

CHAPTER III

RESEARCH METHODOLOGY

This chapter discusses the research design and method, the place and time of the research, the population and sample of the research, data analysis of try-out test, method of the data collection, method of the data analysis, and the statistical hypotheses.

3.1 Research Design

In this research the researcher used experimental design. Experimental research is the research for examining the experimental variables effective or not, and also need control variable to do that (Suryana, 2010). This research was conducted quantitatively through quasi experimental research design. Quasi experimental with non-equivalent control group was used as the design of the research. In this design, both of the experimental and control group are compared, though the group is selected and placed without randomly (Mubarok, 2015:102).

The researcher used this design to distinguish between experimental group and control group. For experimental group is a group of students which become the main attention of the researcher especially those if there is a changing situations after the treatment being given to them. On the other hands, control group is group of student who were selected for the purpose of monitring the change that might happen to the experimental group (Nisa, 2018:28).

Both of the test here will be conducted for control and experimental class. Systematically, this experimental research will be seen below:

O1	X	O2
O3		O4

Notes: O1 = pre-test of the experimental group

O2 = post-test of the experimental group

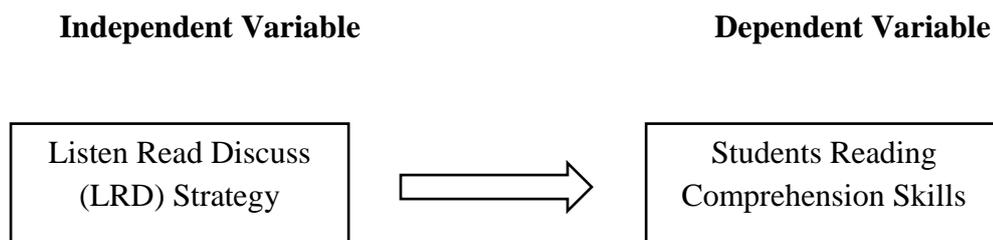
X = treatment

O3 = pre-test of the control group

O4 = post-test of the control group

(Mubarok, 2015:102)

Moreover, there were two variables that used in this research. There were independent variable and dependent variable. To make sure, the illustration of variable could be seen below:



Based on the illustration above, the independent variable on this research was listen read discuss (LRD) strategy while the dependent variable was students reading comprehension skills. The dependent variable was influenced by independent variable. So, in this research, students reading comprehension was influenced by listen read discuss (LRD) strategy. Besides that, the researcher was used several stage to get the valid result in conducting this research. Those stage which were used in this research are:

a. Pre-test

Pre-test was used and given to the sample before they got a treatment or in the preliminary study. In this section, the researcher gave same pre-test toward the experimental and control group. In this case used to know the result before the treatment by Listen read discuss strategy that

can apply in the class. The researcher, giving the test to the students, in XI Science class appropriate the schedule of the school and consist of 25 students. After the researcher get the data of pre-test from XI Science, the researcher continue our test in XI Social in the next day, which included of 21 students.

b. Treatment

Treatment is strategy that was given by the researcher used at class to help students solve their problems in learning activity. In this study, researcher applied Listen Read Discuss strategy as a treatment for helping students in learning reading skill in the classroom. This treatment was given only to the experimental group. It means that both the experimental and the controlled group have different treatment in two meeting. The explanation can be seen below, to get more understanding:

1. Experimental Group

Meeting	Treatment
Meeting 1	<ul style="list-style-type: none"> ➤ The researcher engaged the students relate to the material of narrative text and gave explanation about Listen Read Discuss strategy. ➤ The researcher asked student to find and indentify the generic structures of the text given (individually rule) ➤ Student were divided into some groups that consist of four until five students. ➤ The researcher told the story in general, and the students listen carefully to compared the information after this sections. ➤ Students read by their self to know and compared the information that are appropriate with the researcher or not. ➤ Students discussed in group about narrative text

	<p>(generic structure and language features, etc).</p> <ul style="list-style-type: none"> ➤ The last, representatives from each group explained the results of the discussion.
Meeting 2	<ul style="list-style-type: none"> ➤ The researcher reviewed the material in the previous meeting. ➤ Students still learned in the Listen Read Discuss strategy about narrative text and researcher ask them to find main idea and some informations for each paragraph then made a summary and presented in the front of class.

