CHAPTER III
RESEARCH METHOD

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, and method of the data analysis.

3.1   Research Design

Experimental research was a research method which is used to find a specific treatment effect against the other in uncontrolled conditions Nunan (1992:233). Experiment was carried out in order to explore the relationship between variables. This was a quantitative research design. So that, the data would be presented in the form of score or figures through the experimental trial results. Research design used to the research was experimental with pretest-posttest and control group design of experimental research. The data and figures presented would be analyzed with SPSS 16.

Research design was a true experimental design. According to Mubarok (2015:100), the design was a true experiment because the researchers could control all external variables that affected the experimentation. The researcher used true experimental design in order to get differences between control group and experiment group. Experimental group was a group of students which become the main attention of the researcher especially to see if there was a changing situation after the treatment being given. On the other side, control group was group of student who was selected for the purpose of monitoring the changes that might happen to the experimental group. Experimental group was given treatment in the form of listen-read-discuss Strategy, while the control group was not given the treatment and serves as a comparison group to find out the effect of the variable free treatment.

The research design was following the table.

Group	Pretest	Treatment	Post-test
Experiment	O1	X	O2
Control	O3	-	O4

O1: Observation pretest for experiment group

O3: Observation pretest for experiment control group

O2: Observation posttest for experiment group

O4: Observation posttest for control group

X: Free variables will give preferential treatment in the form of Listen-read-discuss Strategy (independent variable).

In this case, the difference could be displayed in achievement between the experimental and the control group. The Experimental group achievement could be displayed from the posttest experimental group reduced group pretest results of experiments (O2-O1). Achievement of the control group could be seen from the control group pretest and posttest reduced control group (O4-O3).

Independent	Dependent
Listen-read-discuss Strategy	Reading Comprehension

a. Independent variable:

The presumed cause was in an experimental study. All other variables that may impact the dependent variable are controlled. The values of the independent variable were under experimenter control.

In this study, Listen-read-discuss was an independent variable because it affected the dependent variable.

b. Dependent variable:

The presumed effect was in an experimental study. The values of the dependent variable depended by another variable.

In this study, reading comprehension was a dependent variable. Because it was influenced by independent variable.

3.1.1 Pre-test

The pre-test was given to students before giving the treatment by the writer to know students' ability or skill in reading comprehension. The form of the test was a reading text that was given to students to measure their level of understanding in reading. The student in both of groups between experiment and control groups were given the same test.

3.1.2 Treatment

Treatment strategy used to help the students solved the problems in learning activity. In this stage, the researcher used listen-read-discuss strategy as a treatment for the experimental group. Treatment was given for two meeting in the experimental group. The explanation bellow:

1. **Experimental Group**

Experimental Group	
Treatment 1	- The researcher explained the material about reading comprehension and listen-read-discuss strategy. - The researcher asked to the student about the strategy. Is the student have ever taught by the strategy before?. - The researcher gave some texts to student and the student practice the strategy. After that, one of student read aloud and the other listen to their friend.

	- After that, student defined into some groups and discussed about the meaning and information of the text.
Treatment 2	- The researcher asked to student about the previous material. - The researcher gave some texts to student and student practiced the strategy used listen-read-discuss strategy. - After that, one of student read aloud and the other listened to their friend. - After that, the student defined into some groups and discussed about the meaning of the text. - The researcher gave some texts to student and the student did the assignment individually.

2.　　　**Control Group**

Table.04 treatment control group

Control Group	
Treatment 1	- The researcher explained the material about reading comprehension. - The researcher gave some texts and the student read by themselves.
Treatment 2	- The researcher asked the previous material. - The researcher gave some texts to student and the student did the assignment individually

3.1.3　Post-test

The condition where after given pre-test and treatment test. The purpose was to know the differences between experiment group and control group which

results from pre-test and post-test have done calculated by using SPSS (Statistical Package for Social Science) program to measure whether there was a positive effect or no after used listen-read-discuss strategy.

3.2 Time and Place of the Research

1. Time

The experiment conducted for 1 (one) month in August 2018. This research was carryed out according to the schedule of English Lesson in MA Darul Hikmah Menganti.

2. Place

The research conducted on the tenth grade student of MA Darul Hikmah Menganti Kedung Jepara. Address Jl. Kedung - Jepara KM. 7, Menganti, Jepara, Jepara Regency, and Central Java 59463.

3.3 The Population and the Sample of the Research

According to Mubarok (2015:38), population was a unit of the object or subject that has certain qualities and characteristics which are studied by the researcher then be deduced. Population here means that, the person or subject that occurs in this study. In this research, the population conducted to two classes of the first grade students of MA Darul Hikmah Menganti.

