

CHAPTER III

RESEARCH METHOD

This chapter presents the research method of the research. It covers research design, population, sampling and sample, variables, research instrument, validity and reliability testing, data and data collecting method, normality and homogeneity testing, data analysis, and hypothesis testing.

A. Research Design

Research design is all needed process in conducting the research. It is important ways to achieve the scientific truth of research. The design of this research was comparative study because this research was intended to know which one is more effective to improve the students' ability in writing descriptive text of the seventh grade students between the use of Numbered heads Together Technique and Roundtable Technique. Gay (1992 : 284) states that "comparative study is the researcher attempt to determine the cause, or reason, for existing differences in the behavior or status of groups of individuals".

Applying this design, in this study the procedure of Quasai-experimental was applied. Quasi-experimental designs was similar to randomized experimental designs in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment groups (Ary et al, 2010:316). The researcher selected two classes as the sample to be treated by using Numbered Heads Together

Technique and Roundtable Technique and treated the sample to see the students' improvement in writing. From the gained score, then the comparison was made to determine which techniques was more effective towards students' writing achievement.

B. Population, Sampling and Sample

1. Population

Population and sample are important part in this research. Lodico, et al (2006:140) stated that a population is the wider group of individuals about which the researcher wants to make statement. It means population is the larger group to which the researcher would like the result of a study to be generalizable. Population of this study was the seventh grade students of SMPN 3 Kedungwaru which consisted of seven classes. Each class consisted 31 - 32 students and the total of population was 224 students.

2. Sampling

Sampling is the technique to take a sample from the whole population. According to Gay (1992 : 123) sampling is process of selecting a number of individuals for a study in such a way that the individual represent the larger group from which they are selected. It means that sampling is the technique of the researcher taking a sample. According to Ary et al (2010: 150) the first step in sampling is the identification of the target population, the large group to which the researcher wishes to generalize the results of the

study. There are two major types of sampling procedures: probability and non probability sampling. Non probability sampling includes methods of selection in which elements are not chosen by chance procedures. Its success depends on the knowledge, expertise, and judgment of the researcher. Non probability sampling is used when the application of probability sampling is not feasible.

In this research, the researcher used non probability sampling that was purposive sampling. A purposive sampling also referred to as judgment sampling sample elements judged to be typical, or representative, are chosen from the population (Ary et al, 2010:156). In this study, applying purposive sampling in choosing the sample, the researcher used the following reason. The reason was the researcher chose the class that had average ability. This class was identified as a normal class. The researcher believed that if they were stimulated by the use of Numbered Heads Together (NHT) Technique and Roundtable Technique, their proficiency in writing descriptive text could develop.

3. Sample

Sample is a part of the total number and characteristic belong to population. Lodico, et al (2006:143) gave definition a sample is a smaller group selected from a larger population (in this case, a realistic population) that is representative of the larger population. In this research, the researcher used two classes as sample, they were VII D and E. D class consisted of 32

students and E class consisted of 31 students. So, the total number of sample was 63 students.

C. Research Variable

Variable is a construct or a characteristic that can take on different values or scores (Ary et al, 2010: 37). Variable can be defined as any aspect of a theory that can vary or change as part of interaction within the theory. In other words, variable is anything can effect or change the result of a study. In this research the researcher used two variables, they were dependent variable and independent variable.

1. Independent Variable

The independent variable is the variable that refers to how participants are treated. In this study the researcher used two independent variable. Those were Numbered Heads Together (NHT) Technique and Roundtable Technique.

2. Dependent Variable

Dependent variable is the variable which is observed and measured to determine the effect of the independent variable. In this study, the dependent variable was the students' ability in writing descriptive text.

D. Research Instrument

Research instrument can be defined as a tool or media that used by the researcher to get the data. Research instrument is also a tool or facilitate that is used by researcher in collecting data in his research (Arikunto, 2006: 150). To collect the data the instrument used can be that of made by the researcher herself or an instrument that is available or standard instrument.

