

CHAPTER III

RESEARCH METHOD

A. Research Type

In this study, the writer used a quantitative approach because this approach is qualified to collect statistical data to answer the problems of this study. Then, the writer was measured the students' score by the test: pre-test and post-test.

B. Research Design

In this study, the writer used quasi-experimental design. Because there are situation in educational research in which it is not possible to conduct a true experimental. Neither full control over the scheduling of experimental condition nor the ability to randomize can always be realized. Therefore, the writer used this design because of permitting the researcher to reach reasonable conclusion even though full control is not possible.¹

The writer used non-randomized control group, pretest-posttest design. It is one of the most widely used quasi-experimental designs in educational research.² There were two group in this model, control group and experiment group. Both of groups will be given pretest to measure the score of student before the treatment, they

¹ Donald ary, Lucy Cheser Jacob, chris Sorensen, *Introduction to research in edition 8th edition*, Belmont: wads worth, 2010, p. 317.

² *Ibid*, p.316.

are symbolizes by Y1 and Y1. It means they were at same strategy in learning vocabulary. And then, the treatment will be given for experiment group only, it was symbolized X. it meant, the control group will not be given the treatment but another conventional strategy as usual and posttest given for both of groups to measure the difference score of students between control and experiment group after the treatment were symbolized by Y2 and Y2. Moreover, the design could be drawn in the following scheme below:

Table 3.1
The Scheme of Quasi Experimental Design
Nonrandomized Control Group, Pretest-Posttest Design

| Subject | Pre-test | Treatment | Post-test |
|----------------|-----------------|------------------|------------------|
| E | Y1 | X | Y2 |
| C | Y1 | - | Y2 |

Where:

E : experimental group

C : control group

X : treatment

Y1 : pre-test

Y2 : post-test

The writer used quasi experimental design in this study because the writer investigated the significant effect of using authentic material as media in experiment group. That the result of this study must not be accepted and the writer will not give more treatment if it will not give the effect for the student' scores in vocabulary.

C. Time and Place

The place of study was at Mts Darul Amin Palangka Raya. It is located at G. Obos IX in Yakut 1 Palangka Raya. In this study, the writer conducted research two months to collect the data. It will begin on July 27th until 28th september 2015.

D. Population And Sample

1. Population

The large group about which the generalization made is called a population. A population is defined all members of any well-defined class or people.³ In this research, the researcher took MTs Darul Amin students to the population of his study. The Population of the research was eighth grade students at MTs Darul Amin where there were three classes and the number of students were as follow:

³*Ibid*, p. 148

Table 3.2

Population

| NO | CLASSES | NUMBER OF STUDENT |
|-----------|----------------|--------------------------|
| 1 | VIII-A | 25 |
| 2 | VIII-B | 25 |
| 3 | VIII-C | 26 |
| 4 | VIII-D | 26 |
| | Total | 102 |

2. Sample

The small group in which the writer observed called samples.⁴ In addition, the writer used cluster sampling because the unit chosen is not an individual but a group of individuals who are naturally together or grouped by the school. The writer used cluster sampling for it. In this way, the writer took two groups, class VIII-B for experimental group and class VIII-C for control group, which were related to this study.

⁴ Ibid, p.148

Table 3.3

Number of Sample

| NO | Class | Class of Student | Number of Student |
|--------------|--------------|-------------------------|--------------------------|
| 1 | E | Class VIII B | 25 |
| 2 | C | Class VIII C | 26 |
| TOTAL | | | 51 |

E. Research Instruments Try Out

In order to prove the tests are suitable to the students who are the sample of this study, the writer was conducted a try out test. Then the writer chooses students in the same school but different class to try out the test. The try out test was conducted at MTs Darul Amin Palangka Raya (VIII-A). It was conducted on Monday, august 10th, 2015, at 10.10 – 11.30 am; in VIII-A room with the number of student were 25 students. These were the try out procedures as follows:

- 1) Preparing the instrument test, before started of test the write was prepared the instrument test for the students and then the writer given the grille above test.
- 2) Telling the students how they must do with the test of try out.

