CHAPTER III

RESEARCH METHOD

This chapter presents research design, description of treatment, population, sample, and sampling, data collecting method, research instrument, validity and reliability testing, normality and homogeneity testing, and data analysis.

A. Research Design

Educational research is typically classified into two broad categories: quantitative and qualitative research. Each approach has its own methodology and terminology. Quantitative research uses objective measurement to gather numeric data that are used to answer questions or test predetermined hypotheses. It generally requires a well-controlled setting. Qualitative research, in contrast, focuses on understanding social phenomena from the perspective of the human participants in natural settings. It does not begin with formal hypotheses, but it may result in hypotheses as the study unfolds (Ary *et al*, 2010: 22).

In this research, the researcher uses quantitative approach by using experimental research design. Ary et al (2010: 302) states that experimental designs may also be classified according to how well they provide control of the threats to internal validity: pre experimental, true experimental, and quasi experimental designs. Pre experimental designs do not have random assignment of subjects to groups or other strategies to control extraneous variables. True experimental designs (also called randomized designs) use randomization and

provide maximum control of extraneous variables. Quasi-experimental designs lack randomization but employ other strategies to provide some control over extraneous variables. Here, the researcher uses pre experimental research design because only use one group for pre-test and post-test, and without randomization.

According to Ary et al (2010: 303), the pre experimental design usually involves three steps: (1) administering a pre-test measuring the dependent variable; (2) applying the experimental treatment X to the subjects; and (3) administering a post-test, again measuring the dependent variable. Differences attributed to application of the experimental treatment are then evaluated by comparing the pre-test and post-test scores. The design of this research can be summarized as follows:

Table 3.1 The Illustration of Research Design

Pre-test	Independent	Post- test
Y_1	X	Y_2

From the table above, it can be explained that the procedures of conducting experimental research design in this study consist of pre-test (Y_1), treatment, and post-test (Y_2). At the first, the researcher conduct pre-test to know how far the students' ability in reading and their reading achievement before they receive a treatment about contextual guessing meaning technique. Then, the researcher gives a treatment through teaching about the contextual guessing technique to the students. The last, the researcher conduct post-test to measure the

students' achievement in reading after they receive a treatment about contextual guessing meaning technique.

B. Description of Treatment

1. The first treatment was conducted on May 7th, 2016. Here, the researcher applied guided reading. The procedures were:

   a. Before Reading

   Before reading, the researcher gave some words in different part of speech in isolation on the board. Then, the students asked to guess the meaning.

   b. Doing Reading

   1) The students asked to read a certain short text or story in their textbook.

   2) The students were not allowed to open dictionary.

   3) The students noticed the words that they did not know the meaning.

   c. After Reading

   After the students finished the reading, the researcher and the students discussed the meaning and try to comprehend the text or story together.

2. The second treatment was conducted on May 10th, 2016.

   The procedures were follows:

   a. Before Reading

      Before starting reading, the researcher explained the simple past tense and recount text.

   b. Doing Reading

      1) The students asked to read a short recount text with questions followed in their textbook.

      2) The students were not allowed to open dictionary.

      3) The students noticed the words that they did not know the meaning.

      4) The students answered the questions that followed.

   c. After Reading

      After reading the text, the students asked to write their answer on the board. Then, it would be discussed together with the researcher.

3. The third treatment was conducted on May 12th, 2016.

   The procedures were follows:

   a. Before Reading

      The researcher asked the students to make a group that consist of 5 students. After that, the researcher gave a short recount text that followed by comprehension questions for each group. Then, the researcher explained about context clue and how to get the meaning using context clue.

b. Doing Reading

1) The students read the text given by the researcher in group.

2) The students were not allowed to open dictionary.

3) The students had to use context clues in getting the meaning and comprehend the text.

4) The students noticed the words that they have could not able yet to guess the meaning.

c. After Reading

After reading, the representative from each group had to write their answer and the words that had not guessed yet on the board. Then, the researcher discussed it together and make correction.

4. The forth treatment was conducted on May 18th, 2016.

The procedures were follows:

a. Before Reading

Firstly, the students asked to sit based on the group. Then, the researcher reviewed about context clue. After that, the researcher gave the example how to guess the meaning based on the context by using context clues.

b. Doing Reading

1) The researcher displayed a short text by using Overhead Projector (OHP)

2) The students asked to read the text in pairs without using dictionary.

