

### **III. METHODS OF THE RESEARCH**

This chapter presents the method of the research such as research design, population and sample, data, data collecting technique, research procedure, scoring criteria, validity and reliability of an instruments, data analysis, hypothesis test, and schedule of the research.

#### **3.1. Research Design**

This research was intended to find out if there was a significant improvement of the students' ability in writing descriptive paragraph through Guiding Question Technique. The design of this research was *Quasi Experimental*, i.e., it presented pre-test and post-test which was intended to find out the significant improvement. In this research, this study used *One group Pretest-Posttest Design* (Hatch and Farhady, 1982: 20). The design used one class, as the experimental class which received the treatment of Guiding Question Technique. One Group Pretest-Posttest Design was a design where one group of participants was presented on the dependent variable and then post-tested after the treatment conditions that had been administered. Pre-test was given to the students in order to measure the students' competence before they were given the treatment and post-test was given to measure how far the students' improvement after they were giving the treatment.

In this design, there must be a different between the pre-test and post-test scores. The research design could be represented as follows:

### **T1 X T2**

Where:

T1 : pre-test

T2 : post-test

X : treatment (using Guiding Question Technique)

(Hatch and Farhady, 1982: 24)

### **3.2. Population and Sample**

The population of this research was the second grade students of SMPN 1 Gadingrejo in the second semester. There were ten classes of the second year students in 2015/2016 academic year. Each class consisted of about 28-30 students. This research employed one class which stood as the experimental class. The class was selected by using random sampling. The random sampling was used to make sure that all classes in the second grade had the same chance to be selected as the sample of the research.

### **3.3. Data**

This research was aimed at gaining the data of the students' ability achievement writing descriptive paragraph before and after being given the treatment. The data was collected by administering pre-test and post-test for one class, that was

experimental class. The result of the pre-test represented the students' ability in writing descriptive paragraph before and after the treatment and the result of the post-test represented the students' ability achievement in writing descriptive paragraph after the treatment. The treatment was given three times based on the time allocation for teaching descriptive paragraph writing in syllabus and with the assumption that the students had learnt descriptive paragraph when they were at the first grade of junior high school.

#### **3.4. Data Collecting Technique**

In collecting of the data, the pre-test, treatment, and post-test were administered. Then, the data were analyzed from the result of two activities (pre-test and post-test) which could be clarified as follows:

1. Pre-test

Pre-test was conducted in order to find out the students' writing ability before the treatment. This test was writing based on instructions. In this test, the students were given instructions that the paragraph consisted of 100-150 words.

2. Post-test

After conducting the treatment, the post-test was administered. It was done in order to know the students' ability after being given the treatment. The task of post-test was the same as in pre-test. In this stage, the students were also

asked to write a paragraph in form of descriptive paragraph based on the topic given.

### **3.5. Research Procedure**

Below, some research procedures were in administering the research:

1. Determining Research problem

The problem of this research was determined based on the problem of junior high school student. The problem could be seen in the background of problem in Chapter 1.

2. Selecting and Determining the Materials

The material of this research was based on the Curriculum 2013 at the second grade student of junior high school. The material was taken from the book that was appropriate for the junior high school material. There were three lesson plans in the process of teaching writing which involved descriptive paragraph inside.

The first lesson plan was purposed to teach the students about applying Guiding Question Technique in the class. While the second lesson plan was used to make the students practice Guiding Question Technique in the real class. The researcher acted as the teacher and she would divide the students into the groups that included different role of each student. Last, the third lesson plan was purposed to strengthen and the students' understanding and

performance to do Guiding Question Technique. Hopefully, those lesson plans in teaching writing process were able to generate a good writing ability.

3. Administering Pre-test

Pre-test was administered to find out the students' basic ability before treatment. The students were asked to write descriptive paragraph that consisted of 100-150 words in a descriptive paragraph. The students had to arrange a descriptive paragraph based on the topic given.

4. Administering treatment

Treatment was given three times based on the lesson plan. The teacher applied the technique of Guiding Question Technique for the students to write descriptive paragraph. The objective of the instruction, social function and generic structure of descriptive paragraph, and aspect of writing, a good paragraph also explained about those. Each treatment lasted for 90 minutes.

5. Administering post-test

The aim of this test was to measure the students' writing ability in descriptive paragraph. The test was conducted during 90 minutes with three topic and the students should write a descriptive paragraph that consisted of 100-150 words in a topic.

## 6. Analyzing test data and testing hypothesis

After scoring the students' work, the data were analyzed by using *T-test* to compare the data of two means score (Hatch and Farhady, 1982: 108).