- 3) Giving the test items to the student, for the test the writer used multiple-choice that is consist of 50 items. Specifically, of test item were vocabulary content words (noun, verb and adjective).
- 4) Collecting to the student's work.
- 5) The writer gave score to the students' answer. For the score the writer gave point 1 for the answer true and then point 0 for the answer fault.
- 6) Analyzing the result of the test to know the instrument validity, instrument reliability, index difficulty, and test of data normality. For the analyzing of the result of the test can be seen at appendix.
- 7) If the result is valid, it means that the test items as the instrumentation of this study are suitable to be given. For the proof validity of test item, the writer used the formulation of product moment for the result of test, it was calculated the writer used test t_{observe} and distribution of t_{table} at alpha 5% and degree of freedom (n-2).

F. Research Instruments

1. Instrument Test

The data were very important in the study; it helped the writer to find the aims of study, they were to measure the effect of authentic material as media on English vocabulary of the eighth grade students of MTs Darul Amin Palangka Raya.

This part explained the test, as a research instruments, used to collect the data, it coverts test type, test validity and reliability.

To get the data, the writer used one technique in this study. Here, the writer used test. A test is a set of stimuli presented to an individual in order to elicit response based on which a numerical score can be assigned.⁵ It used multiple-choice in this study,⁶ the writer used multiple-choice that is consist of 50 items. From the test, the writer will know the result of students' test and this result gave description where is effective teaching used is authentic materials as media by using printed news papers.

Table 3.4
Specification of Test item

| Vocabulary | Part of Speech | Number of question |
|----------------------|----------------|-----------------------------------------------------------------------------|
| Content words | Noun | 6, 21, 22, 23, 28, 30, 31, 32, 33, 34, 36. |
| | Verb | 17,26,27,35,37,38,39,40,41,42, 43, 44. |
| | Adjective | 1,2,3,4,5,7,8,9,10,11,12,13,14,15, 16,18,19,20,24,25,29,45,46,47,48, 49,50. |
| Total of Test | | 50 items |

⁵ *Ibid*, p.201

⁶ John Road, *Assessing Vocabulary*, Cambridge, united kingdom: Cambridge university, 2000, P.8

2. Instrument validity

The validity of test is the extent to which it measures what it is supposed to measures and nothing else. The test must aim to provide a true measure of the particular skill, which it is intended to measure: to the extent that it measures external knowledge and other skills at the same time, it will not be a valid test.⁷

There are two types of validity :

a. Face validity

The test is said to have face validity if it look as if it measures what is supposed to measure.⁸ A test pretended to measure vocabulary mastery the parts of speech in the text of authentic material. Therefore, the appearance of the test in the study was using the question about part of speech noun, verb, and adjective appropriate with syllabus on the MTs Darul Amin Class VIII.

b. Content Validity

This kind of validity depends on a careful analysis of the language being tested and of the particular course objectives. The test should be so constructed as to

⁷ J. B. Heaton, *Writing English Language Tests*, London: Longman, 1975, p. 153

⁸ Donald Ary, Lucy Cheser Jacobs, Asghar Razavieh, *Introduction to Research in Education 3th edition*, Belmont: Wadsworth, 2010, p.214

contain a representative sample of the course, the relationship between the test items and the course objectives always being apparent.⁹

Specifically, in this study, the test must be made up of items testing knowledge or control of vocabulary. It provided the test constructor with the basis for making the principle selection of elements for inclusion in the test. The test items in this research was to measure the student vocabulary mastery and was made based on the English teaching learning curriculum that was applied in MTs Darul Amin Palangka Raya.

c. Construct Validity

If a test has construct validity, it is capable of measuring certain specific characteristic in accordance with a theory of language behavior and learning.¹⁰

To measure the validity of the instrument, the writer uses the formulation of product moment by Pearson follows.

