

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

This chapter presents research method which consists of setting of the research, research variable, instrument, subject of the research, technique of data collecting, technique of data analysis, data analysis for tryout test, and statistical hypothesis.

#### **3.1 Setting of the Research**

This research was held in MTs Darul Ulum Purwogondo which is located at Jl. Kromodieiryo Purwogondo, Kec. Kalinyamat, Kab. Jepara. Prov. Jawa Tengah. The research was conducted in two classes, VIII-D as control group and VIII-E experimental group.

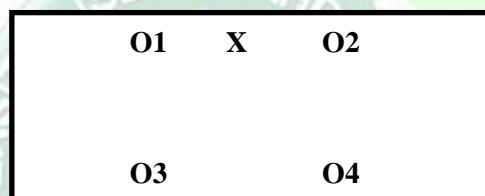
##### **3.1.1 Research Design**

Mubarok (2015:2) stated that the research is basically a scientific way to get the data for the specific purpose and usefulness.

This study, the researcher used quantitative approach in an experimental research. In an experimental research, the researcher used quasi experimental research design. Fraenkel et al., (2012:275) describes quasi-experimental design do not include the use of random assignment.

All of the research is needed to gather the data and also to know the data is valid or not for this technique of Numbered Head Together (NHT).

The researcher was conducted in two classes and it taught by different techniques. Numbered heads together used in the experimental group while conventional technique used in the control group. The experimental class was the group who received the treatment that was numbered head together technique, while the control group was the group which not exposed to the experimental treatment. In quasi experimental design, researcher used the pre-test and post-test non - equivalent group design. Both of the tests here were conducted for control and experimental class. The schema of this model as followed:



In which:

X :Treatment given experiment group

O1: Pre-test for the experimental group

O2 : Post-test for the experimental group

O3 : Pre-test for the control group

O4 : Post-test for the control group

(Mubarok, 2015:102)

### **3.2 Research Variable**

In this research, the researcher used Numbered head together as technique in teaching reading narrative text that has two variables as follows:

#### **1. The Independent Variable**

Independent variable is the variable that the experimenter changes within a defined range: it is variable in whose effect the experimenter is interested. The independent variable of this research was the use of Numbered head together in teaching reading narrative text.

#### **2. The Dependent Variable**

Dependent variable is that measuring the influence of the independent variable. The dependent of this study was the students' achievement in the written test in reading narrative text.

### **3.3 Instrument**

According to Brown in Mubarok lines (2015:68), argues this is an instrument a set of technique, procedures, or item that require performance on the part of the test-taker. This instrument used in collecting the data. The test used to find out whether any effectiveness of using Numbered Heads Together technique through students' reading comprehension on narrative text. The test was given in the beginning and in the end of the treatments. The test consisted of seven narrative texts and 50 questions in the multiple choices.

### **3.4 Subject of the Research**

In conducting the research at MTs Darul Ulum Purwogondo, the

subject of the research was the eighth grade in this Junior High School, the researcher used one group pre-test and post-test of pre experimental research.

### **3.4.1 Population**

Population is whole subject of the research (Arikunto, 2013:173). The generalization of region that consisting of the objects/subjects that have certain quantity and characteristics defined by the researchers to study and the drawn conclusions. Therefore, the population of this research was the eighth grade students of Junior high school of MTs Darul Ulum which consists two classes. They were class VIII D have 20 and VIII E have 20 students, and VIII F has 24 students.

**Tabel 3.1**

**Tabel of Population**

<b>Class</b>	<b>Student</b>
8A	22
8B	20
8C	25
8D	20
8E	20
8F	24
<b>Total</b>	<b>131</b>

### **3.4.2 Sample**

According to Anggrini (2008:78) in line of Rufeffendy, the sample for quasi experimental with non-equivalent control group

design are taken from naturally assembled group as intact class. In this research the researcher used one group pre-test post-test. The researcher took the class VIII D and VIII E as the samples. The students of VIII D class as control group and VIII E class as experimental group. So, the total of the samples that researcher used was 40 students in MTs Darul Ulum Purwogondo.

### **3.5 Techniques of Data Collecting**

The researcher also used several stages to test validity or reliability in conducting this research. Several stages that used in this research as follows:

#### **a. Pre-test**

Pre-test is a test that given to students in the first step. Pre-test used before applying the technique in the learning process, because it used in the preliminary study. Both of the groups (experimental and control group) got the same test and this test used to know the result before giving a treatment in both of the groups.

#### **b. Treatment**

After doing the test, the researcher gave a treatment by applying Numbered Head Together technique in the experimental class. In this research, the researcher was as a teacher. At class, the researcher taught about Narrative Text by using Numbered Head Together technique.

