CHAPTER III

RESEARCH METHOD

A. Research Design

Research is an activity to observe something which is done by the researcher. Creswell (2012:3) states "Research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue". Research may be done because the researcher's curiosity, the researcher wants to find new discovery that is useful of everybody in the world.

Experimental research is one of research based on the way the research is done. Arikunto(2013:2) explain there are three ways the research is done, that are description research, operation research, and experiment. Experiment is the way to know the cause effect relationship which is increased intentionally by the researcher and know the effect because of a treatment.

According to Sugiyono (2007:107) experimental research is defined as a method of research which is used to looking for certain influence toward the other on the controlled condition. While Aryet. al., (2010:26) states "experimental 42 research involves a study of the effect of the systematic manipulation of one variable(s) on another variable. The researcher has a purpose to investigate whether there is an effect on vocabulary mastery after giving the treatment in the controlled condition.

Arifin (2012:76) states "experiment design is the plan consists of the steps and action that will be done in the activity of experimental research". The researcher used pre-experimental research design by using one group pre-test post-test with quantitative approach, because this study was intended to know the effectiveness of usingTalking stick toward students" vocabulary mastery at MI Abun Naja Wonodadi by comparing between the students" scores before they are taught by using Talking Stick and after they are taught by using Talking Stick

The researcher uses one group (pre- test and post test) design in which the design is illustrated by Arikunto (2013: 124) underneath:

Table 3.1 The illustration of One Group Design

O_1	X	O_2

In this design, observation was conducted twice that is after and before the treatment. Observation that is conducted before treatment (O_1) is pre-test, and observation that is conducted after the treatment (O_2) is post- test. And (X) is the treatment or action that is given by the researcher. The difference between O_1 and O_2 is assumed the effect from the treatment.

The researchergive pre-test to know the basic students" vocabulary mastery before taught by using Talking stick. Then, the researcher applied the treatment (X) to the students. The researcher give post-test to know the students" vocabulary mastery after taught by using Talking stick. After that, the researcher compared between the result of pre-test and post-test to know whether the Talking stick was effective in increasing the students" vocabulary mastery.

B. Population, Sample and Sampling

Population is the whole subject which has certain quality and characteristics. Aryet. al., (2010:148) states "A population is defined as all members of any well-defined class of people, events, or objects". While Arikunto (2013:173) states "Population is the whole subject of research". The population of this study was the fifth grade students of MI Abun Naja. There was one class of fifth grade consist of 15 students. The researcher was challenged to offer a new technique for students to easy them in learning English better, especially in vocabulary.

Sample is the part of population which has certain quality and characteristics. According to Aryet. al., (2010:148) a sample is a portion of a population. While Arifin (2012:215) explain sample is the part of population that will be researched or sample is miniature population. Sample is a part that is assumed to represent a population.

After the researcher identified the population, the next step was selecting the sample. Arikunto (2013:176) explain that technique to take the

sample is 44 called sampling technique. There were some techniques that can be chosen to determine the sample. The researcher used non-probability sampling. Aryet. al., (2010:155) explain in non-probability sampling, there is no assurance that every element in the population has a chance of being included. It means that this technique of sampling does not give opportunity for all members in population to be chosen. The researcher used purposive sampling as the one method in nonprobability sampling. The purposive sampling is technique to take sample with the motive. Sugiyono (2007:124) states "Purposive sampling is technique to determine sample considerately". From the purposive sampling, the sample of this research was the students on fifth grade consist of 15 students. The reason why the researcher used the students on fifth grade because the researcher wanted applied Talking stick in Elementary School and the technique that researcher used was Talking stick was appropriate with the characteristics of the students on fifth grade. They could start Talking stick because their age (between 11 − 12 years old) was support to play the Talking stick. The other reason was the condition of the class was passive when teaching learning English than the other class. The Talking stick made the students active, enjoy, and fun in teaching learning. The ability of the students was possible to develop by using Talking stick in teaching vocabulary. So, the researcher chose the fifth grade students at MI Abun Naja as sample of this research that consist of 15 students.

C. Variable

A variable is a characteristic or attribute of an individual or an organization that (a) researchers can measure or observe and (b) varies among individuals or organizations studied. Measurement means that the researcher records information from individuals by asking them to answer questions. And when variables vary, it means that scores will assume different values depending on the type of variable being measured (Creswell, 2012:112). In this research, there are two variables, they are:

1. Independent Variable

An independent variable is an attribute or characteristic that influences or affects an outcome or dependent variable (Creswell, 2012:116). Independent variable is the cause of other variable. Based on the definition above, the independent variable of this research was the use Talking stick.

2.Dependent Variable

A dependent variable is an attribute or characteristic that is dependent on or influenced by the independent variable (Creswell, 2012:115). This is the effect of independent variable. This variable was not manipulated by the researcher, but it was affected by the independent variable. The dependent variable of this research was the students' vocabulary mastery.

