

CHAPTER III METHOD OF INVESTIGATION

3.1 Research Design

In this research, the writer will process the data by conducting an experiment. According to Mubarok (2015:78), “experimental research is a research method used to find specific treatment effect against the other in uncontrolled conditions”. An experimental research describes what happened next toward particular variables when the students get certain treatment. Thus this research use experimental research as a form of quantitative research to know the effectiveness of using paper puppets in teaching descriptive text for eighth grade students of Junior high school.

In this research, the writer will use quasi-experimental design, which was called pre-test post-test nonequivalent-group design. Nunan (1992:41) said that using this research, the researcher has to use pre-test and post-test to get the data and has to determine where is an experiment group and control group. The experimental group received certain treatment meanwhile the control group was not. The design of the Nonequivalent control group can be described as follows:

O1	X	O2
O3		O4

(Mubarok , 2015:91)

In which :

X : Treatment given experiment group

O1 : Pretest for the experimental group

O2 : Posttest for the experimental group

O3 : Pretest for the control group

O4 : Posttest for the control group

The design of quasi experimental above can explain that the subject was assigned to the experimental group (top line) and control group (bottom

line). The ability of students' writing descriptive text was checked by using pre-test. Then, the treatment of "Paper puppet" was given to the experimental group but the control group was taught by conventional method. Both of them were taught at the same topic, it was descriptive text. Pre-test and post-test were given to them. The effectiveness of the material treatment was measured by comparing the mean score of students' achievement in experimental and control group.

3.2 Population, Sample, and Variables

a. Population

According to Arikunto (2013:173), "The population is all subject in research whom study about. It is important to conduct research because the research's finding was to be generalized. Sugiyono (2008:118) stated that population is a set of elements possessing or more attributives of interest. The population of the observation was the eighth grade students of MTS Mamba'ul Ulum Pakis Aji Jepara in the academic year of 2016/2017. There are four classes of the eight grade students (VIII A, VIII B, VIII C, VIII D).

b. Sample

According to Arikunto (2013:174), sample can be defined as "a part of all the population that represents to be observed. By observing the characteristic of the sample, the writer can make certain inferences about the characteristic of the population from which it was drawn". The sample consists of the students from the population who were chosen to participate in the study. In this case, the writer takes sample based on the dominant ability in writing from the other classes. On this occasion, the writer chosen two classes as sample, they are VIII A and VII B which had consists of 30 students. Each class consists of female and male students. Then, the writer divided it into two groups, experimental group and control group.

c. Variables

"A variable as the term lexically, is anything which does not remain constant (Nunan, 1992:25). A variable is a property that takes on different values. In this experimental research, there are two variables, independent and dependent variable. Here, independent variable is teaching writing

Descriptive text by using paper puppets and dependent variable is student's test score.

3.3 Instrument of the Research

Research instrument is a tool for getting data collection of the research. The instruments are used to achieve the accuracy the data and indicate that the writer is successful or not in this research. There are several instruments to collect the data; such as observation, interview, questionnaire, experiment, test, lesson plan, syllabus and documentation.

In this study, the writer uses test as method of data collection. It is related to the statement of Arikunto (2013:193) that "a test is spate of questions or exercises which is used to measure skill, intelligence of knowledge and talent that belong to an individual or a group". The test here is used to measure the students' ability in writing descriptive text that teaching by using paper puppet as a media. Type of the test that used by the writer is essay writing that asks the students to produce a product is a descriptive text. For the test, the writer gives pre-test, treatment and post-test.

a. Pre-test

The purpose of pre-test was to know the ability of the students in writing descriptive text before given the treatment. Pre-test will give to both of groups, experimental group and control group.

b. Treatment

After giving pre-test to the students, the two groups are given a different treatment. The experimental group get a treatment by using paper puppet as a medium in teaching written descriptive text. Otherwise, the control group was taught by using conventional method. Using conventional method is the teacher explains orally without using media to the students about writing descriptive text. The teacher just uses a book to explain writing descriptive text.

c. Post-test

The students both experimental and control group are given a post-test on writing test. This test have purpose to measure the students' achievement on writing test. As it is stated in the previous section, the tests are a composition test. The students are asked to make a descriptive text. From this test, the data are obtained in the form of students' test scores. Thus, the results are compared between score of experimental group and control group.

3.4 Instrument Testing

Before the test was used by researcher, the instruments had to be done on the test to see whether the instrument appropriate the requirement of validity and reliability.

a. Validity

According to Sudjana (2012:12), "Validity is the precision tool of assessment toward concept which was assessed". Validity is one of crucial requirement which have to be tested in a research instrument. Validity is not universal act because it is depend on the situation and assessment objective. To get the validity of the instrument, the writer used content validity and face content validity. The aim of content validity could measure content concept or variable which was assessed. To reach face validity, the direct testing is used in this research because it required the students to perform the writing descriptive text that the writer intended to be tested. The researcher used an open-ended essay test because it is suitable for testing student's ability in writing descriptive text.

