# CHAPTER III

# RESEARCH METHOD

For this chapter, the researcher presents some points including research design, population, sample and sampling, variables, research instrument, validity and reliability testing, data collecting method, data analysis.

## A. Research Design

The approach of this study is quantitative research. Quantitative research is focusing on an empirical study which the data form something that can be calculated or number. Quantitative research gives more attention to data collection and analysis in numerical form. This study uses quasi-experimental design which no randomly controls group design. According to Creswell (2008:626) that quasi-experiments are experimental situations in which the researcher assigns, but not randomly, participants to groups because the experimenter cannot artificially create groups for the experiment. Accordingly, the researcher uses two groups that become the control group and the experimental group.

In this study, the researcher uses a two-group pre-test post-test design. In two-group pre-test post-test design including three steps, as follows: The first, administering the pre-test measure the dependent variable. The second, applying the treatment in the experimental group and no treatment

for the control group. And the third is administering the post-test measure the dependent variable (Ary, 2002:203).

It means that administering pre-test and post-test is given in both groups between the experimental and control group. The experimental group taught with the treatment of Audio-Book script media and for control group didn't get any treatment but ordinary teaching in class VIIIB.

The two groups have different treatment intended to be measure students' reading achievement. But, for applying the treatment it is just given in the experimental group after giving a pre-test. The data collected from pre-test and post-test score. The differences attributed application of the quasi-experimental treatment is determined by comparing the pre-test and post-test score. In this study is the effectiveness of Audio-Book towards students' reading achievement would be known before and after taught by using AudioBook media.

## B. Population and Sample

The population is all elements being investigated. According to Sugiyono (1997:57) population is a generalization area consisting of objects or subjects that become certain quantities and characteristics set by researchers to be studied and the conclusions are drawn.

The population of this study is students in MTsN 2 Kota Blitar which has 366 students of VIII class. After that, the researcher uses stratified

sampling to determine the sample. The researcher chooses students in class

VIIIB with 40 students and VIIIC with 40 students.

## C. Variables

Variable is an object of study or focus the study. According to

Arikunto (2010:161) research object or that becomes a certain point in

research. The variable classified into two variable as an independent

variable and dependent variable, Ary (1985:30). The variables as follows:

1. Independent variable.

Independent variable is a variable that can be affecting another variable. In

this study using AudioBook is an independent variable. Because it variable

influenced student's achievements.

2. The dependent variable is a variable that affected by another variable. In

this study students' reading achievement is a dependent variable. Because

after giving a treatment the students score will be changed.

## D. Research Instrument

The research instrument is a tool to collect data. The instrument used

by the researcher is testing. The purpose of the test is to measure the

effectiveness of AudioBook toward students' reading achievement or to

know the students score before and after taught by using AudioBook. The

test that the researcher used for pre-test and post-test. The test is given

before treatment, with 20 questions for both in pre-test and post-test. The

test is the same content that narrative text, but is there different in reading

the text. There was a researcher needed 4 meetings to collect the data.

Every meeting consists of 40 minutes. There is test specification can be seen in this table.

**Table 3.1 Test specification number of question**

| Material of Narrative Text | Number of items | total |
|---|---|---|
| Understanding the purpose of text | Randomly 1-20 | 20 question |
| Understanding the kind of the text | Randomly 1-20 | |
| Identifying the generic structure of text | Randomly 1-20 | |
| Identifying of component the text | Randomly 1-20 | |

**E. Validity and Reliability**

According to Ary (2010:242), the research is always depending on measurement. The two concepts of measuring instrument are including validity and reliability. So, if the researcher wants to know whether the test is good or not and the test is valid and reliable, it needs validity and reliability testing.

1. Validity

Validity is the extent to which the scores from a measure represent the variable they are intended to. It means the test will be valid if it measures what is supposed to be measured. The researcher used content validity and face validity.

➢ Content Validity

Content validity is an assessment or analysis of the validity requirements of a test. The test can be said to be valid if, the validity content can represent the scope of language skills, language structure being tested. And the researcher conducted a test trial. And the test can be said to be valid because of the accord with the syllabus. The content validity in this research can be shown as below;

**Table 3.2 Content Validity**

| Main Competence | 3.10 Menerapkan fungsi social, struktur teks, dan unsur kebahasaan teks interaksi transaksional lisan dan tulis yang melibatkan tindakan memberi dan meminta informasi terkait keadaan / tindakan /kegiatan / kejadian yang dilakukan / terjadi, rutin atau tidak rutin, atau menjadi kebenaran umum di waktu lampau, sesuai dengan konteks penggunaannya. (perhatikan unsur kebahasaan simple past tense). |
|---|---|
| Basic Competence | Understanding the meaning and structure of written text that using simple past tense (narrative text). |
| Indicator | • Students are able to identify the purpose of the text. <br> • The students are should be able to know the kind of the text. <br> • Students are able to identify the generic structure of the text. <br> • Students are able to mention the component of the text. |
| Technique | Written test |
| Instrument | • Pre-test <br> • Post-test |

➢ Face Validity

Instrument or test that valid if the test use face validity to be a measurement. In other explanation, face validity is the extent to which examinees believe that the instrument is measuring what it is expected to measure (Ary, 2010:228). Because the validity, was the measurement with showed the level of instrument. Face validity becomes important validity that makes sure by the teacher, test takers, education expert, and employee.

