

CHAPTER III

RESEARCH METHOD

This chapter discussed about the type of research, population and sample, research variables, instrument of collecting the data, method of collecting the data, and method of analysing the data.

3.1 Type of Research

This study was an Experimental research. Experimental research is a research method used to find a specific treatment effect against the other in uncontrolled conditions (Mubarak, 2015: 88). It means that experimental research is a research that uses two different groups, there are experimental group and control group.

In this research, the researcher used true experimental research which belongs to Pretest-posttest control group design. The main characteristic of true experimental design is sample used either for the experimental group or the control group was taken randomly from population (Mubarak, 2015: 100). This is called true experimental design because the researcher can control all of the variables that affect to the experimentation.

In this research, researcher used pretest-posttest control group design. In this design, there were two groups that would be selected randomly, then both of the groups would be given a pretest to determine is

there any difference between the experimental group and the control group.

This is the diagram of pretest – posttest control group design:

Table 3.1. Design of true experimental research

R	O ₁	X	O ₂
R	O ₃		O ₄

Where :

R = Randomized, that is, subjects are randomly selected

O₁ = Observation or testing (pretest of experimental group)

X = Treatment

O₂ = Observation or testing (posttest of experimental group)

O₃ = Observation or testing (pretest of control group)

O₄ = Observation or testing (posttest of control group)

(Mubarok, 2015: 101).

3.2 Population and Sample

Population is a unit of the object or subject that has certain qualities and characteristics which are studied by the researchers then be deduced (Mubarok, 2015: 48). It is the larger group to which one hopes to apply the results. While sample is some part of the total and characteristic that is has of the population (Sugiyono, 2015: 297).

In this research, the population was all of the tenth grade MIPA students of SMA N 1 Tahunan Jepara. The researcher used probability

sampling which focused on simple random sampling. Probability sampling is a sampling technique that gives an opportunity or an equal opportunity for every element (members of) the population to be elected as members of the sample (Mubarok, 2015: 42). While simple random sampling is the technique that the researcher take samples in a simple regardless of the strata and areas that exist in the population which is studied (Mubarok, 2015: 43).

Simple random sampling is a sampling technique where every students in the population has an even chance and likelihood of being selected in the sample. There were many steps for selecting the sample. In this research, for the first, the researcher made a list of all the population. After that from the list of population, the researcher chose the sample by using a lottery technique. In this technique, each population had a number sistematically. Then the researcher wrote the number in a piece of paper. Then the researcher mixed the papers and took out the papers randomly.

By this simple random sampling, the researcher chose X MIPA 5 and X MIPA 6 as the sample of the research. X MIPA 5 as the experimental group, and X MIPA 6 as the control group.

3.3 Research Variables

Everything that is used by the researcher to do the research that can change something else or can be changed by something else or it can differ something are called variables (Darmawan, 2015: 43). In this research, the

researcher used two kinds of variables; there were independent and dependent variables.

a. Independent variable

Independent variable represented the output or effect, or was tested to see if it is the effect. In this research, the independent variables were the use of teaching techniques there were Think Talk Write (TTW) combined with Mind Mapping.

b. Dependent variable

Dependent variable represented the input or causes, or were tested to see if they are the causes. The dependent variable of this research was students' writing skill.

3.4 Instrument of Collecting the Data

Instrument is needed to collect data required in a research. There are some methods for the researchers to collect data such as, test, interview, observation, documentation. In this research, the researcher uses test as the instrument for collecting data.

Test is one of the tools for measuring, it is a tool to collect information on the characteristics of an object. One of the object of the test is the ability of students (Widoyoko, 2016: 65). A test in simple terms, is a method of measuring a person's ability knowledge, or performance in a given domain (Mubarok, 2015: 68).

There are many kinds of test, in this research, the researcher used *paper based test* (PBT) which is belongs to pretest and posttest. Pretest is

given in the beginning of the meeting before the researcher gives the treatment or control in the classess, and posttest is a test that given after the classess given the treatment or control. The researcher used the essay type of test which had one question.

3.5 Method of Collecting the Data

Data is something that is important in conducting a research (Mubarok, 2015: 49). Data collection is a method or tools which are used by researchers to get valid data. In gathering information from the data collected, in this research, the researcher used test. The researcher conducted a test to know students' improvement or achievement and measure their cognitive and ability in writing recount text of biography. The researcher conducted two tests, there were pretest and posttest. It conducted in experimental group and control group.

a. Pretest

Pretest is a test that given to the students before the researcher does the treatment. In this research, pretest have given to both of experimental group and control group. It had aim to know the students ability in writing recount text before the researcher does the treatment.

b. Treatment

Treatment is the time for the researcher to do the research. In this research, the researcher divided the students in to two groups. Experimental group and control group. The experimental group treated by using Think Talk Write (TTW) combine mind mapping

method. The control group treated by conventional method, that was discussing material in group and had a presentation. The treatment have done in 3 meetings for both experimental and control group. This was the table of the treatment:

Table 3.2. Treatment procedures of experimental group and control group

Treatment	Experimental Group	Control Group
1	1) Students did the pretest 2) Students made mind mapping of recount text biography in group.	1) Students did the pretest 2) Teacher explained about recount text of biography
2	1) Teacher applied TTW method 2) Students made mind mapping and recount text in group	1) Teacher applied discussion method 2) Students made a recount text in group
3	1) Students presented their result in front of the class	1) Students presented their result in front of the class

	2) Students did the posttest	2) Students did the posttest
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c. Posttest

Posttest is a test that given to the students after the researcher does the treatment. Posttest is given to know the improvement of experimental and control group.

In this research, the researcher conducted the research based on the following schedule :

Table 3.3.
The schedule of implementing the research

No.	Date	Time	Activity
1.	March 18 th 2019	09.00 – 09.30	ask permission to the teacher and the head master of SMA N 1 Tahunan Jepara
2.	March 20 th 2019	10.15 – 11.45	First meeting in control group
3.	March 21 st 2019	14.00 – 15.30	First meeting in experimental group
4.	March 25 th 2019	11.00 – 13.45	Second meeting of experimental group
5.	March 26 th 2019	07.00 – 09.15	Second meeting of control group
6.	March 27 th 2019	10.15 – 11.45	Third meeting of control group
7.	March 28 th 2019	14.00 – 15.30	Third meeting of experimental group

3.6 Method of Analysing the Data

For analysing the data, the researcher analysed the result of the test after collecting the data by using written test. The result of the test would be processed by comparing the data before and after treatment. After the researcher got the result of pretest and posttest, the researcher used t-test to analyse the data. The pattern is:

$$t_0 = \frac{\bar{x}_1 - \bar{x}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Where :

t = t-value

\bar{x}_1 = mean of variable 1 (experimental)

\bar{x}_2 = mean of variable 2 (control)

s = standard deviation

n_1 = total of variable 1 (experimental)

n_2 = total of variable 2 (control)

(Sa'idah, 2017: 172)

The researcher also used SPSS Statistic 18.0 program in analysing the data, and the t-test formula would be applied. The result from SPSS would be interpreted to answer the research question.

The result of the t-test calculation would be the determiner of how significant of the combination of Think Talk Write (TTW) and Mind mapping method that would be apply in tenth grade students of senior high school in SMA N 1 Tahunan Jepara.

Based on the data analysis, the scores of both experimental and control group would be different after giving different treatment. The result of t-test calculation would show that t-observed value would be higher than t-table value. Then it can conclude that the hypothesis would be accepted. It indicated that by applying the combination of Think Talk Write (TTW) and Mind mapping method will improve students' writing skill in recount text of biography.