2. Control Group

Meeting	Treatment
Meeting 1	<ul style="list-style-type: none"> ➤ The researcher explained about narrative text after engaging the students first. ➤ The researcher told about skimming and how to read a text used skimming in reading comprehension ➤ The researcher gave a text, asked the students to applying skimming and also do the exercise in pairs.
Meeting 2	<ul style="list-style-type: none"> ➤ The researcher reviewed the material in the previous meeting. ➤ Students were asked to find main idea in each paragraph of narrative text and made a summay then presented individually.

a. Post-test

Post-test was given to the sample after the researcher gave some treatments. The researcher would give same post-test to both the class at the end of the lesson. In this section, post-test can be way to measure the success or not by applying the treatment. In the post-test the researcher still used experimental and control class, included from Experimental class consist of 25 students and the opposite class in control class consist of 21 students. Both class here had the same post-test with totally question over there were 25 questions.

3.2 The Place and Time of The Research

This research was held in MA Al- Ma'arif Jepara which is located in Jl. KH. Wachid Hasyim, Saripan Jepara 59414. This school has 6 classes from the tenth grade up to twelve grade which has two programs; science and social class. This research was carried out for 1 month, start from 25th July, 2018 to 22nd August, 2018 in the even semester 2017/2018. In 25th July or in the first meeting, the researcher came to do the tryout test in XI Science and consist of 25 students. Second meeting, the researcher came to XI Science as experimental class to give a pre-test at 25th July, 2018. In the next day at 26th July, 2018 the researcher gave a pre-test to XI Social as controlled class. Third meeting, at 1st August, 2018 the researcher started to give a treatment in XI Science as experimental class. In the other day, at 2nd August, the researcher taught in XI social as controlled class. Fourth meeting, at 7th until 8th August 2018, the researcher still taught in both of the class. Five meeting, the researcher gave a post-test as a final test for both of class. In XI Science got post-test at 14th August while XI Social was at 15th August. The last week, the researcher only gave some conclusion about the material and also the strategy. This research had done at 22nd August 2018 with brought so many experiences and also got the data.

3.3 Population and Sample

3.3.1 Population

According to Mubarok (2015:38), population is a unit of the object that has certain qualities and characteristics which are studied by the researcher then be deduced. It means here, population is the person or object that occurs in this world and of course in the research too. In this research the populations was two classes of the eleventh grade students of MA Al-Ma'arif Jeparo. Students in each class has a different number. Science class, consist of 25 students. While, social class consist of 21 students. So here, totally the population that researcher used in this research were 46 students from both of the class.

3.3.2 Sample

According to Sukardi (2012) in Mubarok (2015:40), that *sebagian dari jumlah populasi yang dipilih untuk sumber data tersebut disebut sampel atau cuplikan*. In line with the first statement, Ruffendy (1994) cited in Anggrini (2008) said that sample for quasi experimental with non-equivalent control group design are taken from naturally assembled group as intact class. It means that the sample is drawn not randomly, because the to get the sample the researcher choose difference class, but used the same level of English proficiency and never been taught by using Listen Read Discuss strategy before. Therefore, this research took two classes (XI Science and XI Social). Class of XI Science serve as experimental class and for class of XI Social serve as control class. Because the place that take this research in Madrasah, so the students just a little here. In anticipating the absence of some students during the research only take 20-25 students from each class as the sample. So that, the number of the sample is 40-45 students.

3.4 Method of Data Collection

In this section, the researcher used the test to collect the data. The test consist of narrative text. It was given for getting the objectives of data of the students' achievement after learning and teaching reading comprehension by applying Listen-Read Discuss Strategy in the class. There were two tests which were applied, those were pre-test and post-test. Pre-test was a test had given before the researcher applied the treatment in both of class (experimental and controlled class). While, post-test was delivered in the last time as a final test after the researcher done to be applied the treatment. The function of both of the test is to find out our students' progress in learning reading comprehension of narrative text after applying the strategy and also to know the strategy is effective or not in teaching students' reading comprehension.

Before giving the test to the sample, the researcher tested the test to XI Science which included of 25 students. There are 45 questions of multiple choices about narrative text. It was held to know the validity and realibility of the instrument. After determining and analyzing the data of instrument, the result showed that the instrument were reliable. Finally, the researcher found 25 question of multiple choices which valid become pre-test and post-test. The implementation of test was aimed to measure the effectiveness of Listen Read Discuss Strategy to improve student's reading comprehension before and after the treatment was conducted could be measured.

3.5 Data Analysis for Try-out Test

3.5.1 Validity

Validity is arguably the most important criteria for the quality of the test. The technique of analysis data, this research used t-test because this research need to be compared the result of test between pre-test and post-test from experimental and control class. The researcher guided 25 students of eleventh grade students as respondents (XI Science) before conducted the pre-test and post-test in the experimental and control class.

