CHAPTER III

RESEARCH METHODOLOGY

This chapter presents research method which consists of the place and time of the research, population and sample, research design, trying out instrument, technique of data collection and technique of data analysis.

3.1 The Place and Time of the Research

The research was conducted in MTs Sabilul Ulum Mayong which was located on Jl. Welahan No. 30 Mayong Lor Jepara, 59465. This research was carried out for a month, start from July 20, 2018 to August 20, in the even semester 2018/2019.

3.2 Population and Sample

a. Population

Muijs (2004:15) describes that population is the group of people we want to generalize to. The population of this study was all of the eighth grade students of MTs Sabilul Ulum Mayong which were divided into five classes. The total population was 177 students.

Table 3.1

The Population of the Study

No	Class	Students
1	VIII A	35
2	VIII B	38
3	VIII C	32
4	VIII D	40
5	VIII E	32
Total		**177**

b. Sample

According Mubarok (2015:39), sample is part of the quality and characteristics of the population. In doing the study, the researcher took two classes as a sample of the study, they are experimental and control group. To get the sample of this study, the researcher used a purposive sampling. Purposive sampling is the researchers take samples based on the objectives and the specific intent that is predetermined.

After obtained the information of the teacher in MTs Sabilul Ulum, there was two classes used a sample VIII-C as an experimental class and VIII-E as a control class. These classes were chosen because its recommendation from the teacher of MTs Sabilul Ulum. The numbers of the students for experimental class was 32 and the control group was 32. The sample of this study presented below.

Table 3.2

The Sample of the Study

No	Group Class	Total
1	Experimental class	32
2	Control class	32
Total		**64**

3.3 Research Design

This study was conducted by using quantitative approach in an experimental research. According to Fraenkel, Wallen, & Hyun (2012:265), experimental research is the only type of research that directly attempts to

influence a particular variable, and the best type for testing hypotheses about cause-and-effect relationships.

In an experimental research, the researcher uses a quasi experimental design. Fraenkel et al., (2012:275) describes quasi-experimental designs do not include the use of random assignment. Researchers who employ these designs rely instead on other techniques to control (or at least reduce) threats to internal validity. In quasi experimental design, researcher used the pretest-posttest non equivalent group design. According to Cohen, Manion, & Morrison (2007:283), nonequivalent group design could be represented as:

Experimental	O_1	x	O_2
Control	O_3		O_4

O_1 = pre-test for the experimental group

O_2 = post-test for the experimental group

O_3 = pre-test for control group

O_4 = post-test for control group

X. = exposure of a group to an experimental by giving treatment using team pair solo technique.

In this design, there are two groups as sample: experimental and control group which both of them were given pre-test and post-test. The experimental group was given treatments by using Team-Pair-Solo technique, but the control group has not.

In this research, the researcher conducted two meeting with two treatments in experiment class and control class. The treatments as follows:

Table 3.3

Meeting of Experimental and Control Class

Experimental Class	**Meeting 1** ➢ The researcher explained about narrative text and team pair solo technique. ➢ The researcher gave some of examples of narrative text. ➢ The researcher gave some text narrative and asked the students to understanding them and work in team. ➢ The researcher asked the students to find and identify the generic structure of the text given and work in pair ➢ The researcher asked the students to task the multiple choice and work individually
	Meeting 2 ➢ The researcher reviewed the previous material. ➢ The researcher asked the students to discussion and understanding more about narrative text with a group.

	➢ The researcher asked the students to identify of the generic structure and language feature of the text given, with a pairs ➢ The researcher gave a question of the narrative text and the students individually by answering of the question.
Control Class	**Meeting 1** ➢ The researcher explained about narrative text and gave an example of narrative text. ➢ The researcher asked the students to find and identify the generic structure of the text given. ➢ The researcher gave a question of narrative text and the students individually by answering of the question.
	Meeting 2 ➢ The researcher reviewed the previous material. ➢ The researcher gave of narrative text and asked the students to do exercises with a group and then implemented of the exercises used a number head together method.