3) The students asked to come in front of the class and write the unfamiliar words on the board.

4) The other students made a correction and told the process how to get the meaning.

c. After Reading

After the students made correction each other, the researcher clarified the answer and discussed together.

C. Population, Sample, and Sampling

1. Population

Ary *et al* (2010: 148) states that population is all members of any well-defined class of people, events, or objects. Besides, Creswell (2012:142) said that a population is a group of individuals who have the same characteristic. Based on the explanation, the researcher conclude that a population means the whole subjects being studied. The population of this research was all of the first grade students of MA in Wonodadi Blitar in academic year 2015/2016 that consist of 60 students.

2. Sample

According to Best (1995:13), a sample is a small proportion of population selected for observation or analysis. Ary (2010: 163) states that sample is a person of a population. Hence, sample is a part of population taken by using certain technique that is being studied. The researcher does not

involve all of them because it is a big number. There are two classes in the first grade, but the researcher only took one class in conducting research. So, the researcher just takes the first grade Science students of MA Darul Huda Wonodadi Blitar in academic year 2015/2016 that consist of 30 students.

3. Sampling

Sampling is the way to select a sample. Besides, sampling is the process of selecting sample from a population that is going to be studied. For taking sample, the researcher uses purposive sampling technique. Purposive sampling is a technique of selecting sample by using certain consideration (Sugiyono, 2009: 122). The researcher took the first science students because of teacher suggestion. Moreover, Margono (2004: 128) states that selecting sample in purposive sampling is based on certain characteristics which supposed it is suitable with the characteristics of the population itself. In other word, selected sample is adjusted with the certain criteria and based on the purpose of the research.

D. Variable

There were two variables in this research, independent and dependent variable. The independent variable was the major variable to be investigated. This variable was selected, manipulated, and measured by the researcher. Meanwhile, the independent variable of this research was guessing technique. The dependent variables was the variable that was observed and measured

knowing the effect of independent variable. In this research, the dependent variable was students' reading achievement.

E. Data Collecting Method

Data collection method is the method to obtain the data in the research. The aim of the data collecting is to get material that need by the researcher. The technique of collecting data was summarized as follows:

a. Pre-test

Pre-test is provided by the researcher in an experimental study before the students receive a treatment. At the first meeting, the researcher is going to give a pre-test to the students to know their score in reading. It was also to know how far the students' ability in reading. Pre-test was conducted on May 3rd, 2016. The test consists of 20 multiple choice questions.

The procedures of pre-test administration as follows:

1) The researcher distributes the test to the students

2) The researcher explains to the students how to work out the test

3) The students do the test in 60 minutes

4) The researcher collects the test.

b. Post-test

Post-test is conducted after the treatment is done. Post-test is conducted to measure the students' ability after they receive a treatment. In

this research, post-test is going to conduct on May 18th, 2016 after the students got the last treatment. This test consists of 20 multiple choice questions.

The procedures of post-test administration as follows:

1) The researcher distributes the test to the students

2) The researcher explains to the students how to work out the test

3) The students do the test in 60 minutes

4) The researcher collects the test.

The score of post-test will be compared with score of pre-test. Then, the researcher can find out the differences between before being taught by using guessing technique and after being taught by using guessing meaning technique.

F. Research Instrument

Research instrument is a tool for collecting data that should be valid and reliable. For getting the data about the students' achievement, the researcher uses the instrument of test. According to Ary (2010:201) test is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned. In this research, the researcher uses achievement test. Ary (2010:201) states that achievement test is used to measure what individuals have learned. Achievement test measures mastery and proficiency in different areas of knowledge by presenting subjects with a standard set of questions involving completion of cognitive tasks.

The tests here are in the form of reading test dealing with recount text. Both pre-test and post-test the researcher uses recount text. The researcher uses recount text entitled "My First Experience to Ride Motorcycle" and "A Page from A Girl's Diary" for post-test. This test consists of 20 questions in the form of multiple choices. The correct answers will be multiplied by 5, so the total score is 100. These tests will be used for collecting the data of students' achievement in their reading before and after teaching by using guessing technique.

