

CHAPTER III

METHOD OF INVESTIGATION

This chapter presents method of investigation which consists of setting of the research, subject of the research, research design, try-out of the instrument, method of data collection, method of data analysis and research framework.

3.1 Research Design

In this research, the researcher want to found the effectiveness of Kim's memory game to improve students' vocabulary. The researcher used quantitative research in this study. Quantitative research emphasizes the analysis of numerical data (numbers) are processed with statistical methods (Mubarok, 2015:13). According to Best (2006:79), quantitative research consists of research in which the data can be analyzed in terms of numbers. It means that the researcher using number in order to analyze the data.

The researcher used an experimental research in the form true experimental design. According to Mubarok (2015:78), experimental research is a research method used to find a specific treatment effect against the other in uncontrolled conditios. Then, true experimental research is types of experiment is considered good because it fulfill the rules (Arikunto, 2013:125). According to Best (2006:177), true experimental design employs randomization to provide for control of the equivalence of groups and exposure to treatment. It means that, true experimental design is one one design that accurate type of

experimental research because can control all the variables and this experimental refutes a hypothesis using statistical analysis.

In this research, the researcher chose True Experimental Design (Pretest-posttest control group design). In this design, there were two groups of randomly selected; experimental group and control group. Then, each group gave a pretest and posttest to know the significance between the experimental group and control group before and after gave a treatment. A treatment using Kim's memory game and without gave a treatment using Kim's memory game in teaching vocabulary.

The design of this research is as follows:

E	R O ₁	X	O ₂
C	R O ₃		O ₄

(Mubarok, 2015:90)

Where:

E : Experimental Group

C : Control group

O₁ : Pre-test for experimental group

O₂ : Post-test for experimental group

O₃ : Pre-test for control group

O₄ : Post-test for control group

X : Treatment with the use of Kim's memory game

Based on the design above, the experimental group (E) is taught by using Kim's memory game, while the control group (C) is taught without using Kim's memory game. The experimental group and control group get two observation they were before experiment or pre-test (O₁ & O₃) and after doing the experiment or post-test (O₂ & O₄). The experimental group which get treatment (X) that is by using Kim's memory game after doing pretest, while control group gave pretest and posttest only. So, the researcher knew the significance achievement between groups who were taught by using Kim's memory game and group who were taught without using Kim's memory game technique in teaching vocabulary. In this research, the experimental and control group were the seventh grade students of MTs. Darul Ulum Purwogondo Jepara.

3.2 Setting of the Research

The research will be conducted in junior high school namely is MTs Darul Ulum Purwogondo Kalinyamatan Jepara. MTs Darul Ulum Purwogondo Kalinyamatan Jepara is an Islamic Junior High School. It is located on Jl. Kromodiwiryo Purwogondo Kalinyamatan Jepara. The institution is built on January 10, 1974. The status of the school is accredited "A" in 2012. There were had three levels in each level consists of nine classes and each class consists of thirty until thirty two students. The name of each class in this school is used of alphabet there were A B C D until I classes.

3.3 Subject of the Research

1. Population

According to Mubarok (2015:31), population is a unit of the object or subject that has certain qualities and characteristics which are studied by the researchers then be deduced. Arikunto defines of population is all the subject of the research (2013:173). While, based on to Best (2006:13), a population is any group of individuals that has one or more characteristics in common and that are of interest to the research. The population of this research is the seventh grade students of MTs. Darul Ulum Purwokondo. There were nine classes of the seventh grade students of MTs. Darul Ulum Purwokondo in the academic year of 2019/2020. They were VII A class until VII I class, each class consists of thirty until thirty two students.

2. Sample and Sampling Technique

In this research, after the researcher knew the population, the researcher chose the sample. Mubarok (2015:32), states sample is part of the quality and characteristics of the population. Samples taken must be truly representative because the conclusions drawn from these samples will be generalized to the population. Meanwhile, according to Arikunto (2013:174), sample is part of population that has the same characteristics with the population itself. In determining the size of the sample, Arikunto (2006:134) explains that:

“if the population is 100 respondents or less, it is better to take the whole population as sample. If the population is more than 100

respondents, the researcher can take 10-15 % or more than 25 % of the population based on the capability of the research.”

Best (2006:13) defines a sample is a small proportion of the population that is selected for observation and analysis. In this research, the researcher used probability sampling for take the sample. The researcher used simple random sampling to determine the experimental and control group. First, the researcher made some lotteries to determine the experimental and control group. Then, she mixed the lotteries randomly. Finally, the researcher take the class VII B and VII C as the sample. The students of VII B as the experimental group and the VII C as the control group.

