

### **CHAPTER III RESEARCH METHODOLOGY**

In this chapter, describe about research method that used in conducting the research. It is purposed to answer the problem of the study. This chapter consist of research type, research design, variable of the study, population and sample, research instrument, data collection, data analysis procedure.

#### **A. Research Type**

The writer used quantitative research. It is to measure the students' vocabulary mastery by test (pre-test and post test). Quantitative is a research that relies less on focus groups, subjective reports and case studies but is much more focused on the collection data analysis of numerical data and statistics. The data collects with contains of numbers and it will be analyzed by statistic method. The field study is done in the form of experiment by applying two different techniques for two different groups of students. In this study was teaches the students directly.

#### **B. Research Design**

The design of this study is experimental design because the writer wants to find out the effectiveness of using Talking stick method toward students' vocabulary mastery. According to Arikunto, Experimental study is a study which aimed to know there is or not the effect of variable studied.<sup>1</sup> An experiment involves the comparison of the effects of a particular treatment with that of a

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<sup>1</sup>Suharsimi Arikunto, *manajemen penelitian*, Jakarta : PT. Rineka Cipta, 2002, p.272

different treatment or without treatment. Quasi experimental design are similar to randomized experimental design in they involve manipulation of an independent variable, but different in that subjects are not randomly assigned to treatments group.<sup>2</sup> The writer uses the Quasi-Experimental design in this study. Because this study will compare with two ways and the writer wants to measure the effectiveness of teaching vocabulary using that ways. The characteristics of Quasi-Experimental Design are: 1). Having more than one variable, 2). Having control group, 3). independent variable is manipulated, 4). And the other variables are controlled.<sup>3</sup>

Although true experiments are preferred, quasi-experimental designs are considered worth while because they permits researcher to reach reasonable coclusion even thought full control is not possible. The writer uses nonrandommized control group; pretest-posttest design is one of the most widely used quasi-experimental design in educational research.<sup>4</sup>

In a typical group situation, schedules cannot be distruped nor classes reorganized to accommodate a research study. In such a case, one uses groups already organized into classes or other preexisting intact groups.

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<sup>2</sup>Donald Ary, Lucy Cheser Jacob, and Christine K, Sorensen, *Introduction to Research in Education*, USA: Wadsworth Cengage Learning, 2010, p.316.

<sup>3</sup>Sukardi, *Metode Penelitian Pendidikan, Kompetensi dan PraktiK*, Jakarta: Bumi Aksara, 2007,p.186.

<sup>4</sup>Alison Mackey and Susan M. Gass, *Second Language Research Methodology and Design*, London, 2005, P. 146.

The nonrandomized control group, pretest-posttest design is one of the most widely used quasi-experimental designs in educational research. Moreover, the design could be drawn in the following scheme below :

Table 3.1  
**Scheme of quasi experimental design**  
**Nonrandomized control group, pretest-posttest design**

Subject	Pre-test	Independent Variable	Post-test
E	Y1	X	Y2
C	Y1	-	Y2

Where :

E : Experimental Group

C : Control group

X : Independent variable

Y1 : Pre-test

Y2 : Post-test

### C. Variable Of the study

There are two variables in this study, as follow:

1. Independent variable: *Talking stick* method in teaching Vocabulary size (X)
2. Dependent Variable: the students' vocabulary size(Y)

## D. Population and sample

### 1. Population

Population is defined as all members of any well defined class of people, events or subjects, Or subjects. If someone wants to research all of the elements in research area the research is called population research on survey study.<sup>5</sup>

In this study, the writer takes the students from MAN Model Palangka Raya. The population is eight students of MAN Model Palangka Raya.

Table 3.2  
**The number of population  
 MAN MODEL Palangka Raya**

No.	Grades	The number of the students
1.	XI-A1	38
2.	XI-A2	38
3.	XI-MIPA 3	38
4.	XI-IS1	34
5.	XI-IS2	31
6	XI-B	21
7	XI-AG	31
Total		231

### 2. Sample

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<sup>5</sup>Suharsimi Arikunto, *procedure penelitian: suatu pendekatan praktek*. Jakarta: PT. Rineka Cipta, 2000, P. 108

Sample is a subset of individuals or case from within a population.<sup>6</sup> Students in the 11<sup>th</sup> graders of MAN Model Palangka raya as a sample to get the data for this study. In this study took two classes to be sample, the first class was experiment group and the second class was control group. In this way, the writer took two classes, class XI-IPA 3 as an experimental and class XI-IS2 as a control class which related to this study. Where XI-IS1 as try out class. In a typical situation, schedules cannot be disrupted nor classes reorganized to accommodate a research study. In this case, group sample already organized into classes or group. So, the writer took two class without randomized.