In this research, the researcher used test as an instrument. Test is one way to measure the students' ability. According to Djaali (2000, as cited in Ismawati, 2003: 82) test is a tool that is used to measure knowledge or object mastery in a set of content or certain material. The researcher gave a writing test to get the score on students' writing ability after being given a different treatment.

E. Validity and Reliability Testing

Validity and reliability testing are the important part since the test is used as an instrument to collect the data. The validity and reliability were used to ensure that the test was suitable to use.

1. Validity

The most complex criterion of an effective test and the most important principle of language testing is validity. According to Ary et al (2010: 225) validity is the most important consideration in developing and evaluating measuring instruments. Validity was defined as the extent to which an instrument measured

what it claims to measure. The focus of recent views of validity is not on the instrument itself but on the interpretation and meaning of the scores derived from the instrument. In this research, the researcher used some validity testing as follows:

a. Content Validity

Content validity is a test where the test can measure a certain objectives that appropriate with the material or the content of learning that is given (Arikunto, 2006: 82). It means that the content of test must appropriate with the material that exist in the curriculum. Moreover, the instrument in this research fulfilled the requirement of having content validity since the test was designed based on the standard and basic competence in K13.

Table 3.1 Standard Competence and Basic Competence in K13 Curriculum

Standard Competence	Basic Competence
1.4 Responding the meaning and creating an oral and written text, by using text structure correctly, language element accurately, thanking and fluently.	4.7.2 Making a simple descriptive text about people, animals and things in oral and written that attention with the social function, text structure, and language element as right and based on the context.

Based on the matrix above, it can be seen that descriptive text was one of the text that must be mastered by the seventh grades students of Junior High School in K13 curriculum. So, the content of the test in this study used descriptive text, since it was suitable for seventh grades.

b. Construct Validity

A test is said to have construct validity if every question in the test measures every thinking aspect (Arikunto, 2006: 83). Construct validity deals with the relationship between a test and a particular view of language and language learning. The word construct refers to any underlying ability which is hypothesized in a theory of language ability. So, this construct validity refers to the theory of language learning. Here, the researcher used construct validity in administering writing test and the technique of scoring students' writing ability based on four categories of writing descriptive text that adopted from the internet, they were: topic, proof of description, relevance of supporting facts and details, and language feature. Then, the researcher modified the aspect of the scoring rubric.

Table 3.2 Scoring rubric for descriptive text.

Categories	Aspects	Score
Topic	Use a very details ideas that are connected to the topic.	35
	Use a quite details ideas that are connected to the topic.	25
	Use a quite details ideas that are nearly connected to the topic.	15
	Use less ideas that are not connected to the topic.	5
Proof of Description	Using a lot of descriptive words to describe the topic and all are clear and appropriate.	30
	Using many descriptive words to describe the topic and some are clear and appropriate.	20

	Using some descriptive words to describe the topic and only a few is clear and appropriate.	10
	Using a few descriptive words to describe the topic and they are not clear and appropriate.	5
Relevance of supporting facts and details	Use supporting details to describe the topic in which enhance the description.	20
	Use supporting details to describe the topic in which the majority can clarify the points of the topic.	15
	Use some supporting details to describe the topic but not appropriate to clarify the points of the topic.	10
	Use a few supporting details to describe the topic and not appropriate to clarify the points of the topic.	5
Language feature	Do not makes any vocabulary and grammatical mistakes.	15
	Make a few vocabulary and grammatical errors but it doesn't changes the meaning.	12
	Make some vocabulary and grammatical errors but doesn't changes the meaning.	9
	Make a lot of vocabulary and grammatical errors and change the meaning.	6

From the table above, the researcher made a rating scale to classify the result of score that each students got. The rating scale was consisted of range of score, grade, and criteria. It can be seen below:

