CHAPTER III

RESEARCH METHOD

In this chapter, the writer presents research method. It focuses on the method used in conducting this study. This chapter presents some topics dealing with the research method. Those are: research design, population, sample and sampling, research variable, data and data sources, data collection method and research instrument, and data analysis.

A. Research Design

In this study the researcher uses experimental research with quantitative approach.Experimental research is a powerful research method to establish cause and effect relationship. Ary *et al* (2007: 338) states "Experimental research design is a scientific investigation in which the researcher manipulates one or more independent variables, controls any other relevant variables, and observes the effect of a manipulation on the dependent variables(s)". It means that the experimental research design is a research design in which the researcher manipulates the experimental group. In this case, the researcher serves treatment to manipulate that experimental group. The treatment is in the form of kind of listening.

The essential feature of experimental research is that investigator or the researcher deliberately controls and manipulates the conditions which determine the events, in which he/she is interested, introduce an intervention and measure

the difference that it makes. An experiment involves making a change in the value of one variable – called the independent variable – and observing the effect of that change on another variable – called the dependent variable (Cohen *et al*, 2007: 291). It means that the cause comes from independent variable and the effect is toward dependent variable.

The experimental research design is classified into pre-experimental design, true experimental, and quasi-experimental. Pre-experimental research does not have random assignment of subjects to groups or other strategies to control extraneous variables. True-experimental research uses randomization and provides maximum control of extraneous variables. Whether quasi-experimental research lack randomization but employ other strategies to provide some control over extraneous variables (Ary *et al*, 2002: 302).

In this research, the researcher uses pre-experimental design using one-group pre-test and post-test design. It means that one group will be treating and they will be test before and after the treatment conducted. This research was classified as pre-experimental design since it was little or no control of extraneous variables. In the one-group pre-test and post-test design, a single group was measured or observed not only after being exposed to a treatment but also before. The experimental group will be conducted by using pre-test before treatment and post-test for result of treatment as instrument to collecting data.

The researcher teaches one class but divided into two different conditions. Firstly, they are become controlled group and secondly become experimental group. The researcher provided a pre test and post test. Pre test was given before

the material had been given and post test in the last meeting. The researcher conducted several meeting in teaching listening. In the first meeting, the researcher gave listening test to the students, called pre test. After several teaching and learning listening by using missing lyric technique, the students had test again, called post test.

The illustration of the research design in this study is as table below:

Table 3.1 The Illustration of Research Design

Pre-test	Independent variable	Post-test
YI	X	Y2

X : listening treatment

Y1 : students' achievement on listening before taught by using missing lyric

Y2 : students' achievement on listening after taught by using missing lyric

The procedures of pre-experimental research that use one group pre-test and post-test design in this study are described as follows:

1. Administering pre-test (Y1) with a purpose of measuring students' listening comprehension before applying treatment.

2. Applying experimental treatment teaching listening comprehension by using missing lyric (X).

3. Administering post-test (Y2) with a purpose of measuring students'listening comprehension after applying treatment.

To see the influence of this technique to the students listening ability, the researcher used the comparative technique. Compared students post test score in both experimental and controlled group to see whether there are students gain score before and after the treatment.

In conducting this research, the researcher asked an English teacher of MA Unggulan Bandung to help her. The teacher helps the researcher in planning, action, observation, and reflection. Moreover, it is also possible for the researcher to ask much suggestion from him/her in conducting of the research.

B. Variable of study

Before the writer discusses the variables of this research, it is important to know the meaning of variables. Arikunto (2010:161) says that "Variable is research, or the focus of the research".

A variable is a concept that stands for variation within a class of objects. Variables can be classified in several ways. The most important classification is on the basis of their use within the research under theconsideration, when they are classified as independent variables or dependent variables (Ary et al, 2006:37).

Independent variable is an attribute or characteristics that influences or affects an outcome (Creswell, 2008:127). The independent variable in this research is learning strategy using missing lyric technique to. While, dependent variable is an attribute or characteristics that is dependent on, or influenced by the

independent variable (Creswell 2008:127). In this research the dependent variable is to build sudents listening ability.

C. Population, Sample and Sampling.

1. Population

According to Gay (1992:140) population is the group to which a researcher would like the result of a study to be generalizable. Moreover, according to Arikunto (2010:173) Population is a set (or collection) of all elements processing one or more attributes of interest.While According to Ary, (2002:163), population is the larger group to which a researcher wishes to generalize, it includes all members of a defined class of people, events or object. To will get the real data in this study, the researcher will choose the population in senior high school in tenth grade.

2. Sample

According to Gay (1992:123) sample is the individual selected comprise. Selection of a sample is a very important step in conducting a research study. Regardless of the specific technique used, the steps in sampling include identification of the population, determination of required sample size and selection of sample.

Sample is a part of population to will observed, which can represent all the characteristics of population. To make research, the researcher will investigate tenth grade consist of 18 students.