Treatment is a strategy or technique that the researcher gives to help the students solve their problems which are faced in learning

process. The explanation can be seen below, to get more understanding:

Our rule in Control and experimental, we can see bellows:

**Tabel 3.2**

**The Roles of Control Group and Experimental Group at Class**

<b>Control group</b>	Meeting 1	<ul style="list-style-type: none"> <li>▪ The researcher gave a little explanation about narrative text after engaged the students first.</li> <li>▪ The researcher asked students' understanding about narrative text.</li> <li>▪ Then students found the generic structure and language features in pairs.</li> </ul>
	Meeting 2	<ul style="list-style-type: none"> <li>▪ The researcher reviewed material in first meeting.</li> <li>▪ The students asked to find main idea in each paragraph of narrative text to get more understanding.</li> </ul>
<b>Experimental group</b>	Meeting 1	<ul style="list-style-type: none"> <li>▪ The researcher engaged students relate to material of narrative text and gave explanation about Numbered Heads Together technique.</li> <li>▪ The researcher gave a question especially narrative text.</li> <li>▪ The researcher gave some number each students.</li> <li>▪ The researcher used Numbered</li> </ul>

		heads together technique.
	Meeting 2	<ul style="list-style-type: none"> <li>▪ The researcher reviewed the material in the previous meeting.</li> <li>▪ The students still learnt in the Numbered heads together technique about narrative text.</li> </ul>

### c. Post-test

Post-test was given after the researcher gave some treatments.

The researcher gave same post-test to both the group at the end of the learning process. Post-test was the ways to measure the succeeded of applying this treatment in the research.

In this section, the researcher used test to collect the data. The tests consisted of some narrative texts. The test consisted of multiple choice questions. The researcher gave the test for getting the objectives data of the students' achievement after giving learning and teaching reading skill by using Numbered heads together in the class.

### 3.6 Techniques of Data Analysis

In analysing the data, the researcher used comparative and scientific technique. The way to analyze the data, the researcher used SPSS 20 calculation by using independent sample T-test. Technique used in experiment was pre-test and post-test. The researcher used to find whether there were significant or not between the score of students' achievement in improving eight grade students' reading comprehension in narrative text by

using Numbered heads together.

### **3.7 Data Analysis for Try-out Test**

#### **3.7.1 Validity**

Validity is a measure that the level of validity or rightness of an instrument (Arikunto, 2013:211). An instrument that is valid if it has high validity. The researcher used the product moment formula to calculate the validity. It can be seen as follows:

To calculate the validity, the researcher will use the Product Moment formula:

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

In which:

$r_{xy}$  : the item of the test reliability

$N$  : the number of respondent

$X$  : total score of each item

$Y$  : individual total score

$X^2$  : total for the square for each item

$Y^2$  : total for the square of individual total score

$(X)^2$ : the square of the total score for each item

$(Y)^2$ : the square of the individual total score.

#### **3.7.2 Reliability**

According to, (Arikunto, 2013:221) states that instrument is dependable enough used as a tool of data collection because that is a

good instrument. Reliability means is dependable. The researcher used the Speramen-Brown formula to measure the reliability of the test:

To measure the reliability of the test, the researcher will use the following formula:

$$r_{11} = \frac{2 \cdot r_{hh}}{(1 + r_{hh})}$$

In which:

$r_{11}$  : coefficient of reliability

$r_{hh}$  : reliability of half test

### 3.8 Statistical Hypothesis

Before deciding the result of hypothesis, it was hypothesis of statistic that used in this research as follows:

$H_0 : \mu_1 = \mu_2$

$H_a : \mu_1 \neq \mu_2$

Where :

$H_0$  : null hypothesis

$H_a$  : alternative hypothesis

$\mu_1$  : Achievement of the student development in MTs Darul Ulum Students' reading comprehensionin narrative text without by using numbered heads together.

$\mu_2$  : Achievement of the student development in MTs Darul Ulum Students' reading comprehension in narrative text without using numbered heads together.

The researcher had assumption of the hypothesis as follows :

1. If  $t_o > t_{table}$  the null hypothesis ( $H_0$ ) was rejected and the alternative hypothesis ( $H_a$ ) was accepted. It meant, there was any significant difference of student's reading narrative text achievement between who were taught through Numbered Heads Together and who were taught without using numbered Heads Together in reading comprehension of narrative text.
2. If  $t_o < t_{table}$  the null hypothesis ( $H_0$ ) was accepted and the alternative hypothesis ( $H_a$ ) was rejected. It meant, there was no significant difference of students' reading narrative text achievement between who were taught through Numbered Heads Together technique.