Table. 3.3 Rating Scale

No.	Range of score	Grade	Criteria
1.	91 – 100	A	Excellent
2.	80 – 90	B	Good
3.	70 – 79	C	Fair
4.	60 – 69	D	Poor
5.	< 59	E	Very Poor

c. Face validity

Face validity is a term sometimes used in connection with a test's content. Face validity refers to the extent to which examinees believe the instrument is measuring what it is supposed to measure (Ary et al, 2010: 228). The test in this study was designed to measure students' writing ability in descriptive text. In this test, there were some aspects to be considered from this test to make a good test based on the face validity. They were:

- 1) In this test, the instruction was clear for the students, so the students were able to understand what they should to do in the test.
- 2) In this test, the students of seventh grades were instructed to write a descriptive text. Thus, the researcher gave topics that were suitable with their level. In this test, the researcher used guided topic.
- 3) The consideration of time allocation was suitable. So, the students could finish their writing well. In this test, the researcher gave the time allotment about 40 minutes.

2. Reliability

According to Lodico, et al (2006: 87) reliability refers to the consistency of scores, that is an instruments' ability to produce "approximately" the same score for an individual over repeated testing or across different raters. It means that reliability is the consistency of the instrument in producing the same score on different testing occasions or with different raters.

Before the test was given, the researcher conducted a try-out for the instrument to the different subject. Before doing the try-out, the researcher consulted the instrument with two experts. They were the researcher's adviser and the English teacher of SMPN 3 Kedungwaru. After that, the researcher conducted the try-out for 32 students of G class. It was done on 20th of January. The try-out was held to know how far the reliable of the test.

After doing the try-out, it can be concluded that the test was suitable to used. The time allotment and topics that the researcher gave was appropriate. The students can finish the test at the time and they were not confused with the topics because it was familiar for the students.

F. Data and Data Collecting Method

1. Data

Data is an information that has been translated into a form that is more convenient to move or process. Data are fact, observations, recordings, or experience or which theory or hypothesis or another research output is based. In other word, data is a unit of information that can be analyzed and relevant with the problem. The data were taken from students' score (class D and E) in writing descriptive text taught by using Numbered Heads Together (NHT) Technique and Roundtable Technique. The data were in the form of number. That is why the data in this study belonged to quantitative data.

2. Data Collecting Method

Data collection is an important aspect of any type of research study. Data collection method is a systematical process or procedure of gathering or collecting data. The data of this study were collected by administering test. The test in this study was done on 6 of February 2017. The test was given to all students of VII-D and VII-E class. Actually, there were 32 students in D class. But, when the researcher conducted the test there were 5 students not attended in the class because of sick. So, in D class there were 27 students who joined the test. While, in E class there was no students absent in joining the test.

In doing the test, the students were asked to write the descriptive text based on the given topics. The researcher provided six topics and the students chose one of them and make the description. In this test, the students were allowed to use dictionary because the researcher considered that the sample was the seventh grade in which their vocabulary mastery still less. The students were given time allotment 40 minutes to do the test. After administering the test, the researcher scored the students' writing based on the made of scoring rubric for descriptive text.

G. Treatment

The treatment of this study was given three times in every class. D class was given Numbered Heads Together (NHT) Technique that applied the mixing theory

from Richards and Gintings. The steps of the technique were: 1) Divide the students into groups of four and give each one a number from one to four. 2) Pose a question or a problem to the class. 3) Have students gather to think about the question and to make sure everyone in their group understands and can give answer. 4) Teacher calls a number randomly and students with that number raise their hands to be called on. 5) Students read the answer based on the number he or she got.

While, Roundtable Technique was given to E class. Applying this technique, the researcher mixed the theory from Richards and Wulandari. The steps of the technique were: 1) The teacher asks the students to sit in a group of four students, (2) The teacher gives the groups similar theme or topic, 3) The students give one piece of paper and one pen for each team, 4) One student makes a contribution, 5) Passes the paper and pen to the student of his or her left, 6) Each student makes contributions in turn

H. Normality and Homogeneity Testing

1. Normality Testing

Normality testing is used to know whether the instrument has normality or not. To find the normality of the instrument, the researcher used one sample Kolmogorov Smirnov. The instrument can be called as having normality if Asymp sig 0.05 so that H_0 (null hypothesis) is accepted and H_a (alternative hypothesis) is rejected. It was could be concluded as follow:

- a. H_0 : The data is in normal distribution

b. H_a : The data is not in normal distribution

Here, the result of normality instrument computed by using SPSS 21 version.