Table 3.3

**Number of sample**

<b>NO</b>	<b>Group</b>	<b>Class of student</b>	<b>Number of students</b>
1.	E	XI-IPA 3	38
2.	C	XI-IS 2	31
<b>Total</b>			<b>69</b>

E : Experiment Group

C : Control

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<sup>6</sup>David Nunan, *Research Methods in Language Learning*, Caambridge : Cambridge University Press, 1992, p. 232

## **E. Research instrument**

### **1. Research instrument**

To get the data, the writer used technique in this study. Here, the writer used a technique, namely: test.

#### **a. Test**

Instrumentation of this study taken from the test that given to the student before and after treatment as long as six times. Nation recommends two kinds of vocabulary test. Those are 14.000 word-family and 20.000 word-family vocabulary test.<sup>7</sup>The writer collected the data of this study by test and the result of the test is used to measure the students' vocabulary scores. The test is multiple choice test form and there are 50 items. The allocated times to do each vocabulary test are 90 minutes. The writer collects the data of this study by using a test and the result of the test will use to measure the students' vocabulary scores about anagram. The test is vocabulary test. According to Heaton, a test of vocabulary measures the students' knowledge of the meaning of certain words and word group.<sup>8</sup> In this study the writer used multiple choice test for measuring the students' vocabulary. The writer gave pre-test and post-test to the both experimental and control group. Pre test is a test given before the writer gives treatment. The function of pre test is to know how are the students' vocabulary scores before they taught by

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<sup>7</sup> Paul Nation, "Vocabulary size information and specification", *journal*, 2012, p.1

<sup>8</sup> J.B. Heaton, *Writing English Language Test*, England: Longman, 1975. P. 5.

using Talking Stick Method. Post test is a test given after a lesson or a period of instruction. The function of post test is to know how are the students' vocabulary scores after they taught by using Talking Stick Method.

## **F. Instruments Try Out**

The writer tries out the test instrument was defined important before the test apply to the sample of the research. The writer adds the information about the instrument quality that consist of instrument validity and instrument reliability.

### **1. Research Instruments Reliability**

Reliability is necessary characteristic of any good test: for it to be valid at all, a test must be reliable as measuring instrument.<sup>9</sup> According to Susan Stainback, *reliability is often defined as the consistency and stability of the data or finding. From a positive perspective, reliability typical is consider to be synonymous with the consistency of the data produced by observation made by different researchers, by same researcher by the same researcher at different times, or by splitting a data set in two parts.*<sup>10</sup>

### **2. Research Instruments Validity**

The validity of a test is the extent to which measure, what is supposed to measure and nothing else.<sup>11</sup> According to Gronlund "content validity is the process of determining the extent to which a set of test tasks provides relevant

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<sup>9</sup>J.B. Heaton, *Languauge Test*, p.155

<sup>10</sup>Sugiyono, *memahami Penelitian Kuantitatif*, p.118

<sup>11</sup>Anas Sujono, *Pengantarevaluasi Pendidikan*, Jakarta: Raja Grafindo Persada, 2005, p. 185.

and representative sample of the domain of tasks under consideration.”<sup>12</sup>Instrumentation validity discuss about construct and content validities of the test which use in this research.

### 3. Face validity

This type of validity, in fact is often referred to as face validity: if a test item looks right to other testers, teachers, moderators, and tastes. The test used by the writer is suitable to others and the same level that is Junior High School level. So that is why, the writer makes the type of test items also suitable in the eleventh grade students at the MAN Model Palangka Raya. The face validity of the test item as follows:

The kind of the test is vocabulary test which is about part of speech especially about noun, verb, and adjective.

- a. The forms of the test items answer the multiple choices.
- b. The language of items uses English.
- c. The test items are suitable to the senior high school.

