CHAPTER III

RESEARCH METHOD

This chapter discuss about the research methods used in this study. It covers the discussion of the research design, subject of research, research instrument, validity and reliability testing, data collecting method, and data analysis.

A. Research Design

The research design is a careful planning of the operations to be done to collect the data in a rigorous, systematic way, in accordance with the methods and ethics of social research (Antonius, 2003:26). Based on the theory, the research design of this research was experimental design with quantitative approach. There are two kinds of data. They are qualitative data and quantitative data. Qualitative data is description, while quantitative is a process to knowledge which used numerical data as tool to find explanation about we would to know (Margono, 2010:105).

In this research, the writer uses the quantitative research to achieve the purpose. The writer uses experimental research to conduct the study. Experimental research is a research method that tests the hypothesis which has the form of cause and effect relations by manipulating defendant variable during manipulating time, the writer has control extraneous variable, perhaps the transitional that occurred really as an effect of manipulating which is not caused by other variables (Darmadi, 2011:36). Experiments are carried out in

order to explore the strength of relationship between variables. There are two major classes of experimental designs, single-variable design, which involved two or more independent variables. Single-variables designs are classified as pre-experimental, true experimental and quasi experimental (Gay, 1992:318). This study uses Pre-experimental design. Differences attributed to application of the experimental treatment are then evaluated by comparing the pre-test and post-test scores (Donald Ary: 2010: 327).

This research, the researcher has a single case that observes at two time points, one before the treatment and after the treatment. Changes in the outcome of interest are presumed to be the result of the intervention or treatment. No control or comparison group is employed. So, this research was use a pre-experimental research design with using quantitative approach with one group pre-test and post-test.

Diagram group pre-test and post-test

Y	X	Y_2
Pre-test	Treatment (Dependent variable)	Post-test (Independent variable)
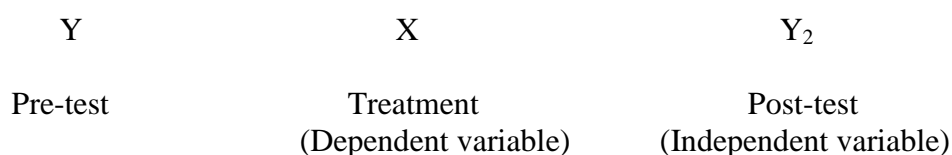
The procedure of pre-experimental research that use one group pre-test and post-test: The first is the researcher did pre-test before applying technique with the purpose to measuring the students' reading ability in narrative text at second year students of SMPN 1 Sumbergempol. The second is the researcher applied the treatment with taught a teaching learning in reading narrative text by using summarization technique. The last is the researcher did post-test after applied the technique that is to know the effect of treatment.

The researcher held the field research by taking the students score of the summarization technique of the reading ability in narrative text. The score that is gotten by pre-test and post-test will be comparing. From this study, the researcher wants to know the effect of technique on the students reading ability achievement in narrative text at the second year of SMPN 1 Sumbergempol Tulungagung.

B. Population

A population is all the subject research. According to Antonius (2003:7), a population is the collection of all units that we wish to consider. The population in this research is the second year students consist of open class, and A into L classes (13 classes) of SMPN 1 Sumbergempol Tulungagung in the academic year 2015/2016. In the 13 classes there are 380 students.

C. Sample and Sampling

In the research presents the sample and sampling. Sample and sampling are very needed in the resrach. Those are explained as follows:

1. Sample

Sample is part of amount and characteristics of the population according to Antonius (2003:7) a sample is any subset (or subgroup) of our population. In this study, the writer chooses the eight grade students' of SMPN 1 Sumbergempol Tulungagung. For the sample, the writer chooses VIII-C class consist of 32 students.

2. Sampling

Sampling is the process of selecting a number of individuals for a study in such a way that the individuals represent the larger group from which they were selected. The purpose of sampling is to gain information about a population; rarely is a study conducted that includes the total population of interest as subjects (Gay, 1992:123).

In this research, the researcher uses purposive sampling. According to (Sudjana & Ibrahim, 2007:85) purposive sampling is the technique that is used, if the researcher has the certain consideration in determining sample that is appropriate with the purpose of research. This researcher chooses purposive sampling, because subject of the research is chosen by English teacher at SMPN 1 Sumbergempol directly with consideration achievement of the study.

Beside that, the researcher chooses the sample based on who they think would be appropriate for this research. This is used primarily when there is limited number of people that have expertise in the area being researched. The researcher had taken on class, from the second year of SMPN 1 Sumbergempol exactly VIII C class. In the VIII C class, there were consist of heterogeneous students (low, middle, and high achievement). That class were selected based on the consideration such as, those are equal in level.