### 3.6. Scoring Criteria

For giving the students' scores from the test, the following criteria was used (adapted from Harris, 1979: 68-69)

Content : the substance of the writing, the idea expressed

Grammar : the employment of grammatical form

Organization : the organization of content

Vocabulary : the selection of words that suitable of the content

Mechanic : the conventional device used to clarify the meaning

**Table 3.1. Scoring rubric criteria for writing test (adapted from Harris, 1979: 68-89)**

Aspect	Criteria	Score
<b>Content</b>	• Excellent. All developing sentences support main idea	20%
	• Good. Most of the ideas in supporting sentences can be developed well.	15%
	• Fair. There are only several ideas in supporting sentences that have not been well developed	10%
	• Poor. The idea in supporting sentences are related enough to the topic.	5%
	• Very poor. No developing sentence support main idea	0%
<b>Grammar</b>	• Excellent. All sentences written in the correct grammar	20%
	• Good. Most of the sentences in the correct grammar	15%
	• Fair. There are only several sentences in the correct grammar	10%
	• Poor. The grammar in sentences are sufficiently correct	5%
	• Very poor. No sentence written in the correct grammar	0%
<b>Organization</b>	• Excellent. All supporting sentences written in chronological order	20%
	• Good. 75% supporting sentences written in chronological order	15%
	• Fair. 50% supporting sentences written in chronological order	10%
	• Poor. 25% supporting sentence written in chronological order	5%
	• Very poor. No supporting sentences written in chronological order	0%

<b>Vocabulary</b>	• Excellent. All vocabularies used correctly	20%
	• Good. Most of the vocabularies used vary and they are almost correctly used	15%
	• Fair. There are only several vocabularies are not appropriate to the context	10%
	• Poor. Most of the dictions used are not appropriate to the topic	5%
	• Very poor. No vocabularies used correctly	0%
<b>Mechanic</b>	• Excellent. All punctuations, spellings, and capitalizations are used correctly	20%
	• Good. 75% punctuations, spellings, and capitalizations are used correctly	15%
	• Fair. 50% punctuations, spellings, and capitalizations are used correctly	10%
	• Poor. 25 % punctuations, spellings, and capitalizations are used correctly	5%
	• Very poor. No punctuations, spellings, and capitalizations are used correctly	0%

**Table 3.2. Scoring Sheet for Writing Test**

<b>Student' code</b>	<b>Gram-mar</b>	<b>Vocabulary</b>	<b>Mechanic</b>	<b>Content</b>	<b>Organizat-ion</b>	<b>Total Score</b>
	0-5-10-15-20	0-5-10-15-20	0-5-10-15-20	0-5-10-15-20	0-5-10-15-20	0-100
1						
...						
30						

### **3.7. Validity and Reliability**

#### **3.7.1. Validity of the Test**

A test could be said whether it was usable or not if it had fulfilled the criteria of validity (content and construct validity )and reliability (inter-rater reliability).

Therefore, it was important to measure validity and reliability of the tests in order to get valid and reliable of the data. To measure whether the test had a good content and construct validity, the tests were analyzed from:

a. Content validity

In the content validity, the material that had been given was suitable with the curriculum used. The test given in this research was writing test. In this research, it could be seen that the instruments were used in this research is valid in content because in this research, this research used descriptive paragraph writing test that was supposed to be comprehended by the second grade of junior high school students. The students have to write descriptive paragraph based on the topic given. There were the topics: someone, animal and place. On the other hand, the English Curriculum 2013 states that the students are expected to write a descriptive paragraph oral and written, simple oral and written paragraph, about person, animals, thing, taking into account the social function, the structure of the paragraph, and linguistic elements, correctly and in accordance with the paragraph.

b. Construct validity

The instruments were valid in construct. The test was considered as valid in content since the test of writing constituted a representative sample of the language skill and structure and the material was chosen based on the English Curriculum 2013 for second grade of junior high school. In this research, this research was administered a writing test and the technique of scoring of the students' writing based on the five aspects of writing; they were content, organization, vocabulary, grammar and mechanic.



### 3.7.2. Reliability of the Test

In this research, this study used inter-rater reliability. It referred to the concern that a students' score may vary from rater to rater. There was another person who gave the score beside the researcher. In this case, the researcher was the first rater and then the second rater asked Mr. Mugi Harsono S. Pd., he was as an English Teacher who taught VIII.1 in Junior High School Negeri 1 Gadingrejo.