### 4. Construct validity

Construct validity is type of validity which assumes the existence of certain learning theories or construct underlying the acquisition of abilities and skills. The test is focus to increase the vocabulary size that focus on noun, verb

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<sup>12</sup>Norman E. Gronlund, *Measurement and Evaluations in Teaching*, New York: Macmillan Publishing Company, t.th, p. 83.



and adjective base on the syllabus. In this case, the test is a written test in order to measure the students' vocabulary size.

Table 3.4

**The indicator of vocabulary test**

The measured aspects	Indicators	Number of question	Total
Mastery of word form	<ul style="list-style-type: none"> <li>The ability to decide the synonym</li> </ul>	22, 25	2
	<ul style="list-style-type: none"> <li>The ability to decide the antonym</li> </ul>	1, 2, 3, 4	4
Mastery of words meaning	<ul style="list-style-type: none"> <li>The ability to give meaning of a word</li> </ul>	5, 6, 7, 8, 9	5
Vocabulary knowledge	<ul style="list-style-type: none"> <li>The ability to decide the the noun.</li> </ul>	10, 16, 18, 34, 39, 45, 48, 49, 50	9
	<ul style="list-style-type: none"> <li>The ability to decide the</li> </ul>	14, 20, 31,32, 40, 43, 47	7

	adjective.		
	• The ability to decidethe verb.	11, 12, 13, 15, 17, 19, 21, 23, 24, 26, 27, 28, 30, 33, 35, 36, 37, 38, 41, 42, 46	21
Total number of questions			50

### 5. Content validity

The test item in this research is to measure the students' English vocabulary score and base on the English teaching learning curriculum apply in MAN Model Palangka Raya. In making the test, the writer try to match each of item test with the curriculum that was used by MAN Model Palangka Raya.<sup>13</sup>

#### **B. Data collection Procedure.**

In this study, The writer used some procedures to collect the data. The procedures consist some steps as follows:

1. The writer gave pre-test to the experiment group (Y1) and control group (Y1)

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<sup>13</sup>J.B. Heaton, *Writing Language English Test*, London: Logman 1974, p.153-154

2. On the contrary, the writer taught vocabulary to the experiment group by using talking stick method and taught vocabulary to the control group by using non talking stick method.
3. The writer gave post-test to the experimental group and control group.
4. The writer gives score to the data from the experimental group and control group.
5. The writer analyzed the obtained data from mean of post-test score the experimental group and control group..
6. The writers interpreted the data statistical result.
7. The writer concludes the activity of the study whether the use Talking Stick method gives the important effect or not to the students' vocabulary size.

Table 3.8

**Teaching procedure**

<b>Group</b>	<b>Pre-Test</b>	<b>Treatment</b>	<b>Post-test</b>
Experiment (E)	√	Using Talking stick method	√
Control (C)	√	Using non Talking stick method	√

Table 3.9

**Procedure in collect the Data**

<b>No</b>	<b>Source data</b>	<b>Instrument</b>	<b>Data needed</b>
1.	Students	Try out	Student score
2.	Students expereiment	Pre-test	Early Student score
3.	Students expereiment	Treatment 1	Student score
4.	Students expereiment	Treatment 2	Student score
5.	Students expereiment	Treatment 3	Student score
6.	Students expereiment	Post-test	final Student score

### C. Data analysis procedures

The writer analyzed the data with a few of way, they are:

1. The writer collected the result of test.
2. The writer gave score for the students that suitable with the criteria.
3. The writer arranged into for the table.<sup>14</sup>
4. The writer determined the mean score with the formula:

$$Mx = m' + i \left[ \frac{\sum f x'}{N} \right]$$

Where:

Mx = Mean

f = Frequency of score

i = Interval

N = number of test.<sup>15</sup>

5. to analys the data the writer used T-test, This statistical calculation is choosen because the study compares the mean of the hypothesis, the writer used t-test the formula as follows:

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<sup>14</sup>Suniati, "Teaching Vocabulary Trough Total Physical Respon (TPR) Method To The First Grade Of Mtsn-1 Model Palangka Raya Academic Year 2005/2006", *Thesis*, Palangka Raya: UNPAR, 2006. P.31

<sup>15</sup>Hartono, *Statistik untuk Penelitian*, penerbit: Pustaka Belajar, p.38.

$$T_0 = \frac{Mx_1 - Mx_2}{Semx_1 - Semx_2}$$

Where :

$T_0$  = The value of the mean difference will be judge

$Mx_1$  = The mean of the first group

$Mx_2$  = The mean of the second group

$Semx_1 - Semx_2$  = Standard error of the first and the second mean.<sup>16</sup>

Then, the t value compared with T title.