D. Research Instrument

The instrument will be used to get the data is a test. According to Brown (2000: 384), test is a method of measuring person's ability or

knowledge, in a given domain. Based on the statement, test will be able to measure the students' ability or students` achievement.

The draft of the instrument was trying out in five students of SMPN 1 Sumbergempol. But, they were not the real subject of this research. Sharing common characteristic with the real subject. The try out of this instrument was conducted on April, 10th 2015. The result of try out is useful to measure its valid or not. Then, the researcher revise some number of items test after the test was given for students and to reduce bias the researcher validate the test. To validate the expert one, the researcher knew that her English teacher in SMPN 1 Sumbergempol directly is the expert one. Based on the first concultation, the researcher has suggestion that the test is must use English language (instruction) and researcher choosing the language (9-11 items is error).

From the second consultation, the researcher got suggestion that some items of the test consist of grammatically incorrect, the question sheet is it doesn't seem credible because, the content of the test is not valid to used as instrument to immediate level, and the choice of word is not effective and difficult to be understand by immediate level of students. The researcher make validation guide for expert teacher. In another hand the researcher revise the test based on feedback from teacher expert.

This research will use the tests that are pre-test and post-test:

1. Pre-test

The researcher gave pre-test to measure students' ability before treatment process. The test is given to know the basic competence for student s and to know earlier knowledge before they get treatment. The score will be analyzed to determine the student's score between pre-test and post-test. The researcher gave the test about narrative text, the test consists of 20 multiple choices based on the text and summary text. In the multiple choices there are four narrative text, and in essay there is one text narrative to summary with own word. Pre-test was conducted before the treatment on April 28th 2015 that was joined by 32 students.

2. Post-test

The post-test gave to students after treatment process, this test gave to know the students difference achievement before and after they get treatment. The researcher gave the test about narrative text, consists of 20 multiple choices based on the text and summary text. The pre-test and post-test had a similar, but of them consist of 20 multiple choice and one essay, but any differences in text. Post-test was conducted after the treatment on May 15[th]2015.

E. Validity and Reliability Testing

In the research activities to obtain data coming from the field, the researcher usually use a good instrument and able to take the results of the object or subject.

a. Validity

The result instrument must be having reliability and validity. There are four types of validity; they are face validity, content validity, construct validity, criterion-related validity, empirical validity (Hughes, 1989:26). To know the validity of the instrument, the researcher used content validity and face validity. The explanation of the content validity and face validity, as follows;

1. Content Validity

The researcher cheek the validity of the content validity that is from content and structures' question of the test. The researcher emphasizes on the content validity in this research. Content validity is a kind of validity which depends on a careful analysis of the language being tested and of the particular test. A test is said to have content validity if its contents constitutes a representative sample of the language skill, structure, etc being tested (Hughes, 1989:26).

The validity of an assessment measure or tool indicates the extent to which it is an adequate measure of the curriculum and objectives it represent. There are several types of validity, but the most important type for classroom teachers to understand is content validity. Content validity is attained when there is a close match between the content of the assessment measure can be said to have content validity. The content validity based on the curriculum that has been applied. The content of test is ued narrative text. In this test, the

researcher asked students to answer the question based on the text and make summary based on their own language in learning reading.

The content validity in this research can be showed as below:

Table 3.1 Content validity

No	Indicator	Test item	Percentage
1	Students are able to answer the question based on the text	1-20	95.24%
2	Students are able to re-write or make summary based on the text with their own language	1	4.76%
Total		21	100%

Based on table showed that the instrument of the test is valid based on the competence indicators which mentioned in Syllabus.

2. Face Validity

According to Hughes (1998:33), a test is said to have face validity if it looks as if it measures what it is supposed to measure. In this test the researcher give the test to measure reading ability especially in narrative text, so the test-takers to speak might be thought to lack face validity. Here, the researcher used face validity in administering reading test based the form of multiple choice tests and summary test. The test has been validated by English teacher in SMPN 1 Sumbergempol.

b. Reliability

Reliability is the characteristic of very good test for it to be valid. A test must be reliable as a measuring instrument. Reliability of an assessment measure refers to the degree of consistency of the assessment in producing the same result with the same student in different testing settings or at different points in time or when being evaluated different teachers or raters. As with validity, the higher the stakes for the assessment results, the more essential it is for a high level of reliability to be established in the assessment process and measures (Carles, 2003:329).

In trying out the instrument was the Cronbach's Alpha score was 0.598 those were not very reliable. Therefore, the researcher revises some items. After revising the test items that showed the Crobach's Alpha score the instrument was 0.768.