G. Validity and Reliability Testing

1. Validity Testing

Validity is an important thing in developing and evaluating measuring an instrument. Ary *et.al* (2010: 225) defines validity as the extent to which an instrument measured what it claimed to measure. In other words, validity can be defined as the instrument that measured what the researcher wants to measure. In this research, the researcher used content validity.

a. Content Validity

The test includes in content validity if its contents is relevant with the purpose of the test. In this case, the contents of the test should refer to the "Kurikulum 2013."

Based on the standard competence in syllabus of "Kurikulum 2013," it is mentioned that the first grade of Senior High School are expected to be able to comprehend meaning of the spoken and written simple recount text about experience/ activity/ event.

Table 3.2 Core Competence and Standard Competence

Material	Core Competence	Standard Competence	Indicator
Teks *recount* lisan dan tulis sederhana, tentang pengalaman/ kegiatan/ kejadian/ peristiwa.	KI 3 : Memahami, menerapkan, menganalisis pengetahuan faktual, konseptual, prosedural berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya, dan humaniora dengan wawasan kemanusiaan, kebangsaan, kenegaraan, dan peradaban terkait penyebab fenomena dan kejadian, serta menerapkan pengetahuan prosedural pada bidang kajian yang spesifik sesuai dengan bakat dan minatnya untuk memecahkan masalah.	4.13. Menangkap makna dalam teks *recount* lisan dan tulis sederhana.	The students are able to respond the meaning and comprehend simple written recount text about experience/ activity/ event

Table. 3.3 Content Validity of Instrument

No.	Indicator	Item's number	Total
1.	Respond the meaning of the text	1 – 15	15
2.	Comprehend the text	16 - 20	5

The researcher made the test appropriate with the indicators and based on the English syllabus of the first grade of senior high school in second semester. Therefore, the test is valid in the term of content validity.

b. Construct Validity

A test is said to have construct validity if it can be demonstrated that it measures just the ability which is supposed to measures. The word 'construct' refers to any underlying ability which is hypothesized in a theory of language ability. Brown (2004:25) mentioned that a construct is any theory, hypothesis, or model that attempts to explain observed phenomena in our universe of perception.

Perry said on his book (2005:138) that construct validity means a global concept that cover all the facets validity. Construct validity determine by the degree to which the procedures corresponds to the definition of trait. The instrument is called valid from the construct based on the testing objective and the test item. Testing objective here is to test students' ability in guessing the meaning of words, so the researcher

made an instrument in form of multiple choices. The test is not only about the application of guessing technique, but also there were comprehension questions.

c. Face Validity

Face validity is measure the validity instrument from the surface of the instrument itself. Perry explain on his book (2005:141) that face validity is whether a measurement procedures appears to measure what it is supposed to measure.

Holden (2010) states that face validity is the extent to which a test is subjectively viewed as covering the concept it purports to measures. It refers to the transparency or relevance of a test as it appears to test participants. In other words, Gravetter (2012) mentioned that a test can be said to have face validity if it "looks like" it is going to measure what it is supposed to measure.

2. Reliability Testing

Reliability also defined as the degree of the consistency with which an instrument measures whatever it is measuring (Ary *et al,* 2010: 236). Brown (2004: 20) states that a reliable test is consistent and dependable, if the students are given the same test on two different occasion, the test should yield similar results. It is necessary characteristic of any good test for it to be valid at all. Reliability of a test can be derived from reliability coefficient.

The range of reliability coefficient is 0 – 1. 0 means not reliable, while 1 means perfectly reliable and the closer reliability coefficient to 1, the more reliable the test is.

To know whether the test is reliable or not, the researcher will give the test to the students in the same grade but in other class. From this test, the researcher will get reliability coefficient of cronbach alpha. The try out test was conducted on April 19th, 2016 in first grade social class of MA Darul Huda Wonodadi Blitar.

In this research, the researcher uses SPSS 16.0 to know the reliability of the research instrument. According to Riduwan (2004:118), the criteria of reliability instrument can be divided into 5 classes as follows:

a. If the *alpha cronbach* score 0.00-0.20: less reliable

b. If the *alpha cronbach* score 0.21-0.40: rather reliable

c. If the *alpha cronbach* score 0.41-0.60: enough reliable

d. If the *alpha cronbach* score 0.61-0.8: reliable

e. If the *alpha cronbach* score 0.81-1.00: very reliable

Table 3.4 Reliability Coefficient of Pre-test Try Out

Reliability Statistics

Cronbach's Alpha	N of items
.394	20

Table 3.5 Reliability Coefficient of Post-test Try Out

Reliability Statistics

Cronbach's Alpha	N of items
.234	20

The table 3.4 and 3.5 show the Cronbach's Alpha reliability. Pre-test reliability was 0.394 and post-test was 0.234. It means that both of pre-test and post-test instruments are rather reliable based on the criteria of reliability instrument of Cronbach's Alpha. The result of students' tryout of pre-test and post-test see appendix