D. Data and Data Source

1. Data

Data are any type of information collected for use in educational research (Lodico, 2006:66). While Arifin (2012:191) explain data is group of

fact about a phenomenon in the form of number or category. The data were very significant in the research because the research cannot get information without the data. The data of quantitative was in the form of number. In this research, the form of the data was number they are the students" score from pre-test and post-test.

2. **Data source**

Data source in the research is the subject in which the data are gotten (Arikunto, 2013:172). There are three kinds of data source: (a) person, data source in the form of person, (b) place, data source in the form of place, and (c) paper, data source in the form of symbol. In this research, the data source was person that was the students on fifth grade at MI Abun Naja because the data was gotten from the students.

E. Research Instrument

Instrument is the tool that is used to get the data. Arikunto (2013:192) states "Instrument is a tool when conduct a research uses certain method". Method is the way to collect the data, and instrument is the tool that is used to collect the data. The method was administering test and the instrument used was test. According to Arifin (2012:226) test is technique of measuring that contains some questions, statements, and some tasks that should be done or answered by the 47 respondent. In can be conclude that test is a process of measuring students" knowledge and ability, so the writer should make a good test.

In this research, there are two kinds of test:

1. Pre-test

   A pretest provides a measure on some attribute or characteristics that assess for participant in an experiment before receive a treatment (Creswell, 2008:301). Pre-test in this research was the test consists of some questions in the form of multiple-choice (20 questions) and matching (10 questions), total of the questions were 30 questions and the topic about shape which was the first material in elementary school. This pre-test was given to the students before the researcher gave treatment to the students.

2. Post-test

   A posttest is a measure on some attribute or characteristic that is assessed for participants in an experiment after a treatment (Creswell, 2008:301). Post-test in this research was the test consists of some questions in the form of multiple-choice (20 questions) and matching (10 questions), total of the questions were 30 questions and the topic about transportation which was the second material in elementary school. This post-test was given to the students after the researcher gave a treatment to the students.

F. Validity and Reliability Testing

In this research, the data were collected by administering a test. Brown (2000:384) states "A test is a method of measuring persons" ability or knowledge in a given domain". The data were correct or not was depend

on the instrument of collecting method that was test. A good instrument should fulfill two important requirements they were validity and reliability.

1. Validity

Validity of instrument is the test measure what will be measured. Brown (2000:387) states "Validity is the degree to which the test actually measures what it is intended to measure". An instrument is called valid if the instrument is able to measure what will be measured. According to Brown (2000:388) there are three types of validation: content validity, face validity, and construct validity.

In this research, the researcher used content validity and construct validity.

a. Content validity

Content validity is the correspondence between curriculum objectives and the objectives being assessed (O" Malley and Pierce, 1996:25). The type of the instrument was test. The content validity of the test can be done by comparing the content of test and the material that will be learned. The researcher made a test based on standard competence and basic competence in syllabus, the researcher made test specification before making a test, especially vocabulary testing. After knowing the standard competence, the researcher made indicator of the test based on the standard competence in syllabus. 49 The content validity in this research can be seen in the table below:

(1) Vocabulary test specification on pre-test, *Standard competence:*

Understanding word in English and descriptive text in the form of picture that is simple in the school context.

Basic Competence: reading aloud with expression,emphasis and intonation appropriate and acceptable involving: words,phrases,simple sentences,and simple text.

Table 3.2 Test Specification on Pre-test

Indicator	Description of question	Kind of test	Number of test	Total of test
1.The students know the name of transportation	a. Determine the transportation based on picture.	Multiple choice	5,6,7,10	4
	b. Determine the meaning of word about transportation.	Matching	1,3,5	3
2.Thestudents use the name of transportation inthe sentence.	a. Determine the name of transportation based on sentence.	Multiple choice	1,3,4	3
	b. Fill the simple sentence by using the name of transportation based on picture.	Matching	2,4	2
3.The students answer the question "How".	a. Determine the name of transportation that is used based on the question and the picture.	Multiple choice	2,8,9	3
	Total			15

(2) Vocabulary test specification on post-test

Standard competence:

Understanding word in English and descriptive text in the form of picture that is simple in the school context.

Basic Competence: understanding sentences,written message,and descriptive text on picture accurately and acceptable

Table 3.3 Test Specification on Post-test

Indicator	Description of question	Kind of test	Number of test	Total of test
1.The students know the name of transportation	a. Determine the transportation based on picture.	Multiple choice	5,6,7,10	4
	b. Determine the meaning of word about transportation.	Matching	1,3,5	3
2.Thestudents use the name of transportation inthe sentence.	a. Determine the name of transportation based on sentence.	Multiple choice	1,3,4	3
	b. Fill the simple sentence by using the name of transportation based on picture.	Matching	2,4	2
3.The students answer the question "How".	a. Determine the name of transportation that is used based on the question and the picture.	Multiple choice	2,8,9	3

	Total			15

b. Construct validity

Construct validity is the test measure hypothetical construct (Sukardi, 2012: 123). In this research, the researcher administered vocabulary test in two kinds of test format, there were multiple choice and matching item. Lado (1961:188) states "The multiple choice type of item has probably achieved its most spectacular success in vocabulary test. In multiple-choice, the students should answer the questions from the selection answer. The matching item, the students should match the vocabulary list in right side in the form of English word with its meaning in the left side.