The criteria of interpretation of the validity:¹¹

$$r_{xy} = \frac{N(\sum XY) - (\sum X)(\sum Y)}{\sqrt{\{N \cdot \sum X^2 - (\sum X)^2\}\{N \cdot \sum Y^2 - (\sum Y)^2\}}}$$

⁹ *Ibid*, p.154

¹⁰ *Ibid*, p.154

¹¹ *Ibid*, p. 75

Where:

r_{xy} : Numeral of index correlation 'r' product moment

N : Total of sample

$\sum XY$: amount of the product between X score and Y score

$\sum X$: amount of the x score

$\sum Y$: amount of the y score

Furthermore, it was calculated using test t calculation as follow:

$$t \text{ observe} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Where:

t : The value of t observed

r : The coefficient of correlation of the result of r observed

n : Number of students

The distribution of t table at alpha 5% and degree of freedom (n-2) with the measurement of validity using these criteria:

$t \text{ observed} > t \text{ table} = \text{valid}$

$t_{\text{observed}} < t_{\text{table}} = \text{invalid}$

0,800 - 1,000 = very high validity

0,600 - 0,799 = high validity

0,400 – 0,599 = fair validity

0,200 – 0,399 = poor validity

0,000 – 0,199 = very poor validity

From the measurement of validity of the try out that was consisted 50 items was known that there were 41 valid items (item1, 2, 3, 4, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 25, 26, 27, 28, 29, 31, 32, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 50), and there were 9 invalid items (item 5, 6, 11, 20, 24, 30, 33, 42, and 49). For the detail explanation, (see detail in appendix 2.2). Therefore, the writer only took 40 item to be the instrument of pre-test and pos-test (see test item in appendix 1.5).

3. Index of Difficulty

The index of difficulty (or the facility value) of an item simply shows how easy or difficulty the particular item proved in the test. The index of difficulty (F.V) is generally expressed as the fraction (or percentage) of the student who answered the item correctly. It is calculated using formula:

$$F.V = \frac{R}{N}$$

R is represent the number or correct answer and N is the number of student

take the test.¹²

The result of the test was interpreted to the criteria below:¹³

0,000 – 0,030 = Difficult

0,031 – 0,070 = Fair

0,071 – 1,000 = Easy

In order to decide the facility value of the items, it was found that 74% items were fair, 24% items were difficult and than 2% items were easy (see detail in appendix 2.4).

G. Instrument Reliability

Reliability also means the consistency with which a test measures the same thing all the time. Reliability of a test refers to its consistency with which it yields the same rank for an individual taking the test several times.¹⁴ The reliability of the whole test can be estimated by using the formula: ¹⁵

$$r_{11} = \left(\frac{k}{k-1} \right) \left(\frac{s^2 - \sum pq}{s^2} \right)$$

¹² J.B. Heaton, *Writing English Language Test*, Longman, 1975, p.172

¹³ Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendektan Praktek*, Jakarta: Rineka Cipta, 1999, p. 210.

¹⁴ Norman E. Gronlund, *Measurement And Evaluation In Teaching (Fifth Edition)*, New York: Macmilan Publishing Company, 1985, p. 14.

¹⁵ Riduwan, *Metode dan Teknik Menyusun Tesis*, Bandung: Alfaberta, 2010. p. 119.

Where:

K : Number of items

S : Standard Deviation

$\sum pq$: Result of square between p and q

Way the writer say her test was reliable, because the result of the reliability was interpreted on the result of degree of freedom (df), it was found that $r_{11} = 0.876 > r_{\text{table}} = 0.388$, ($0.876 > 0.388$). It meant the instrument of try out was reliable. For the detail explanation, see at appendix 2.3.

H. Index Normality and Homogeneity

a. Normality

It is used to know the normality of the data that is going to be analyzed whether both groups have normal distribution or not.

Chi square is used here:¹⁶

$$\chi^2 = \sum \left[\frac{(f_o - f_h)^2}{f_h} \right]$$

Notice:

χ^2 = Chi square

f_o = frequency from observation

f_h = expected frequency

Calculation result of χ^2 is compared with x table by 5% degree of significance. If χ^2 is lower than x table so the distribution list is normal. Therefore,

¹⁶Sudjana, *Metode Statistika*, Bandung: Tarsito, 1996, p. 273

the writer used SPSS 16 program to measure the normality of the data. (See detail in appendix 2.5).

b. Homogeneity

It was used to know whether experimental group and control group, that are decided, come from population that has relatively same variant or not. The formula is:¹⁷

$$F = \frac{\text{Bigger Variant}}{\text{Smaller Variant}}$$

Where:

F: Frequency

The hypotheses in homogeneity:

$F_{\text{value}} \leq F_{\text{table}}$, means both of variants are homogeneity.