H. Normality and Homogeneity Testing

1. Normality Testing

Normality testing is conducted to know whether the obtained data is normal or not. Normal here means if the data has a normal distribution. To test the normality of the data, the researcher uses the *One Sample Kolmogorov-Smirnov* test with the provision that if Asymp Sig > 0.05, the data were normally distributed.

If the value is smaller than 0.05, the data are not normal. If the value is higher than 0.05, the data are vividly normal. In this case, the researcher uses SPSS (Statistical Product and Service Solution) 16.0 for windows.

Table 3.6 Normality Testing of Pre-test Try Out

One-Sample Kolmogorov-Smirnov Test

		pretest
N		30
Normal Parameters[a]	Mean	64.50
	Std. Deviation	9.409
Most Extreme Differences	Absolute	.168
	Positive	.150
	Negative	-.168
Kolmogorov-Smirnov Z		.919
Asymp. Sig. (2-tailed)		.367

a. Test distribution is Normal.

Table 3.7 Normality Testing of Post-test Try Out

One-Sample Kolmogorov-Smirnov Test

		posttest
N		30
Normal Parameters[a]	Mean	71.67
	Std. Deviation	7.581
Most Extreme Differences	Absolute	.177
	Positive	.177
	Negative	-.170
Kolmogorov-Smirnov Z		.970
Asymp. Sig. (2-tailed)		.304

a. Test distribution is Normal.

Table 3.6 and 3.7 are the result of One-Sample Kolmogorov-Smirnov Test. The significance value of pre-test was 0.367, while post-test was 0.304. It can be seen that significance value from both pre-test and post-test were higher than 0.05. Hence, it can be concluded that the data were normally distributed.

2. Homogeneity Testing

Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. To know the homogeneity, the researcher uses one-way ANOVA with SPSS 16.0. If the significant value higher than 0.05, the data can said to be homogeneous. If significant value less than 0.05, the data are not to be homogeneous.

Table 3.8 Homogeneity Testing of Pre-test Try Out

ANOVA

Pretest

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2308.571	5	461.714	42.796	.000
Within Groups	258.929	24	10.789		
Total	2567.500	29			

Table 3.9 Homogeneity Testing of Post-test Try Out

ANOVA

Posttest

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1516.667	6	252.778	38.759	.000
Within Groups	150.000	23	6.522		
Total	1666.667	29			

I. Data Analysis

The data are obtained from this research will be in the form of scores and the data is going to analyze quantitatively by using statistical analysis. This technique will be used to find the significant difference on the students' achievement in reading after being taught by using contextual guessing technique.

The design of this research is an experimental research design by using dependent or correlated samples. It means that in applying this design, the researcher is going to use the same group in different treatment.

Here, the researcher will use t test to analyze the data. As stated by Ary et al (2010: 176) that the researcher who expect the dependent variable scores to be correlated, the t test for dependent samples must be used. This test is also known as the correlated, or non independent, or paired t test. The measure to be analyzed by the dependent t test is the mean difference between the paired scores. Pre- and posttest scores of the same individuals are an example of paired scores. The formula as follows:

$$S_D = \sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N-1}}$$

$$t = \frac{\overline{D}}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}}$$

Where:

t = t ratio

$\bar{D}$ = average difference

$\sum D^2$ = different scores squared, then summed

$(\sum D)^2$ = different scores summed, then squared

N = number of pairs

The researcher uses t-test using SPSS 16.0 to know the effectiveness of technique used in learning process. To determine whether the null hypothesis can be rejected or not, the researcher is going to compare the T-count and the value in the table or by using the level of significant 5%. If the value of T-count is higher than the value in the table or the significant level in SPSS is less than 5%, it means that the null hypothesis will be rejected and the researcher will accept the alternative hypothesis. Meanwhile, if the T-count is smaller than the value of the table and the significant level in SPSS is more than 5%, the null hypothesis cannot be rejected.