If  $t\text{-test} \geq t\text{ table}$ ,  $H_a$  is accepted and  $H_o$  is rejected

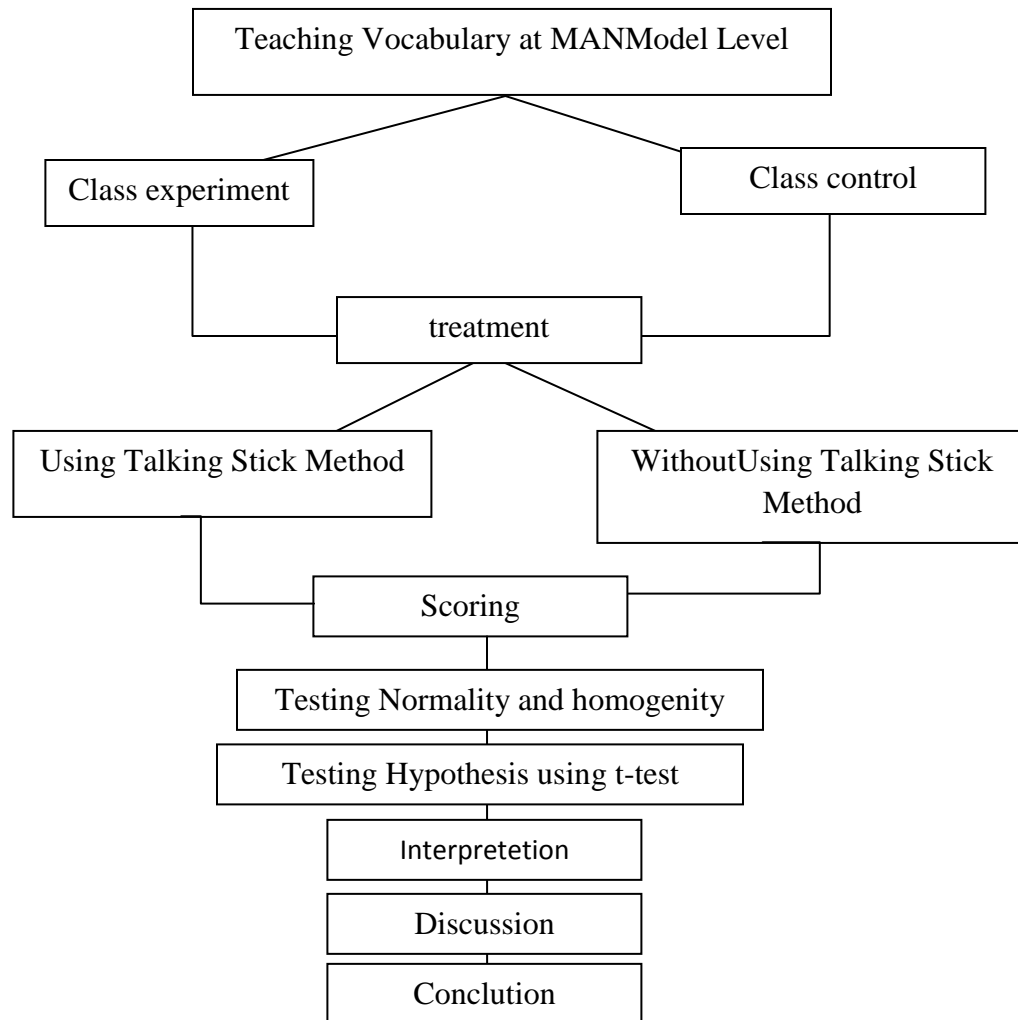
If  $t\text{-test} \leq t\text{ table}$ ,  $H_a$  is accepted and  $H_o$  is accepted<sup>17</sup>

After that, the interpretation made to answer the research problem. To sum up, the procedures of collecting data and analysis data, as describe in figure.

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<sup>16</sup> Nana Sujana, *Metode Statistik*, Bandung: Tarsito, 1996, p. 239.

<sup>17</sup> Hartono, *Statistik untuk Penelitian*, penerbit: Pustaka Belajar, p.148.



**Figure 3.1**

The procedures of collecting and analysing data