students and after that each group practicing drama based on the scripts (in this section they played a role 4 times)	● To increase the students Vocabulary especially in Holiday Material.	45'
6	**Evaluating**	● **T** evaluates what they do today and	● Evaluation ● Motivation	10'

		give opinion about **S** Vocabulary, **S** listen and ask if they have questions		
7	**Closing**	● Reviewing what have learned ● Salam	● Sure about students' understood	5'

Furthermore, to clarify the treatment in this research, see the table of administration below:

Table 3.4: The Procedure of Treatment

NO	STAGE	ACTIVITY	
		EXPERIMENTAL	**CONTROL**
1.	**Opening**	● Teacher **(T)** says greeting, Students **(S)** answer greeting ● **T** takes class attention by saying "**Class**" and **S** answer " **Yes**"	● Teacher **(T)** says greeting, Students (S) answer greeting ● **T** tell about lesson material for today
2	**Explanation**	● **T** explains what will they do (in this time **T** explains about increase Vocabulary using socio Drama and especially in Holiday material)	● **T** explains about Vocabulary and also explains about Holiday material.
3	**Reading**	● **T** asks the students to read and memorize the script of the Socio	● **T** asks **S** to read the Vocabulary Material on the students books

		Drama in several minutes and ask if they have questions with the difficult Vocabularies.	
4	**Treatment Process**	• **T** asks the **S** to make a group, each group consist 4 students and after that each group practicing drama based on the scripts (in this section they played a role 4 times)	• **T** asks the **S** with conventional method
5	**Evaluating**	● **T** evaluates what they do today and give opinion about **S** Vocabulary, **S** listen and ask when they have questions	● **T** evaluate what they do today and give opinion about **S** Vocabulary, **S** listen and ask when they have questions
6	**Closing**	● Reviewing what have learned ● Salam	● Reviewing what have learned ● Salam

The treatment was started on October 1ˢᵗ 2013 until the last treatment on November 5ᵗʰ 2013. The treatment is done once in a week. The experimental group was thought using Socio Drama and the control class was thougth by Conventional Method. The experimental groups teach by the researcher and the control groups teach by the English Teacher. The material both of the groups is same exactly about Holiday.

E. The Data Collection Method

Data collection is a complete process in getting and collecting data needed to make strong a scientific research, with data the researcher can answer and solve the research problem. The data of this study is obtained from the giving test.

The test giving does on Friday November 1st 2013. The test has 25 multiple choice questions, the entire question asking about Holiday. The researcher is using post- test to know student's progressing achievement. The tests have purposes to measure the students' ability and to know the students' progression after get the treatment on number of vocabulary.

F. The Data Analysis

Data analysis is a process in analyzing data. The data have been collected by the researcher will be processed. The researcher analyses the data is compare the mean of experimental group and control group to find the conclusion from the research problem and justify the hypothesis.

1. The researcher counts the mean of the test result of both two groups, The formula is:[15]

$$\text{Me} = \frac{\Sigma Xi}{n}$$

2. The researcher calculating individual score deviation square of mean of both two groups. The formula is: [16]

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[15] L.R Gay, *Educational Research: Competencies for Analysis & Application* (New York: Mc Millan Publising Company, 1992), 407.
[16] James dean Brown, *Understanding research in Second Language Learning*. (Cambridge: Cambridge University Press, 1991), 119.

$$SD = \sqrt{\frac{\Sigma(x - \overline{x})^2}{n - 1}}$$

3. The researcher using T- Test to know the influences of using socio drama to improve the students' English vocabulary because the data obtained from the score of the test.

$$\text{T- Test} = \frac{X_{1-}X_2}{\sqrt{\dfrac{SD_1}{N_1} + \dfrac{SD_2}{N_2}}}$$

X_1 = *the mean of group 1*

X_2 = *the mean of group 2*

SD_1 = *the standard deviation of group 1*

SD_2 = *the standard deviation of group 2*

N1 = *the number of subject in group 1*

N2 = *the number of subject in group 2*