According to triton in Sujianto (2009:97) the value of cronbach's alpha can be interpreted as follow:

Table 3.2 Cronbach's Alpha Interpretation Based on Triton

Cronbach's Alpha	Interpretation
0,00-0,20	Less reliable
0,21-0,40	Rather reliable
0,41-0,60	Quite reliable
0,61-0,80	Reliable
0,81-1.00	Very reliable

From the score analyzing above, the researcher got the final score is 0.768. It means that the analyzing of score items and total items the instrument is strong, because the value is between $0.61 - 0.80$. From the table above evidence, it was found that this test is reliable.

F. Normality and Homogeneity Testing

Many experimenters the most commonly used statistical tests are those for comparing sample means or sample variances. It means that there are two statistical to comparing the test.

a. Normality

Normality distribution test is a test to measure whether our data has a normal distribution, so it can use in a parametric statistic. Here the researcher uses *Kolmogorov-Smirnov* test.

Table 3.3 Normality of Test

One-Sample Kolmogorov-Smirnov Test

		nilai test
N		32
Normal Parameters[a]	Mean	80.19
	Std. Deviation	5.450
Most Extreme Differences	Absolute	.107
	Positive	.107
	Negative	-.082
Kolmogorov-Smirnov Z		.608
Asymp. Sig. (2-tailed)		.854

a. Test distribution is Normal.

Based on the table above, the result which is shown the score of significant (Asymp Sig) is 0.854, it means that the data is normal because the score is bigger than 0.050 ($p > 0.05$).

b. Homogeneity

Homogeneity testing is intended to make sure that the collected manipulation data in analysis is truly taken from a population which is too different each other. Especially in a correlative study which is predictive, the

model which is used must be appropriate with the composition and its distribution.

Table 3.4 Homogeneity of Test

ANOVA

Nilai Tes

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1040.062	1	1040.062	28.204	.000
Within Groups	2286.375	62	36.877		
Total	3326.438	63			

The test is get significant < 0,50, then Ho is rejected. So, based on the table above can be concluded that there is an average difference between the value of the test.

G. Data Collecting Method

Data collecting method was needed to obtain the research data. The specific ways of collecting data, the specific criteria for determining what is good data (that is, precise and appropriate data), and the specific biases that the researcher must try to avoid all depend on the research design that is used in a given research. (Antonius, 2003:29). Data means all information that directly gathered from the subject. The data are the items obtained through the test pertaining with the students' ability on English vocabulary.

The data are based on the result of test on reading ability. In collecting data there are some following stages which are done by the researcher after get permission:

The first stage is the researcher comes to the classroom to introduce herself and tell that she'll teach English subject for some meetings. It can be

done in 10 minutes. Then the researcher taught the reading comprehension based on the material that day as usual method which used by their English teacher. The researcher asked the students to read the narrative text which is given by the researcher. After that, the researcher asked the students to translate the text one by one and determine the generic structure of text. One student got one paragraph to translates it into Indonesian and determine the generic structure of paragraph after they read the text. All of that activity is conducted for 30 minutes. Next, the researcher asked the students to do assignment (pre-test).

The second stage, before the researcher continues to teach the next material, the teacher reviews the last material first for 10 minutes. The researcher delivers the new material. She introduces using writing summary toward reading ability. Firstly the researcher gives a text to read by students and then they learn to translate the word and find the main idea in each paragraph in the narrative text.

The third stage after they have known about that, the researcher gives the post-test to know students' reading comprehension. The second test is different from the first test but it has the same level of difficulty.

The last stage after the class has been exposed to the treatment for some period of time and has been given pre-test and post-test, the researcher classifies and analyzes the data and then determines whether there is any significant effect of teaching using summarization technique on the students reading comprehension achievement.

H. Data Analysis

Quantitative data analyzes is also called as statistical analysis. Data analysis is a continuation process from the process of data processing to know how the interpretation data, then data analysis of the result that has been on the level of result of data processing (Prasetyo & Jannah, 2005:184). It means that the result of the data served up in numerical form.

Here the researcher uses Paired Sample T-test formula to analyze the data in order to know the students' test results which are conducted before and after using summarization technique in reading comprehension. In deed, the method in further analysis of the data is as follow:

1. Formulating the hypothesis. The hypothesis are in the form of Alternative Hypothesis (Ha) and Null Hypothesis (Ho)

2. Determining the value of t_{count}. It can be seen on the output of SPSS analysis.

3. Determining the value of t_{table}. The value of t_{table} can be seen from in significance level 0.05:2 = 0.025 (two tailed test) with degree of freedom (df) is n-1.

4. Determining hypothesis testing. Simply, the hypotheses testing are:

   a. If $-t_{table} \leq t_{count}$ and Sig > 0.05 so Ho is accepted.

   b. If $-t_{count} < -t_{table}$ or $t_{count} > t_{table}$ and Sig < 0.05 so Ho is rejected.