CHAPTER III

RESEARCH METHODOLOGY

This chapter is divided into seven sections. They are research design, setting of the research, subject of the research, instrument of collecting data, tryout of the instrument, method of data collection, and method of data analysis.

3.1 Research Design

This research used quasi experimental design which used nonequivalent control group design. This design is almost same with pretest-posttest control group design but in this design the experimental group nor control group is not chosen randomly. Then both of them are compared (Sugiyono, 2015:116). It can be described as follows:

Figure 2. Research Design

O_1	X	O_2
O_3		O_4

(Sugiyono, 2015:116)

Based on the design, O_1 and O_2 are the experimental class and O_3 and O_4 are the control class. O_1 and O_3 are the result of pre-test from each class then X is the treatment of scrabble game to the experimental class. Meanwhile O_2 and O_4 are the result of post-test from each class.

3.2 Setting of the Research

This research was conducted in MTs Mamba'ul Ulum Mambak Pakis Aji Jepara. It was done on even semester in the academic year of 2019/2020. The research were implemented on January and February 2020. This is the detail of the research schedule:

Table 1. Setting of the Research

Date	Place	Activity
January 16th 2020	Headmaster's office	Asked permission to doing research
January 23th 2020	Class 8B	Did validity test
January 30th 2020	Class 8D Class 8C	Did the treatment (meeting 1)
February 6th 2020	Class 8D Class 8C	Did the treatment (meeting 2)
February 13th 2020	Class 8D Class 8C	Did the posttest
February 16th 2020	Headmaster's office	Said thank you for the help

3.3 Subject of the Research

3.3.1 Population

Population is generalization area consisting objects or subjects that have certain qualities and characteristics determined by

researchers to be studied and then to be take a conclusion (Sugiyono, 2015:117). Population of this research is all the students of eighth grade in MTs Mamba'ul Ulum in the academic year of 2019/2020. The total of the students are 109. For the total of students in detail, can be seen as follow:

Table 2. Detail of Population

Class	Total
8A	26
8B	27
8C	26
8D	26

3.3.2 Sample

Sample is the most important thing in the process of quantitative research because it affect how high the level of validity of research result (Mubarok, 2015:41). Sample was taken from population. Researcher only took 2 classes out of 4. The researcher chose purposive sampling as the technique. 26 students in VIIID were be the experimental group and 26 students in VIIIC were be the control group. There were three considerations why researcher chose VIIIC and VIIID, those are:

1) Most of students of VIIIC and VIIID has interested in learning English

2) The student's achievement in English was better than VIIIA and VIIIB

3) VIIIC and VIIID was favorite class in MTs Mamba'ul Ulum

3.4 Instrument of Collecting Data

In this research, researcher used a test as instrument of collecting data. According to Djemari (2011) in (Putro Widoyoko Eko, 2016:117) test is one of the way to assess how great of the ability of someone by how the response of someone to stimulation or question.

The type of the test was multiple choice tests. According to (Putro Widoyoko Eko, 2016:126). Multiple choice tests is a test which in each question has three option answer or more (maximum 5). There are five kinds of multiple choice test, those are simple multiple choice, analysis of connection between thing, case analysis, association multiple choice, and multiple choice with diagram; graph; and table. Researcher used a simple multiple choice as the instrument. Certainly, the test will be in the form of paper then the test was given in the pre-test and post-test.

3.5 Try Out of the Instrument

3.5.1 Validity

Validity is related to accuracy with measuring instrument. Test as one of the learning outcomes can be said to be valid if the test can be measure learning outcomes that will be measured. With a valid test will produce valid data of learning outcomes (Widoyoko, 2014). For example if the test is supposed to measure the increasing vocabulary, so the test has to be in the form of vocabulary test. The validity can be known by this following equation:

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

Note:

X = item score

Y = total score

r_{xy}　　　= correlation coefficient between variable X and variable Y

(Widoyoko, 2016:239)

3.5.2 Reliability

Beside valid, test should be reliable. It means the test is consistent if tested many times (Widoyoko, 2014). The equation of reliability can be known as follow:

$$r_{11} = \left(\frac{k}{k-1}\right)\left(1 - \frac{\Sigma\sigma_b^2}{\sigma_t^2}\right)$$

Note :

r_{11} = reliability of instrument

k = quantity of the questions

$\Sigma\sigma_b^2$ = total of variant item

σ_t^2 = variant total

(Widoyoko, 2016:263-264)

3.6 Method of Data Collection

3.6.1 Pre-Test

Pre-test is the start of this research before doing the treatment. This was to know the students' vocabulary capability. Pre-test is in the form of test. In conducting the pre-test, the students asked to answer some multiple choice questions about vocabulary.

3.6.2 Treatments

Treatment means the researchers implemented the scrabble game to experimental group and conducted conventional teaching technique to control group. The treatment was done in the two meeting for both experimental group and control group. For more specific procedure of the treatment, described as follows:

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Table 3. Detail of Treatment

Treatment	Experimental Group (Scrabble Game)	Control Group (Memorization Method)
1	**Observing** ▪ The researcher introduced what vocabulary was and explained the kind of vocabulary ▪ Students asked to mention vocabulary they have been knew ▪ Students asked to memorize new vocabularies and the researcher will checked the vocabularies ▪ Researcher checked students' memorizing	**Observing** ▪ The researcher introduced what vocabulary was and explain the kind of vocabulary ▪ Students asked to mention vocabulary they have been know ▪ Students asked to memorize new vocabularies and the researcher will checked the vocabularies
2	**Asking**	**Exploring**

	▪ Students asked about example expression of command, request and asking permission ▪ Students asked to looking for other example ▪ Researcher introduced students to Scrabble Game by explained the way in playing it ▪ Students are divided into three groups, each group consisted of 8 until 9 students ▪ Researcher asked them to memorize the way of playing Scrabble Game	▪ Researcher reviewed the last explanation given ▪ Researcher checked students' understanding ▪ Researcher gave time to students to memorize some vocabularies ▪ Researcher asked them to express the vocabularies in front of the class

		▪ Students will playing it in the next meeting	
3		**Exploring** ▪ Researcher provided 3 board or big paper that illustrated like a board chess ▪ All the member in the group made a line by facing their own board ▪ Researcher wrote down a word in the square ▪ Each group should wrote a new word but used the letter available from first researcher's writing ▪ Each member in the group should continue to write ▪ Group who have written the most word and true will be the winner ▪ each member from each group have to	

| | | come forward to read all the words from her/his group they have been written on the board

▪ Researcher checked while student reading it

▪ Researcher took score of the true vocabulary | |

3.6.3 Post-Test

Post-test was given after the treatment done in the form of multiple choice tests. It was given to found out students vocabulary improvement after getting the treatment. So, post-test was to know whether there was diversification or not between students who get application of scrabble game technique and conventional teaching.

3.7 Method of Data Analysis

In measuring scrabble game technique was effective or not in improving students' vocabulary mastery, the writer used t-test by using

SPSS application. T-test is statistic technique that is used to test significant different between 2 means that is sourced by 2 distributors.