The technique was used by the writer that was simple random sampling. Simple random sampling used because it was possible to change the classroom setting of the school. In this study, the writer was taken X IPA 1 as the experimental class and X IPS 1 as the controlled class. The experimental class used listen-read-discuss strategy and control class used trough other method.

3.4 Technique of collecting data

In this section, the writer used test to collect the data. It gave for getting objective data for the students' achievement after learning and teaching process reading comprehension used listen-read-discuss Strategy at the class. There were two test that was given to the student, first test conducted to pre-test and the second test conducted to post-test.

The pre-test tested to the student before the writer applied the treatment and pre-test was given both of class (experimental group and control group). Posttest was delivered to the student for the last time in final test after the writer gave the treatment. It was used to know the students' ability and progress in learning reading comprehension. The strategy of listen-read-discuss whether was effective or not teaching reading comprehension by using listen read discuss on tenth grade student of MA Darul Hikmah Menganti Kedung Jepara.

3.5 Technique Analysing Data Using T-test

Data analysis was an activity to answer the state of the problem statement of the research. The researcher used score pretest and posttest in analyzing the data of the research. It was used to find out the difference between experiment group and control group in reading comprehension.

Significance of different reading comprehension skills were between groups' experiments using learning strategy Listen-read-discuss with the control group using the traditional model analyzed using t-test to analyze the significance of the experimental results. Assessment criteria and rejection hypothesis in this research using significance level 5%.

T-test formula

$$t\alpha = \frac{m1 - m2}{SEm1 - m2}$$

Notes:

M1   : mean variables X (experiment class)

M2   : mean of variable Y (controlled class)

SE   : standard error

(Zachariasse & Sudijono, 2012:134)

3.1   Trying Out of the Instrument

The test Prediction Analysis According to (Arikunto, 2002:178), there were two things that must be met when using t-test analysis is the Validity and Reliability.

a. Validity

Validity was arguably the most important criteria for the quality of the test. The technique of analyzing data, this research used t-test because this research compared the result of test between pre-test and posttest from experimental group and control group.

The writer will use the product moment formula:

$$rxy = \frac{N(\Sigma xy)-(\Sigma x)(\Sigma y)}{\sqrt{\{(N\Sigma X^2)-(\Sigma X)^2\}\{(N\Sigma y^2)-(\Sigma y)^2\}}}$$

In which

rxy   : the item of test Validity

N : the number of respondent

X   : total score of each item

Y   : individual total score

X²   : 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

The validity computation was consulted to the r-table of product moment by determining the significances level 5% and n which was according to the data. The instrument was valid if the rxy > rtable for α= 5%.

b. Reliability

Where the reliability of measuring instrument was the degree of consistency with which it measured whatever it was measuring. According to Korb (2010:4), The writer used the formula of Split Half KR 20 for finding reliability.

Th formula of split half KR 20

$$\text{Rkr20} = \left(\frac{K}{K-1} \right) \left(1 - \frac{\Sigma pq}{\alpha^2} \right)$$

RKR20 is the Kuder-Richardson formula 20

K = is the total number of test items

Σ = indicates to sum

P = is the proportion of the test takers who pass an item

Q = is the proportion of test takers who fail an item

o^2 = is the variation of the entire test

3.2 Test Prerequisite Analysis

According to (Arikunto, 2006:307) there were two things when using t-test analysis normality test and homogeneity test.

a. Normality Test

The distribution normality test served to assess the normal or not distribution of research data. The normality test was performed against the pretest score and posttest. Testing of data normality was using Komolgorov-Smirnov formula. Normality test of this research was done by looking at Kaidal Asymp sig (2 tailed) or P. If Asymp sig (2 tailed) or P> 0.05 then the data was normally distributed.

Komolgorov-Smirnov formula:

$$D = \max{1 \le i \le N} \left(F\,(Yi) - \frac{i-1}{N}, \frac{i}{N} - F(Yi) \right)$$

Where F is the theoretical cumulative distribution of the distribution being tested which must be a continuous distribution.

b. **Homogeneity test**

Homogeneity test of this variant served to determine whether or not uniform variations of samples from the same population. Homogeneity calculation resulted the variant then compared to the table F. If Fh> Ft then it could state that the two groups were not variant variants significant or homogeneous. Fh is the F value obtained from the table. Level the desired significance is 5% with degrees of freedom (db) = (n-1) (n2-2) Homogeneity test use formula Levene's test of homogeneity.

$$\text{W} = \frac{n-k}{k-1} \frac{\sum_{i=1}^{k} ni(Zi-Z)^2}{\sum_{i=1}^{k} \sum_{\int=1}^{ni} (Zij-Zi)^2}$$

In which:

n = number of observation

k = number of group

Zij = |Yij - ȳi |

Zi = group average of

ȳ   = group average of i

Z   = overall mean of Zij

W   = reject Ho if W>F(α.k-1.n-k)