The researcher made sure that the instrument is valid by making the relevance of the objective of the test, the instruction of the test, and the indicator with SKKD (Standar Kompetensi dan Kemampuan Dasar) which is based on KTSP 2006. To achieve face validity and content validity of the instruments the writer also asked the English teacher to check the appropriateness of the instrument whether it is appropriate to give to the students or not.

b. Reliability

Sudjana (2012:16) stated that reliability is “the stability score from the assessment when it is done with the same instrument at another time”. A test cannot measure anything well beside it measures consistently. To achieve reliability of the instrument, the researcher uses scoring rubric to give score the students writing pre-test and post-test. Scoring rubric must be decided on several aspects of writing which have the number of points in each aspect to be added together to be a total score.

To assess writing test, the writer used elements of writing. They are organization, content, grammar, vocabulary and mechanics. The elements of writing can be seen on the table below.

Table 3.1
Testing Composition Writing for Intermediate Level

Score	Quality	Description
18-20 (86-100)	Excellent	-Natural English, minimal errors, complete realization of the task set.
16-17 (76-85)	Very Good	-Good vocabulary and structure, above the simple sentence level.
12-15 (56-75)	Good	Errors non-basic. -Simple but accurate realization of task. Sufficient naturalness, not many errors.
8-11 (36-55)	Pass	-Reasonably correct if awkward or natural treatment of subject with some serious errors.
5-7 (21-35)	Weak	-Vocabulary and grammar inadequate for the task set.
0-4 (0-20)	Very poor	-Incoherent. Errors showing lack of basic knowledge of English.

Source : Heaton (1988:145)

The rubrics above are analytical rubric and evaluation rubric scoring. It is used to measure students' skill of some elements in writing, such as

grammar, vocabularies, spelling and punctuation. Each element has their own criteria to consider the students score.

3.5 Procedure of Collecting the Data

- a. The writer makes some research instruments.

It means getting the data of using paper puppet as a media to improve students' ability in writing descriptive text.

- b. The writer asks research permission to MTs. Mamba'ul Ulum Pakis Aji by giving permission letter.

- c. The writer asked permission to head master and English teacher of MTs. Mamba'ul Ulum Pakis Aji Jepara.

The purpose of this step is to get an approval of the school to do research about the effectiveness of teaching writing descriptive text by using paper puppets in MTs. Mamba'ul Ulum Pakis Aji.

- d. The writer observes to the condition of the class.

The researcher observes the condition of the class. It means know the condition of the students, so the researcher know the best ways to get the data from the class and how to teach them.

- e. The writer gave pre-test.

Pre-test is used to investigate the initial condition of the group. It is done by giving some exercises form of essay writing of descriptive text.

- f. The writer gives a treatment by using paper puppet as media in the experimental group and using conventional way in teaching control group.

- g. The writer gives post-test.

Post-test is used to know result of the students' achievement.

3.6 Method of the Data Analysis

After collecting the data, the writer uses quantitative data to analyze it because it is the powerful research form. This is important part in this study because the writer will find the result of the research. In scoring the students' writing ability in pre-test and post-test, the writer used the written

proficiency test scoring categories proposed by Brown (2004: 244) . The steps used in analyzing the data are:

a) Finding the Mean each Groups

After getting of the students' score, the writer calculated the mean of each element. Timothy (2001:2) states that “the mean is an average. Calculating the mean involves adding or summing, all of the scores in a distribution and dividing by the number of scores”. Thus, the writer calculates the mean for each group by using formula:

$$\bar{X} = \frac{\sum X}{N}$$

(Sudjana, 2012: 109)

Note:

X : the mean

$\sum x$: the students' score of each group

N : the number of students

b) Consulting the mean to the level achievement

After calculating the mean of each group, namely experimental and control group, the writer consulted the level achievement below:

Table 3.2

Table of Level Achievement

Mark	Score	Level Achievement
A	90-100	Excellent
B	80-89	Very Good
C	70-79	Adequate
D	60-69	Inadequate
E	Below 60	Fail

(Brown, 2004:287)

c) Finding the Standard Deviation

After consulting the mean to the level achievement, the writer found the standard deviation. The formula was as follows:

1. Standard deviation for experimental group:

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

2. Standard deviation for control group:

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

d) Calculating Standard Error

After the writer get the standard deviation of each group, the writer calculated the standard error of the mean each group.

1. Experimental group

$$SE_{M1} = \frac{SD1}{N1-1}$$

2. Control group

$$SE_{M2} = \frac{SD2}{N2-1}$$

e) Calculating the standard error of the difference between the means

$$SE_{M1-M2} = \sqrt{SEm_1^2 + SEm_2^2}$$

f) Calculating the t-test

After calculating the standard deviation, the writer will calculate t-test as follows:

$$t_0 = \frac{M1-M2}{SE_{M1-M2}}$$

To find out the *t-test*, the writer used *t-table* to compare the *t-test* result. If the value of *t-test* more than the value of *t-table*, the conclusion was that there was any significant improvement of the student's writing ability who were taught using paper puppet as the media to improve the students' ability in writing descriptive text. However, if the value of t-test is lower than t-table, it is concluded that there was no significant improvement of the student's writing skill in descriptive text which were taught by using paper puppet as the medium to improve the students' ability in writing descriptive text.