$F_{\text{value}} > F_{\text{table}}$, both of variants are homogeneity.

If calculation result of F was lower than F table by 5% degree of significance so H_0 was accepted, it meant both groups have same variant. The writer used SPSS 16 program to measure the homogeneity of the data. (See detail in appendix 2.5).

I. Data Collecting procedure

The aim of the study was to measure the effect of authentic material as media on English vocabulary by the students of experiment group. To collect the data, the writer divided the subject into two group, the two groups were experimental group

¹⁷*Ibid*, p. 280

and control group. Both of groups were given pre-test, then taught the experiment group by using authentic material as media, and for the control group by using task book , and gave post-test to the experiment and control group.

To get the data, the writer uses some ways in this study. Those ways are:

1. The writer divided into two groups (experiment group and control group).
2. The writer gave try-out to the class VIII-A. The try-out was conducted on Monday, August 10, 2015. Before try out the writer was prepared the instrument test, then the writer telling the students how they must do with the test of try out, then the writer gave the test used multiple choice for the test item, and then the writer collected the student's work.
3. The writer gave pre-test to the experiment group (Y1) and control group (Y1). The pre-test was conducted on Saturday, August 15, 2015 at 07.50-09.10am, in the class VIII B for Experiment group and Control group was conducted on Tuesday, August 18, 2015 at 10.10-11.50am in the class VIII C.
4. The writer was teaching the experiment group using authentic material and the control group using non authentic material (using textbook). (for the steps treatment see the table 3.5)
5. The writer gave post-test to experimental group and control group. It conducted on Saturday, August 29, 2015, at 07.50-09.10am, in the class

VIII B for the experimental group and control group it conducted on Thursday, September 3, 2015, at 10.10-11.50am in the class VIII C.

6. The writer given score to the data from the experiment group and the control group. For the score the writer was given point 1 for the answer question true, and then 0 for the answer false.
7. The writer analyzed the data using manual calculation and also SPSS 16 program. For the analyzed the data using manual calculation the writer used t-test statistic calculation. The first step, the writer calculated the standard deviation and standard error of post-test class experiment (X_1) and post-test class control(X_2). The next step, the writer calculated the standard error of the differences mean between X_1 and X_2 . And the last step the writer accounted degree of freedom (df). The writer chose the significance level on 5%, it means the significant level of refusal of null hypothesis typed stated on non-directional (two-tailed test).
8. The writer discussed and concluded the data.

Table.3.5

Teaching procedure for Experimental and control Group

| Teaching procedure for experimental group | Teaching procedure for control group |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| A. The first meeting 1. Pre-activities a. The teacher greet the students b. The teacher open the lesson | A. The first meeting 1. Pre-activities a. The teacher greet the students b. The teacher open the lesson |