It can be seen as follow:

Table 3.4 Table Normality using One Sample Kolmogorov Smirnov

One-Sample Kolmogorov-Smirnov Test

		NHT	ROUNDTABLE
N		27	31
Normal	Mean	82.22	77.94
Parameters ^{a,b}	Std. Deviation	7.382	7.456
Most Extreme Differences	Absolute	.150	.173
	Positive	.095	.118
	Negative	-.150	-.173
Kolmogorov-Smirnov Z		.781	.963
Asymp. Sig. (2-tailed)		.576	.311

Based on the table above, it showed that the value of Asymp. Sig (2-tailed) in NHT was 0,576 and the value of Asymp. Sig (2-tailed) in Roundtable was 0,311. It means that both of them were higher than 0,05 ($0,576 > 0,05$ and $0,311 > 0,05$). So it can be interpreted that both of them had normal distribution.

2. Homogeneity Testing

Homogeneity test intended to show that two or more groups of data samples come from population having the same variance. To know the homogeneity, the researcher used One Way Anova with SPSS 21 version.

Table. 3.5 Table of Homogeneity of Variances

SCORE

Levene Statistic	df1	df2	Sig.
1.424	5	20	.259

ANOVA

SCORE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	394.976	6	65.829	1.289	.307
Within Groups	1021.690	20	51.085		
Total	1416.667	26			

Based on the table result above the significance (Sig) was 0,259. It means that the Sig was higher than 0,05 ($0,259 > 0,05$). So that it can be concluded that the groups or samples had the same variances.

I. Data Analysis

Data analysis is the way to analyze the data of this research. In this study, the purpose of the research was to compare the score of writing in descriptive text between the students taught by using Numbered Heads Together (NHT) Technique

and those taught by using Roundtable Technique at seventh grade students of SMPN 3 Kedungwaru. The data of this study were the students' score in writing descriptive text. The data of this study transferred into numeric form and analyzed by using SPSS 21 version. It was counted to find out the mean, median, and standard deviation of variable X1 and X2. Then, the result compared to find out which variable is more effective. The procedure of analysis data both used descriptive statistic and inferential statistic.

J. Hypothesis Testing

Hypothesis testing is used to test the hypothesis of the research. It was to test whether the null hypothesis (H_0) was rejected or not. In this study, they were two kinds of hypothesis, they are H_a (Alternative Hypothesis) and H_0 (Null Hypothesis). H_a said that there is significant different score in writing descriptive text between the students taught by using Numbered Heads Together (NHT) Technique and those taught by using Roundtable Technique of seventh grade of SMPN 3 Kedungwaru. Then, H_0 said that there is no any significant different score in writing descriptive text between the students taught by using Numbered Heads Together (NHT) Technique and those taught by using Roundtable Technique of seventh grade of SMPN 3 Kedungwaru.

The hypothesis was tested by using t-test through SPSS 21 version. The interpretations to test the hypothesis were stated as follow:

1. If the value of t-count is higher than t-table in the significant level at 5%, the H_0 (Null Hypothesis) is rejected and H_a (Alternative Hypothesis) is accepted. It means that there is significant different score in writing descriptive text between the students taught by using Numbered Heads Together (NHT) Technique and those taught by using Roundtable Technique.
2. If the value of t-count is lower than t-table in the significant level at 5%, the H_0 (Null Hypothesis) is accepted and H_a (Alternative Hypothesis) is rejected. It means that there is no significant different score in writing descriptive text between the students taught by using Numbered Heads Together (NHT) Technique and those taught by using Roundtable Technique.