This study used the formula of standard of reliability below:

$$r = 1 - \frac{6 \sum D^2}{N(N^2 - 1)}$$

Where:

$r$  = Coefficient rank of correlation

$D$  = Different of rank correlation

1 and 6 = Constants number

$N$  = Numbers of students

(Sudjiono, 2007: 25)

In this case, the coefficient of rank correlation with the standard of reliability below was analyzed (Arikunto, 1998: 260):

The criteria of reliability:

Reliability ranges from : 0.00 to 0.19 = very low reliability

Reliability ranges from : 0.20 to 0.39 = low reliability

Reliability ranges from : 0.40 to 0.49 = medium reliability

Reliability ranges from : 0.60 to 0.79 = high reliability

Reliability ranges from : 0.80 to 0.100 = very high reliability

After getting the students' final score and calculating the score, the data were calculated by using the formula above (See appendices 9 and 10). The result of the reliability could be seen in the following table:

**Table 3.3. Reliability of the Test**

Reliability	Pre-test	Post-test	Criteria
	0. 8368187	0. 8208009	Very High Reliability

From the criteria of the reliability and calculation, it can be concluded that the reliability of the two raters in the experimental class is very high reliability. This means that the first rater way' of scoring the data is similar to the second rater. They had almost the same scoring system. Therefore, there is no subjectivity in scoring the students' writing. Beside that, the scoring criterion helps the raters in scoring the students' writing accurately. In addition, the result shows that both raters scored the students' writing consistently and fairly.

### **3.8. Data Analysis**

In order to know the students' progress in comprehending the paragraph and the students' score were computed by doing three activities:

1. Scoring the pre-test and post-test

2. Tabulating the result of the test and calculating the mean of pre-test and the post-test. The mean is calculated by applying the following formula:

$$Md = \frac{\sum d}{N}$$

Notes:

$Md$  = Mean (average score)

$\sum d$  = The total students' score

$N$  = Total number of students

(Hatch and Farhady: 1982: 25)

3. Drawing conclusion from the tabulated result of the test given that was by statistically analyzing the data by using statistical computerization.

### **3.9. Hypothesis Testing**

The hypothesis testing was used to prove whether the hypothesis proposed in this research was accepted or not. This study used SPSS 16 which used to investigate the improvement after the treatment. The hypothesis is analyzed at significance level of 0.05 in which the hypothesis is approved if Sig <  $\alpha$ . After collecting the data, the data were analyzed in order to find out whether there was an improvement of the students' ability in writing descriptive paragraph or not after the treatment given. This study used Paired Sample T-test to investigate the level of significance of the treatment effect.

The Formula is:

$$t = \frac{M d}{\sqrt{\frac{\sum x^2 d}{N(N-1)}}}$$

And

$$\sum x^2 d = \sum d^2 - \frac{(\sum d)^2}{N}$$

Where:

$Md$  : mean from the differences pre-test ad posttest (posttest-pretest)

$Xd$  : deviation of each subject (d-md)

$\sum x^2 d$  : total of quadratic deviation

$N$  : subject on sample

(Arikunto, 1991: 349-350)

The hypotheses are drawn as follows:

$H_0$  : There is no improvement on students ability in writing descriptive paragraph after treatment of Guiding Question Technique.

$H_1$ : There is significance improvement on students' ability in writing descriptive paragraph after treatment of Guiding Question Technique.

$H_0$  : There is no improvement on students ability in writing descriptive paragraph after treatment of Guiding Question Technique, in terms of content, organization, grammar, vocabulary and mechanic.

H<sub>1</sub>: There is significance improvement on students' ability in writing descriptive paragraph after treatment of Guiding Question Technique, in terms of content, organization, grammar, vocabulary and mechanic.

The criteria for accepting the hypothesis are as follows:

H<sub>a</sub> (alternative hypothesis) is accepted if alpha level ( $\alpha$ ) is lower than 0.05 ( $\alpha < 0.05$ )

H<sub>o</sub> (null hypothesis) is accepted if alpha level ( $\alpha$ ) is higher than 0.05 ( $\alpha > 0.05$ )

(Hatch and Farhady, 1982: 111)

### 3.10. Schedule of the Research

Below is the schedule of the research consisting of some activities illustrated as follows:

**Table 3.4. Schedule of Researcher's Activities**

No.	Meeting	Teacher's Activities
1.	1 <sup>st</sup> meeting	Giving pre-test to the experimental class.
2.	2 <sup>nd</sup> meeting	Giving the first treatment by using lesson plan 1
3.	3 <sup>rd</sup> meeting	Giving the second treatment by using lesson plan 2
4.	4 <sup>th</sup> meeting	Giving the third treatment by using lesson plan 3
5.	5 <sup>th</sup> meeting	Giving post-test to the experimental class