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| <ul style="list-style-type: none"> c. The teacher prepare the condition of class d. The teacher introduction her self e. The teacher checks the student present list. <p>2. Core activities</p> <ul style="list-style-type: none"> a. Ask the student about brainstorm what they know about the newspaper b. The teacher introduces the materials will discuss c. The teacher explains the material about “description of animal” in newspapers d. Before reading newspaper the teacher explain key of vocabulary on the newspapers e. The teacher asks the students to predict the story and vocabulary on the newspaper f. The teacher explains some words in newspapers g. The teacher asks the student to find some words in the newspaper h. The teacher allow student to use | <ul style="list-style-type: none"> c. The teacher prepare the condition of class d. The teacher introduction her self e. The teacher checks the student present list. <p>2. Core activities</p> <ul style="list-style-type: none"> a. The teacher gives textbook (Descriptive Text) to the students. b. The teacher introduces the materials will discuss c. The teacher explains the material about “description of bird” in textbook. d. The teacher asks the students to predict the story and vocabulary in the textbook e. The teacher explains some words in textbook f. The teacher asks the student to find some words in the textbook g. The teacher allow student to use a dictionary during the activity h. The teacher asks to student summarize in the textbook. |
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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>a dictionary during the activity</p> <p>i. The teacher asks to student summarize in the newspapers.</p> <p>3. Post-activities</p> <p>a. The teacher gives the conclusion of the material</p> <p>b. The teacher gives advice to the student.</p> <p>c. The teacher closes the lesson.</p> | <p>3. Post-activities</p> <p>a. The teacher gives the conclusion of the material</p> <p>b. The teacher gives advice to the student.</p> <p>c. The teacher closes the lesson.</p> |
| <p>B. The second meeting</p> <p>1. Pre-activities</p> <p>a. The teacher greet the students</p> <p>b. The teacher open the lesson</p> <p>c. The teacher prepare the condition of class</p> <p>d. The teacher introduction her self</p> <p>e. The teacher checks the student present list.</p> <p>2. Core activities</p> <p>a. The teacher asks the student about the material last week</p> <p>b. The teacher introduces the materials will discuss</p> <p>c. The teacher introduces the materials will discuss</p> | <p>B. The second meeting</p> <p>1. Pre-activities</p> <p>a. The teacher greet the students</p> <p>b. The teacher open the lesson</p> <p>c. The teacher prepare the condition of class</p> <p>d. The teacher introduction her self</p> <p>e. The teacher checks the student present list.</p> <p>2. Core activities</p> <p>a. The teacher asks the student about the material last week</p> <p>b. The teacher introduces the materials will discuss</p> <p>c. The teacher introduces the materials will discuss</p> <p>d. The teacher explains the</p> |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>d. The teacher explains the material about “description text of people” in newspapers</p> <p>e. Before reading newspaper the teacher explain key of vocabulary in the newspapers.</p> <p>f. The teacher makes a group of two students, and they have to work by search to word of noun, adjective, and verb on the newspapers. After that the student can to explain the word.</p> <p>3. Post-activities</p> <p>a. The teacher gives the conclusion of the material</p> <p>b. The teacher gives advice to the student.</p> <p>c. The teacher closes the lesson.</p> | <p>material about “description text of mother” in textbook.</p> <p>e. The teacher makes a group of two students, and they have to work by search to word of noun, adjective, and verb in the handout. After that the student can to explain the word.</p> <p>3. Post-activities</p> <p>a. The teacher gives the conclusion of the material</p> <p>b. The teacher gives advice to the student.</p> <p>c. The teacher closes the lesson.</p> |
| <p>C. The third meeting</p> <p>1. Pre-activities</p> <p>a. The teacher greet the students</p> <p>b. The teacher open the lesson</p> <p>c. The teacher prepare the condition of class</p> <p>d. The teacher introduction her self</p> | <p>C. The third meeting</p> <p>1. Pre-activities</p> <p>a. The teacher greet the students</p> <p>b. The teacher open the lesson</p> <p>c. The teacher prepare the condition of class</p> <p>d. The teacher introduction her self</p> |

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| <p>e. The teacher checks the student present list.</p> <p>2. Core activities</p> <p>a. The teacher introduces the materials will discuss</p> <p>b. The teacher explains the material about “description text of place in Singapore”</p> <p>c. The teacher orders student to read the text. And then the teacher order student to analyze some word (noun, verb and adjective) in the news paper</p> <p>d. The teacher makes a group of two students, and they have to work by search to word of noun, adjective, and verb on the newspapers.</p> <p>e. Then they have to translate some word into Indonesian language.</p> <p>f. After that the students must to explain the word and read the word in front of the class.</p> <p>3. Post-activities</p> <p>a. The teacher gives the</p> | <p>e. The teacher checks the student present list.</p> <p>2. Core activities</p> <p>a. The teacher introduces the materials will discuss</p> <p>b. The teacher explains the material about “descriptive text about of place”</p> <p>c. The teacher orders student to read the text. And then the teacher order student to analyze some word (noun, verb and adjective) in the textbook.</p> <p>d. The teacher makes a group of two students, and they have to work by search to word of noun, adjective, and verb in the textbook.</p> <p>e. Then they have to translate some word into Indonesian language.</p> <p>f. After that the students must to explain the word and read the word in front of the class.</p> <p>3. Post-activities</p> <p>a. The teacher gives the</p> |
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| | |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <p>conclusion of the material</p> <p>b. The teacher gives advice to the student.</p> <p>c. The teacher closes the lesson.</p> | <p>conclusion of the material</p> <p>b. The teacher gives advice to the student.</p> <p>c. The teacher closes the lesson.</p> |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|

