

CHAPTER III

RESEARCH METHODOLOGY

In this chapter, there are seven part that discussed by the research. They are research design, variable of research, subject of the research, instrument of the research, trying out the instrument, the method of data collection, and the method of data analysis.

1.1 Research Design

Research method can be understood all those methods/techniques that are used for conducting research. Research methodology is a way to systematically solve the research problem. In this study, the writer used the experimental research. In this experiment, the writer intended to investigate the use of Team Game Tournament (TGT) as a method to improve the students' reading comprehension. Experimental research is a research method that used to find a specific treatment against the other in uncontrolled conditions (Mubarok, 2015:88).

There are four kinds of experimental design such as pre-experimental, true-experimental, factorial design and quasi-experimental (Sugiyono, 2016:108-116). In this study, the writer used true-experimental design that is using the pretest-posttest control design. In this study, there were two classes, those were experimental group which was chosen randomly and control group

which was also chosen randomly. The true experimental design itself is the real experimental which the researcher can manage the outside variable that influence the way of experimental, thus the internal validity (quality of doing research planning) can be higher (Sugiyono, 2016:112)

Sugiyono(2016:112-113), the design of the true experimental research can be presented below:

Table3.1.Design of true experimental research

R	O ₁	X	O ₂
R	O ₃		O ₄

Where:

R : Randomly

X : Treatment

O₁ : Pre-test (experimental class)

O₂ : Post-test (experimental class)

O₃ : Pre-test (control class)

O₄ : Post-test (control class)

1.2 Variable of the Research

Variable is a quality which can take a number of different values or states. There are two kinds of variables, they are independent variable and dependent variable. Independent variable is a variable that was easily obtained and can be diversified into free variable, while dependent variable is one effect of independent variable (Sugiyono, 2016:61).

In this research, there were two variables. They were independent variable and dependent variable. Independent variable in this research was team game tournament (TGT) method, while dependent variable was students' reading comprehension.

1.3 Subject of the Research

a. Population

Arikunto (2006:130) states that population is a set (or collection) of all elements processing one or more attributes of interest. In other word, Mubarok(2015:38) states that population is a unit of object or subject that has certain qualities and characteristics which are studied by the researchers then be deduced.

In this research the target of population was the eighth grades students of Junior High School. The population in this research was the students at eighth grade of SMP N 2 Jepara in academic year of 2018/2019.

The classes were from A to J. The total of the population were 320 students.

Table 3.2

Table of the populations.

Class	Total of Students
A	32
B	32
C	32
D	32
E	32
F	32
G	32
H	32
I	32
J	32
Total	320

b. Sample

After determining the population, the writer selected the sample which was important in conducting the research. A good sample was representative of the population. Urdan(2010:1) states that a sample is a subset drawn from the larger population. In this study, the writer used a simple random sampling which the sample was selected randomly. The samples came from the population. They were 64 students coming from two classes consisting of 32 students of VIII F as the experimental group and 32 students of VIII E as the control group.

Simple random sampling is a sampling technique that done by randomly without pay attention to the strata on the population (Sugiyono, 2016:120). There are some steps that the researcher done in choosing the sampling, the steps as follows:

1. The researcher observed the eighth grades. The purpose was to know the characteristic of the students each class.
2. After observing, the researcher made a lottery. It was made from a piece of paper. Each paper contained the name of classes. There were A class to J class.
3. Then, the lottery was put into the bottle, and the researcher shook the bottle.
4. The researcher shook twice, in order to determine the experimental group and control group.
5. After getting the number of lotteries, the researcher conducted the research.

1.4 Instrument of the Research

In this study, the writer used test as the instruments. Test is one of the method used for measurement that is to collect the characteristics' information of an object (Widoyoko, 2016: 117). Meanwhile, Brown (2004:3) states that test is a method of measuring a person's ability, knowledge, or performance in a given domain. Test in language education can be divided into two categories,

namely written test and spoken test. In this research, the writer used a pre-test, treatment, and post-test. The researcher used the Multiple Choices type of the test and the total of the test is 50 questions. The instruments of the test were available on the appendix.