3. Sampling

According to Gay (1992:123) 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. Sampling can be divided into two kinds of sampling. There are probability sampling and non-probability sampling. A probability sampling is one in which every unit in the population has a chance (greater than zero) of being selected in the sample, and this probability can be accurately determined or the sampling that have to equal chance to be selected.

The combination of these traits makes it possible to produce unbiased estimates of population totals, by weighting sampled units according to their probability of selection. Kinds of probability sampling are simple random sampling, systemic sampling, stratified sampling, probability proportional to size sampling and cluster or multistage sampling. While, non-probability sampling is any sampling method where some elements of the population have no chance of selection or the sampling don't have a chance to be selected. Non-probability sampling methods include accidental sampling, quota sampling, judgment sampling and purposive sampling.

In this research, the researcher uses probability sampling type simple random sampling. In this sampling, every members of population under the study has an equal chance to be a sample.So, the researcher got 18 students that were in the tenthgrade as the experimental group and as the control group too.

D. Research Instrument

According to Sugiono (2008:102) instrument is the generic term that researchers use for a measurement device (survey, test, questionnaire, etc). Research instrument is the process of developing, testing and using the device. The researcher used test as research instrument. According to Arikunto (2010:193) test is a set of question or exercise or by any means which is used to measure the skill and the knowledge, intelligence, ability or talent proposed by individual or a group of people.

As mentioned before in this research, the research instruments are test. There are two teststhat is used in this research, pre-test and post-test.

1. Pre-test

Here, the researcher gives a test to the student by taking the previously material. Pre-test was conducted to know student listening skill before getting the treatment. The test consists of 20 questions. The form of this test is fill in gap the lyric of song.

Post-test

A post-test was given to the student after conducting the treatment. As the pre-test, it consists of 20 questions in the form of fill in gap.The type of the test is achievement test (Isnawati, 2012:14), means the test must representative of structure and skill that will be tested then the test must appropriate with the grade. The purpose of this kind of test is to establish how successful individual students, group of students, or the courses themselves have been in achieving objectives. Its means that, achievement test that is used to measure the process that students

making after learn something in achieving objectives. This test used to measure the students achievement in listening mastery before and after they taught by using missing lyric in MA Unggulan Bandung. The test contains simple listening that they learnt or the material that they got in the class.

Every test consists of 20 questions. The test had given to the students as pre-test and post-test based on agreement from English teacher on this school. Furthermore, the scoring for the tests was done with the same way. Since the form of tests was all objectives test, so the researcher treats them without any difference. Means, there was only one correct answer for each items. The scoring guide is as the formula follow:

Score=   number of correct items   x 100

$$\frac{\qquad\qquad\qquad}{20}$$

E. Validity and Reliability Testing

As previously mentioned, the researcher used tests as the research instrument. Both pre-test and post-test were intended to measure students' listening comprehension. The tests should fulfill some factors to get the data as well. The factors tested here is validity and reliability of the tests. By using a valid and reliable instrument to collect the data, it was expected that the data and the result of the research itself also valid and reliable.

1. Validity

Validity is concerned with how accurate the test measure and the appropriate of the test for the subjects. Ary et al (2006:225) 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 measures what is supposed to be measured. In this study, to ensure tests validity the researcher used construct validity, content validity and face validity.

a. Face Validity

Face validity refers to the surface of the test. It means that a test have to look as if it measures what is supposed to measure (Isnawati, 2012:29).Face validity is hardly a scientific concept, yet it is very important. A test which doesn't have face validity may not be acceptable by test-takers, teachers, education authorities and employers.

In this research, the objective of the test was testing listening and the kind of test was missing lyrics.In this test, the researcher asked the students to listen to a song and they should fill the gaps based on the song that they listened to. From this, it can be seen that the test has represented listening skill. Thus, it can be said the test has had face 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 measure (Isnawati, 2012:29). Construct validity is capable of measuring certain specific characteristics in accordance with theory of language behavior and learning.

Therefore, the researcher creates the test based on the material which is suitable to the students at the tenth grade. Then the researcher constructs questions of the test from the simple one to the complex one.

c. Content Validity

Content validity refers to the validity which is seen from the content of the test as the representation of language skills (Isnawati, 2012:27).It also means that there is correspondence between curriculum objectives and the objectives being tested. In other words, the objectives of the test are not outside from the curriculum objectives that have been set by educational policy. In this research, the test had represented the skills that would be tested, that was listening.

Besides, the objective of this research was testing listening and in the curriculum objective of the tenth grade students of MA Unggulan in the second semester, listening was should be tested. Therefore, it can be said that the test of this research has content validity.

2. Reliability

Reliability refers to our measure repeatedly delivering the same (or near same) results. Ideally, if we use the same measure with the same people under the same conditions, our measure should give us the same result (Litosseliti, 2010: 55). The reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring (Ary *et al*, 2010: 236). It can be said that a reliable test is consistent and dependable.