3.4 Trying Out Instrument

Before the researcher given pre-test and post-test to the students, the researcher must do trying out instruments. Trying out instrument was needed in order to known validity and reliability of the test items. To measure validity and reliability, the students were tested by using multiple choice items and the total of question was 40 questions.

a. Validity

According Fraenkel et al., (2012:148), validity has been defined as referring to the appropriateness, correctness, meaningfulness, and usefulness of the specific inferences researchers make based on the data they collect. It means that validity is the process of collecting and analyzing to measure whether the instruments for pre-test and post-test activities are valid or not.

In this research, the researcher used correlation product moment by Arikunto (2010:213) to find the validity of the text. The formula of validity as follow:

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

Where :

r_{XY}= The validity of the item test.

N = The number of the students.

X = The number of the students who answer correctly.

Y = The students' score.

b. Reliability

Muijs (2004:71) describes that reliability is a second element that determines the quality of measurement instruments. It means that reliability test measures whether or not research instrument used for activities of pre-test and post-test are reliable.

To determine the reliability of the test, the writer uses formula of K-R 21. This is formula of K-R 21 (Arikunto 2010:232). The formula of reliability as follows:

$$r_{11} = \left(\frac{k}{k-1}\right)\left(1 - \frac{M(k-M)}{kV_t}\right)$$

Where :

r_{11} = reliability instrument.

K = the number of items or questions.

m = mean of the scores.

V_t = total variants

3.5 Technique of Data Collection

Data is something that is important in conducting a research. In this research, the researcher used test to collect the data. Cohen et al., (2007:414) describes in tests, researchers have at their disposal a powerful method of data collection, an impressive array of tests for gathering data of a numerical rather than verbal kind. In addition, According to Mubarok (2015:68), test is series of questions or exercises that are used to measure knowledge, skills, intelligence or ability possessed by individuals or groups. Arikunto (2010:266)

stated that the purpose of the test is to measure of the basic ability and attainment or achievement. Another purpose of the test is to measure students' reading comprehension achievement before and after treatment in the experimental group by using Team-Pair-Solo technique. The test will be divided into two kinds of test. The first, it will be given before teaching activities (pre-test) and the second, it will be given after teaching activities (post-test).

a. Pre-test

Pre-test was given before the treatments in both groups, experimental and control group. The purpose of pre-test was to know the ability of the students in reading comprehension before being implemented in teaching learning process. In pre-test for experimental and control group, the students were tested by using multiple choice items and the total of questions in pretest were 20 questions.

b. Post-test

In this study, post-test was given to the experimental and the control group after conducting treatments. The treatment which was given to the experimental group is Team Pair Solo technique. The type of post-test is the same as the pre-test. The aim of giving post-test to the students is to know the significant improvement and the significant difference after implementing teaching reading comprehension of narrative text by using Team-Pair-Solo Technique. Same as pretest in post-test, the students were

tested by using multiple choice items and the total of questions in post test was 20 questions.

3.6 Technique of Data Analysis

After getting the data, the researcher processed statistically and analyzed them. The researcher was compared the scores between experimental and control group. To analyze the data, the researcher was calculated T-test. The formula of T-test as follows:

$$t = \frac{Mx - My}{\sqrt{\left(\frac{\Sigma x^2 + \Sigma y^2}{Nx + Ny - 2}\right)\left(\frac{1}{Nx} + \frac{1}{Ny}\right)}}$$

Where:

M : mean of the gained scores each group.

N : the number of students

X : deviation each X_2 and X_1 scores

Y : deviation each Y_2 score from mean Y_1

Notice : $\sum x_2$ obtained from $\sum x^2 - \frac{(\sum X)^2}{N}$

$\sum y_2$ Obtained from $\sum y^2 - \frac{(\sum X)^2}{N}$

3.7 Statistical Hypothesis

The researcher's assumption of those hypothesizes on students' narrative reading comprehension by using team pair solo technique could be seen as follows:

a. If to > t_{table}, the Nul hypothesis (Ho) was rejected and Alternative Hypothesis (Ha) was accepted. It means that there was a significant difference between students who were taught by using Team Pair Solo in reading comprehension of narrative text than students who were not taught by using team pair solo.
b. If to < t_{table}, the Null Hypothesis (Ho) was accepted and Alternative Hypothesis (Ha) was rejected. It means that there was no a significant difference between students who were taught by using Team Pair Solo in reading comprehension of narrative text than students who where without taught by using team pair solo.