As the explanation in this chapter, the test was said valid if the result of r_{xy} was higher than r_{table} . The researcher consulted that the r was N 25 with significant level 5% showed that r_{table} was 0,396. The item number would valid if the $r_{xy} > r_{table}$.

Formula:

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

Notes:

- r_{xy} = The item of test reliability
- N = The number of respondent
- X = Total score of each item
- Y = Individual total score
- X^2 = Total for square for each item
- $(X)^2$ = The square of the total score for each item
- $(Y)^2$ = The total of the individual total score

(Sudijono, 2006:206)

3.5.2 Reability

Reability is the one of the most important thing in element of quality test. The researcher used the formula of Kuder-Richardsoon formula 20 (K-R 20) for finding reliability, which was based on the proportion of correct and incorrect responses to each of the items on a test an the variance of the total scores (Ary et.al.,2010:245)

Formula:

$$KR - 20 = \frac{k}{k - 1} \left(\frac{s^2x - \sum pq}{s^2x} \right)$$

Notes:

r_{xx} = Reliability of the whole test

K = Number of items on the test

s_x^2 = Variance of scores on the total test (squared standard deviation)

3.6 Method**of****Data****Analysis****ysis**

P = Proportion of correct responses on a single item

Q = Proportion of incorrect on the same item

After the researcher get the student's score of reading narrative text, including pre-test and post-test between experimental and control class, the researcher will be analyzed the data by using statistical calculation through t-test formula in manual calculation, Microsoft Excel, and SPSS (Statistic Product and Statistic Solution) application. The researcher gathered the data to examine and find out the differences of student's scores in experimental and control class. The formula t-test as follow below, (Sudijono,2006:314) :

Formula:

$$t_0 = \frac{M_1 - M_2}{SE_{M_1 - M_2}}$$

Notes:

M_1 = Mean of Variable X (experimental class)

M_2 = Man of Variable Y (controlled class)

SE = Standard Error

(Sudijono, 2006:314)

There are several stages taken to compare the result of experimental and controlled class the formula can be seen as follow:

- a. Determining Mean of variable, with formula:

$$M_x = \frac{\sum X}{N_1}$$

- b. Determining Mean of variable Y, with formula:

$$M_y = \frac{\sum Y}{N_2}$$

- c. Determining Standard of Deviation score of variable X, with formula:

$$SD_1 = \sqrt{\frac{\sum X^2}{N_1}}$$

- d. Determining Standard of Deviation score of variable Y, with formula:

$$SD_2 = \sqrt{\frac{\sum Y^2}{N_2}}$$

- e. Determining Standard Error Mean of variable X, with formula:

$$SE_{M_1} = \frac{SD_1}{\sqrt{N_1 - 1}}$$

- f. Determining Standard Error Mean of variable Y, with formula:

$$SE_{M_2} = \frac{SD_2}{\sqrt{N_2 - 1}}$$

- g. Determining Standard Error of Difference Mean of variable X and Mean of variable Y, with formula:

$$SE_{M_1 - M_2} = \sqrt{SE_{M_1}^2 + SE_{M_2}^2}$$

- h. Determining t_0 , with formula:

$$t_0 = \frac{M_1 - M_2}{SE_{M_1 - M_2}}$$

- i. Determining Degree of Freedom (df), with formula:

$$df = (N_1 + N_2) - 2$$

(Sudijono, 2006:315-316)

3.7 Statistical Hypothesis

Before deciding the result of hypothesis, there are statistical hypothesis as follows:

$H_0: \{\mu_1 = \mu_2\}$ $H_a: \{\mu_1 \neq \mu_2\}$
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Notes:

H_0 = Null hypothesis

H_a = Alternative hypothesis

μ_1 = Students' reading narrative text achievement, who were taught through Listen Read Discuss (LRD) strategy

μ_2 = Students' reading narrative text achievement, who were taught through without Listen Read Discuss (LRD) strategy

The researcher's assumption of those hypothesizes are as follow:

- a. If $t_o > t_{table}$, the Null Hypothesis (H_0) was rejected and Alternative Hypothesis (H_a) was accepted. It means there was a significant difference of students' reading narrative text achievement between who were taught through Listen Read Discuss (LRD) strategy.
- b. If $t_o < t_{table}$, the Null hypothesis (H_0) was accepted and Alternative Hypothesis (H_a) was rejected. It means there was no a significant difference of students' reading narrative text achievement between who were taught through Listen Read Discuss (LRD) strategy.