J. Data Analysis

To answer the problem of the study about English vocabulary by using authentic material in eighth grade students at MTs Darul Amin Palangka raya, the writer followed some procedures to analyze the obtained data as follows:

1. The writer gave test to the students of the eighth grade students at Mts Darul Amin Palangka Raya.
2. The writer collected the data of the students' test result.
3. The writer gave score the students' test result by using the formula:

$$\text{Score} = \frac{B}{N} \times 100.^{18}$$

Where:

B : Frequency of the correct answer

N : Number of test items

¹⁸Anas Sudijono, *Pengantar Evaluasi Pendidikan*, Jakarta: Raja Grafindo

4. The writer tabulated the data into the distribution of frequency of score table, then looking for the mean, median, modus, standard deviation, and standard error of experiment group and control group.

Formula of mean, median and modus:¹⁹

- a. Mean

$$Mx = \frac{\sum fx}{N}$$

Where:

Mx : Mean

Fx : Total result product between each score with frequency

N : Number of case

- b. Median

$$Mdn = u - \frac{1/2 N - fka}{fi} \times i$$

Where:

Mdn : Median

N : Number of case

Fkb : Cumulative frequency located in under interval contain median

¹⁹ Hartono, *Statistik Untuk Penelitian*, Yogyakarta: Pustaka Belajar, 2011, p. 33.

F_i : Authentic frequency (frequency of score contain median)

i : Interval class

c. Modus

$$Mo = u - \frac{fb}{fa + fb} \times i$$

Where:

Mo : Modus

F_a : frequency located in above interval contain modus

F_b : frequency located in under interval contain modus

i : Interval class

Formula of standard deviation and standard error:²⁰

d. Standard Deviation

$$SD = \sqrt{\frac{\sum fx^2}{N}}$$

Where:

SD : Standard Deviation

i : Interval

²⁰*Ibid*, p. 60

N : Number of students

e. Standard Error

$$Sem = \frac{sd}{\sqrt{n-1}}$$

Where:

Sem : Standard Error

Sd : Standard Deviation

N : Number of students

5. The writer was used statistical t-test to answer the problem of the study.

To analyze the data, the writer was used “t” test, a statistical test that using for examining the true or the false of hypothesis that declared between two mean sample taken in random from the same population, it doesn’t get the different significant.²¹

“t” Test formula shown to the following formula:

$$t_{\text{test}} = \frac{M_1 - M_2}{SE_{m_1 - m_2}}$$

$M_1 - M_2$: the difference of two means

$SE_{m_1 - m_2}$: the standard error of the difference between two means

To know the hypothesis is accepted or rejected using the character:

a) If t-test (the value) $\geq t_{\text{test}}$ it means H_a is accepted and H_o is rejected.

b) If t-test (the value) $< t_{\text{test}}$ it means H_a is rejected and H_o is accepted.

²¹ *Ibid*, p. 285

6. Interpreting the result of t-test. Previously, the writer counted the degrees of freedom (df) with formula:²²

$$df = (N_1 + N_2 - 2)$$

Note:

df : Degrees of Freedom

N_1 : Number of Subject Group 1

N_2 : Number of Subject Group 2

2 : Number of Variable

After that, the value of t_{test} was consulted on the t_{table} at the level of significance 1% and 5%. In this research, the writer used the level of significance at 5%. If the result of t-test is higher than t_{table} , it means H_a is accepted.

7. The writer made the conclusion of data analysis obtained.
8. In addition, the writer used SPSS 16 program to compare the data.
9. Discussing and concluding the result of data analysis.

²² Anas Sudijono, Pengantar Statistic Pendidikan, Jakarta: Raja Grafindo Persada, 1987, p. 285.