2. Reliability

Reliability is consistency. The research instrument has high reliability if it can produce consistent result. Brown (2000:386) states "A reliable test is consistent and dependable". In this research, the researcher used Kuder Richardson 20 Formula to measure the reliability of the test. The researcher used KR-20 Formula because the test administered only once, if the test item was correct is given one point and if the test item was incorrect is given zero point. It was appropriate to measure the reliability of the test in the form of multiple-choice test. The researcher used KR-20 Formula by calculating the data by using Microsoft Excel.

According to Vansickle (2015:4) the classification of reliability test:

Table 3.4 Classification of Reliability Test

Reliability Test Coefficient	Classification
Less than 0.20	Poor
0.20 to 0.40	Fair
0.40 to 0.60	Moderate
0.60 to 0.80	Good
0.80 to 1.00	Very good

G. Data Collecting Method

Data collecting method is the method that is used by the researcher to collect data. Data of this study is collected by adminestrering tset. Arikunto(2013:266) explain that instrument which is in the form of test can be used to measure basic ability and achievement. In this research, the data was collected by adminestering test that is pre-test and post –test.

The pre-test and post-test is about vocabulary. Both pre-test and post-test consist of some question related to the vocabulary, the total of the question is 15 questions in the form of multiple choice (10 question) and matching(5 questions). The topic in the pre-test and post test about transportation.

The researcher does the research to collect the data by adminestering a pre-test. Give treatment, and adminestering post-test to the students. Before the test adminestering to the student , the researcher does

try out the test in other students which is on fifth grade also to know the validity and reliability of the test. The schedule of research as follows:

Table 3.5 the schedule of Research

No	Date	Activity
1.	June 13 ,2017	Administering pre-test
2.	June 14 , 2017	Giving treatment
		Giving treatment
3.	June 15, 2017	Administering Post –test

The first step in research was adminestering pre-test, the researcher gave pre-test to the students on june 13 2017. The material in pre test has been taught by the teacher before the researcher gave the pre-test, so the researcher can gave pre-test to the students.

The second step was giving treatment. The researcher gave first treatment in two meetings. The first meeting was conducted on 14 june 2017. In the researcher was conduct the treatment was using talking stick technique to teach vocabulary. The steps in talking stick technique is the teacher gave a paper, the researcher asked the students to memorize vocabulary using talking stick. The researcher gave a rule on talking stick technique. The students write the vocabulary consist of ten vocab,the teacher mention a vocabulary one by one appropriate with the topic, if the students have vocabulary appropriate with vocabulary wich is mention by the researcher, the student to identification the vocabulary a during more ten minutes. The students asked close the books and paper, then researcher

start from gave a stick to the students and the students who get stick have to answer the question. The stick passed until all the students get the oppurtunity to answer question. In order to choose whoever should get the talking stick, the other students may help if their members gets difficulty to answer question,teacher make conclusion and suggestion of the materials.

The second meeting of the treatment, the researcher asked the students to memorize the vocabulary which is the student learn before teacher mention of vocabulary difficulty and then the student wrote the vocabulary on paper. The researcher gave a rule on talking tick technique, the rule was same on first treatment. The researcher read simple vocabulary appropriate with the topic, if the students have vocabulary appropriate with the vocabulary which is read by the researcher, The stick passed until all the students get the oppurtunity to answer question. In order to choose whoever should get the talking stick, The students asked close the books and paper, then researcher start from gave a stick to the students and the students who get stick have to answer the question.

The last step was adminestering post-test on june 15 2017. The researcher gave a post-test after the students gave twice treatment from the researcher.

H. Data Analysis

Ary *et. al.,(2010:95) explain that* data analysis indicate how the researcher will analyze the data to the test the hypothesis and answer the research question. While Khotari (2004:18) explain after the data have been collected, the researcher turns to the task of analyzing the data.

In this research, the researcher used statistical analysis because the result of the data is numerical form. The researcher used T-test to analyze the data to know whether there is significant different score of the students before the students taught using talking stick and after the students are taught using talking stick technique in increasing the students' vocabulary mastery to the fifth grade students in MI Abun Naja Wonodadi. The researcher used paired sample T-test since the data were normal. The SPSS 22.00 was used to analyze the data.

I. Hypothesis Testing

The hypothesis of this research was as follows:

a. If T-count was bigger than T-table, the null hypothesis (H_O) was rejected. It means that there was significant difference in the vocabulary scores of the students before they are taught using talking stick technique and after they are taught using talking stick technique.

b. If T-count was smaller than T-table, the null hypothesis (H_O) is accepted. It means that there was no significant difference in the vocabulary scores of the students before they are taught using talking stick technique and after they are taught using talking stick.