In this study, the researcher uses face validity by consulting try out a test with an advisor as a validator to make sure or validate the test. After a consult with the advisor, it has some point that makes reliable in the face validity, as follows: the instructions of the test have to understand for students, the question may not ambiguity, test have to able for students to answer. The try out question would be showed in appendix 2.

2. Reliability

Reliability estimates evaluate the stability of measures, internal consistency of measurement instruments, and interrater reliability of instrument scores. Reliability in this research taken from tryout test and the result was taken from SPSS as follows:

**Table 3.3 Reliability Testing**

**Case Processing Summary**

|  |  | N | % |
|---|---|---|---|
| Cases | Valid | 38 | 100.0 |
|  | Excluded[a] | 0 | .0 |
|  | Total | 38 | 100.0 |

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .445 | 40 |

The calculations' result on the reliability tryout test was 0.445. The value of Cronbach's Alpha can be interpreted as follows:

**Table 3.4 Interpretation of Conbrach's Alpha**

| Interpretation | Cronbach's Alpha |
|---|---|
| Less Reliable | 0.00 – 0.20 |
| Rather Reliable | 0.21 – 0.40 |
| Quite Reliable | 0.41 – 0.60 |
| Reliable | 0.61 – 0.80 |
| Very Reliable | 0.80 – 1.00 |

When the reliability score compared with categories from Conbrach's Alpha, the reliability calculation result is 0.445. It means the position of 0.445 between 0.41- 0.60 with the categories of reliability quite reliable.

## F.  The technique of Collecting Data

In this study, the technique of collecting data is using a written test. The data was taken from the students' score. So, the researcher used two kinds of test pre-test and post-test in this study to collect the data. It means

the technique of collecting data shaped by number. In this study, the researcher used quasi-experimental to know the students' achievement in reading skill after taught by using AudioBook. The researcher gave a written test to both groups, as follows:

1.  Pre-Test

    The pre-test was conducted in the experimental group and control group. The pre-test was given before treatment applied for the experimental group. The kind of test is written test with multiple choice question consist of 20 items that taken from the reliable and valid of the test in try out. The researcher was given the same test in both groups, and the students have to answer the question in paper sheets that the researcher provides. Time allocation was students have about 60 minutes.

2.  Post-Test

    The post-test was administrated after the treatment applied in the experimental class. The kind of test is the same that is written test with 20 questions item also. Post-test was conducted is to be measured students' ability after the treatment was given. This test has the aim to know the students' knowledge after giving the AudioBook for the experimental group and students' knowledge in the control group after taught by traditional way. It is the final score and to know students' score between before and after they get the treatment.

**G. Data Analysis**

This study is using a quantitative approach with the quantitative data analysis technique is shaped by number. In this study, the researcher used the quantitative data to know the students' achievement in reading after they are taught by using AudioBook as a media in teaching reading. The data will be analyzed by using the statistical instrument (SPSS). By using SPSS the researcher know the significance of score two groups. The data obtained from pre-test and post-test score. The researcher used the T-test formula to know the comparison of two variables. But before, the researcher has to make sure the result pass the normality testing and homogeneity testing.

1. Normality testing

After the researcher conducted the pre-test and post-test, the result has to pass normality testing. In statistics, normality tests are used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed (Székely and Rizzo, 2005). The table of normality testing, as follows:

**Table 3.5 Normality testing**

**One-Sample Kolmogorov-Smirnov Test**

| | | Unstandardized Residual |
|---|---|---|
| N | | 37 |
| Normal Parameters[a,b] | Mean | .0000000 |
| | Std. Deviation | 7.17938257 |
| Most Extreme Differences | Absolute | .116 |
| | Positive | .049 |
| | Negative | -.116 |
| Kolmogorov-Smirnov Z | | .704 |
| Asymp. Sig. (2-tailed) | | .704 |

a. Test distribution is Normal.

b. Calculated from data.

Based on data, the result of normality testing from SPSS in table 3.5 with total Asymp. Sig. (2-tailed) 0.704 and > 0.05. It means that the result of normality testing, the test can distribution is normal.

2. Homogeneity testing

This test determines if two or more populations (or subgroups of a population) have the same distribution of a single categorical variable. Or the test for homogeneity is a method, based on the chi-square statistic, for testing whether two or more multinomial distributions are equal. The table of the result homogeneity testing, as follows:

**Table 3.6 Homogeneity Testing**

**Test of Homogeneity of Variances**

hasil pretest

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| .110 | 1 | 78 | .741 |

Based on table 3.6, the result of test homogeneity testing with total Sig 0.741 and it means >0.05. So, the result of test homogeneity testing between treatment group and control group is having the same variant or homogeny.