1.5 Trying Out the Instrument

a. Validity

Validity is the most important components in evaluating the instrument to be tested. Arikunto(2006:168) states that validity is a measurement that indicates the levels of an instrument. An instrument is valid when it has high validity while it is un-valid when it has a low validity. In this study, the researcher used the item validity. To identify the item validity, the researcher used the formula of product moment correlations argued by Widoyoko (2016:238).

b. Reliability

Reliability is a component in making an instrument that could be trusted as a tool for collecting data. Widoyoko(2016:252) states that instrument test can be reliable if it gives the consistency result although it is tested repeatedly. It meant that the instrument test which was reliability but it had not been valid. To identify the reliability, the researcher used the

Split – half method in which this method is developed by Spearman-Brown as argued by Widoyoko (2016:258)

1.6 The Method of Data Collection

The data of this study was collected by using test. Arikunto(2006:223) defines test is an instrument to measure ability and achievement. There were two tests that had been held in this study; pre-test and post-test describe as follows:

a. Pre-test

Pre-test was given at the first time before the writer implemented the treatment in both experimental and controlled class. Pre-test was given to know the student's comprehension in reading before implementation of the method.

b. Treatments

Treatments were given before the post-test. The students were treated by the writer based on the group. The group was divided into two groups; experimental group and control group. The experimental group was treated by team game tournament method, and the control group was treated by conventional method. The treatment had been done in 3 meetings for both experimental and control group. The details could be seen as follows:

Table. 3.3

The Schedule of Implementing the Research

No.	Date	Time	Activity
1.	January 28 th , 2019	07.00 - 08.30 A.M	First meeting in Control Group
		08.30 – 10.00 A.M	First meeting in Experimental Group
2.	January 30 th , 2019	07.00 - 08.30 A.M	First meeting in Experimental Group
		08.30 – 10.00 A.M	First meeting in Control Group
3.	February 4 th , 2019	07.00 - 08.30 A.M	First meeting in Control Group
		08.30 – 10.00 A.M	First meeting in Experimental Group

Table 3.4.

Treatment procedures of experimental and control group

Treatment	Experimental Group	Control Group
1	<p>Observing</p> <ul style="list-style-type: none"> Students observed the picture that the teacher gave. 	<p>Observing</p> <ul style="list-style-type: none"> Students observed the picture that the teacher gave.

	<p>Asking</p> <ul style="list-style-type: none"> • Students tried to identify the picture. • Students asked about the picture and the relation of the picture with the material. 	<p>Asking</p> <ul style="list-style-type: none"> • Students tried to identify the picture • Students asked about the picture and the relation of the picture with the material.
2	<p>Exploration</p> <ul style="list-style-type: none"> • Students' read the material about recount text by themselves (journal, book, etc). • Students tried to find out the social function, generic structure, lexical grammatical on the text. • Students tried to identify main paragraph on the text about. 	<p>Exploration</p> <ul style="list-style-type: none"> • Students' read the material about recount text by themselves (journal, book, etc). • Students tried to find out the social function, generic structure, lexical grammatical on the text. • Students tried to identify main paragraph on the text about.
3	<p>Association</p> <ul style="list-style-type: none"> • Students gather with their 	<p>Association</p> <ul style="list-style-type: none"> • Students gather with their

	<p>group in which the teacher had divided the students into some group.</p> <ul style="list-style-type: none"> • Students tried to make the example of recount text. <p>Communication</p> <ul style="list-style-type: none"> • Students had discussion by applying the TGT method (Grouping). • Students had a game with other group. • Students shall compete with members of other group. • The students who got highest score that will be the winner. 	<p>group in which the teacher had divided the students into some group.</p> <ul style="list-style-type: none"> • Students tried to make the example of recount text. <p>Communication</p> <ul style="list-style-type: none"> • Students had simple discussion in peer. • Students had presentation in front of the class about what they got in the material.
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c. Post-test

Post-test was given at the last time as final test after the writer implemented the treatment. It was used to know the students'

progress in learning reading comprehension after implementation of the method and whether or not team game tournament method was effective to teach students' reading comprehension.

1.7 The Method of Data Analysis

To analysis the data, the writer used team game tournament method to improve students' reading comprehension. This technique was useful to prove statistically, whether there was any significant difference between the students of experimental class and the students' scores of the control class.

1. Trying out of Instrument

a. Validity of test

Dealing with validity, the writer used item validity from Product Moment Formula. The formula was as the following:

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

Where :

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

N = the number of subject item.

X = the score in the test item.

Y = the total score.

(Widoyoko, 2016:245)

b. Reliability of test

A test could be reliable when it gave consistent result.

The formula to calculate the instrument's reliability as follows:

$$r_{11} = \frac{2 r_{1/21/2}}{1 + r_{1/21/2}}$$

Where :

$r_{1/21/2}$ = correlation between two half instruments

r_{11} = reliability of instrument

(Widoyoko, 2016:261)

c. T-Test

In this study, the writer used statistical calculation through *t-test* formula in manual calculation and SPSS (Statistic Product and Statistic Solution) program. It was be used in examining the significant difference of students'

reading comprehension between experimental group and control group. The formula of *t-test* as follow:

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

Where :

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

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

S = Standard deviation

n_1 = total of variable X (experimental class)

n_2 = total of variable Y (control class)

(Sa'idah, 2017:172)