3.4 Try-out of the Instrument

Instrument had important function in this research, it is one of tool to collect a data needed in a research. The instrument used in this research is a test (pre-test and post-test). Test is a method of measuring a person's ability knowledge, or performance in a given domain (Mubarok, 2015:59). The try-out instrument is applied to knew the quality of the test that given to students before giving a test. The result of the test to found the validity and reability.

a. Validity

Validity is measurement that shows the validity of instrument. Best (2006:289) defines validity is that quality of a data gathering instrument or procedure that enables it to measure what it is supposed to measure. A valid measure if it succesfully measure the phenomenon (Siregar,

2014:75). According to Arikunto (2013:211), validity is a measurement that indicates the levels of validity of an instrument. An instrument is valid when it have high validity, while an instrument is invalid when it have low validity.

The instrument will be calculated by using the formula as follows:

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

In which:

r_{xy} = the item of test reliability

N = the number of respondent

X = total score or each item

Y = individual total score

X^2 = total for the square for each item

Y^2 = total for the square of individual total score

$(X)^2$ = the square of the total score for each item

$(Y)^2$ = the square of the individual total score

b. Reliability

Reliability is the degree of consistency that the instrument or procedure demonstrates: whatever it is measuring, it does so consistently (Best, 2006:289). According to Arikunto (2013:221), reliability is a component in making an instrument that can be trusted as a tool for collecting the data. Beside that, the researcher used K-R.20 formula to found the reliability instrument. The formula as follows:

$$r_{11} = \frac{k}{(k-1)} \left\{ \frac{s_t^2 - \sum p.q}{s_t^2} \right\}$$

In which:

r_{11} = reliability of instrument

K = the total item of questions

s_t^2 = standard deviation of the instrument

p = the true answers of the subject

q = the false answer of the subject ($q = 1-p$)

$\sum p.q$ = the result of multiplication p and q

3.5 Method of Data Collection

The important thing in conducting a research is collecting data. Data collection is a method or tools which are used by researchers to get valid data (Mubarok, 2015:41). Related to the research which used by the researcher in this study, in collecting data, the students got three types of activity there were pre-test, treatment and post-test.

a. Pre-test

Pre-test is a test to evaluate the students before giving the treatment by the researcher in the classroom. Pre-test is to found the basic competence and students' ability. In this test, the students got the same test in the experimental and control group in order to know the ability of students' vocabulary when they learn English by conventional method. The score of pre-test could analyzed to determine between pre-test and post-test.

b. Treatment

After conducting pre-test, the researcher gave a treatment of experimental and control group. The students gave a treatment to know the effectiveness and to examine of method that will give by the researcher. In this study, the experimental group gave a treatment by used Kim's memory game method in order to establish that Kim's memory game is effective for teaching vocabulary at the seventh grade students of MTs Darul Ulum Purwokondo. Meanwhile, the control group is taught by used conventional method. In practically, the researcher explain about the topic in the first meeting. The second meeting, the researcher gave the treatment by using Kim's memory game and gave some words about topic, than drilling of words to know the meaning of each words. The last meeting, the researcher gave the treatment by gave some exercises for the students.

c. Post-test

After having pre-test and treatment, the last meeting was conducting post-test. In post-test, the test items were exactly same with pre-test. Post-test used to measure the students' achievement in vocabulary skill after they got a treatment. This test also to know the significant difference between the students' ability in vocabulary skill before and after the treatment. Whether, the significance differences between the experimental and control group with taught by using Kim's memory game and taught by using conventional method.

3.6 Method of Data Analysis

In this method the researcher analyze the data from pre-test and post-test. In order to analyze the data, the researcher used some steps as follows:

1. Tabulating data

In this step, the researcher tabulate the data by making table from the result of tests. Tabulating is the process of arranging all the collected data by putting in a table. Tabulating also the systematic presentation of data in rows and columns. Tabulating an important device for presenting data because easily understandable. The result of the tests consist of the scores of pre-test and post-test, the rates mean of pre-test and post-test, the standard of deviation of pre-test and post-test, than the significance of pre-test and post-test.

2. Analyze the data

The aim of data analysis is to know the effectiveness of using Kim's memory game in teaching vocabulary at the seventh grade students of MTs. Darul Ulum Purwogondo in the academic year of 2019/2020. In this research, the researcher used statistical computation by using SPSS (Statistical Program for Social Science) to analyze the data.

3.7 Research Framework

The Effectiveness of Kim's Memory Game in Teaching Vocabulary (An Experimental Research at the Seventh Grade Students of MTs. Darul Ulum Purwogondo in the Academic Year of 2019/2020).