To know the reliability of instruments used in this research, the researcher had tried them out before conducting them into the pretest and posttest. The tests were administered to the ten students. They consisted of 20 questions in the form of partial dictation (missing lyric). The researcher allocated 30 minutes in conducting the try out. After getting the data, the researcher analyzed them by using SPSS 16.0. Below was the result of the analysis of reliability:

Table 3.2The Result of Reliability in Pretest

Reliability Statistics

Cronbach's Alpha	N of Items
.625	20

The table above showed that in number of items 20, the reliability of Cronbach's Alpha was 0.625.

Table 3.3The Result of Reliability in Posttest

Reliability Statistics

Cronbach's Alpha	N of Items
.656	20

The table above showed that in number of items 20, the reliability of Cronbach's Alpha was 0.656.

According to Triton in Sujianto (2009: 97), the value of Cronbach's alpha can be interpreted as follows:

Table 3.4Cronbach'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

Based on the table 1.2 and 1.3, it could be known that the reliability of pretest was 0.625 and the reliability of posttest was 0.656. Both of them were higher than 0.61 and lower than 0.80. Therefore, the instruments in this research could be categorized into reliable.

F. Normality and Homogeneity Testing

1. Normality Testing

Normality testing is a basic requirement that should be fulfilled in parametric analysis. Before doing a further analysis towards the data, normality of the data should be tested first. It is intended to investigate whether the data is in normal distribution or not. According to Priyatno(2012:33), normality testing being important since by a normal distribution of the data, means that data could represent the population. In this case, to test the normality the researcher uses SPSS 16.00 with One-Sample Kolmogorov-Smirnov method. The normality

testing is done towards both pre-test and post-test score. The students' names below were identified based on the initial name of the students. The data is presented on the table below:

Table 3.5The Pretest and Posttest Scores to Test Normality

Number	Student	Pretest (x)	Posttest (y)
1	A	70	70
2	B	65	70
3	C	50	75
4	D	85	80
5	E	60	70
6	F	75	80
7	G	80	85
8	H	70	75
9	I	70	75
10	J	70	65
11	K	50	70
12	L	65	75
13	M	60	70
14	N	75	80
15	O	60	80
16	P	75	80
17	Q	60	85
18	R	70	85

The hypotheses for testing normality are:

a. H_0 : Data is in normal distribution

b. H_1: Data is not in normal distribution

In testing the hypotheses, the data is in normal distribution if Ho is accepted. In this case, Ho is rejected if significance value is lower than 0.05 ($\alpha =$

5%) while Ho is accepted if the significance value is higher than 0.05. The analysis is as follow:

a. Testing data of pre-test using SPSS 16.00.

Table 3.6 One-Sample Kolmogorov-Smirnov Test 1

One-Sample Kolmogorov-Smirnov Test

		Pretest
N		18
Normal Parameters[a]	Mean	67.2222
	Std. Deviation	9.42809
Most Extreme Differences	Absolute	.171
	Positive	.112
	Negative	-.171
Kolmogorov-Smirnov Z		.727
Asymp. Sig. (2-tailed)		.666

b. Testing data of post-test using SPSS 16.00

Table 3.7 The Result of Posttest in Normality Testing

One-Sample Kolmogorov-Smirnov Test

		posttest
N		18
Normal Parameters[a]	Mean	76.1111
	Std. Deviation	6.07685
Most Extreme Differences	Absolute	.183
	Positive	.176
	Negative	-.183
Kolmogorov-Smirnov Z		.778
Asymp. Sig. (2-tailed)		.581
a. Test distribution is Normal.		

Based on the output from One-Sample Kolmogorov-Smirnov Test in SPSS 16.0 at table 1.6 and 1.7 above, it is known that the significancevalue from pretest is 0.666 and from the post test is 0.581. As stated earlier, the hypotheses for normality testing say that the data is in normal distribution if H_o is accepted and on the contrary, the data is not in normal distribution if H_a is accepted. In this case, the H_o is rejected when the significance value is lower than 0.05 ($\alpha = 5\%$), while H_o is accepted when the significance value is higher than 0.05 ($\alpha = 5\%$). Based on the data above, the significance value of pretest is 0.666 and it is higher than 0.05 (0.666> 0.05).

It means that H_o is accepted and H_a is rejected. It can be interpreted that the data is in normal distribution. Next, the significance value of posttest is 0.581 and it is higher than 0.05 (0.581> 0.05). It means that H_o is accepted and H_a is rejected. It can be interpreted that the data is in normal distribution. From the interpretations above, it can be concluded that both of the data, those are pretest and posttest scores, are in normal distribution.

2. Homogeneity Testing

Homogeneity testing is intended to know whether the variance of data is homogeneous or not. In this case, the homogeneity will be tested to the sample that was used to collect the data. The procedure used to test the variance of homogeneityis by determining F_{max}value. In homogeneity test F_{value} (empiric) should be lower than F_{table} (theoretic). In order to get F_{max}value, the data of students' score on pre-test and post-test are analyzed as follow:

Table 3.8 Pre-test and Post-Test Analysis to Test Homogeneity

NO	Student	Pretest (X_1)	X_1^2	Posttest (X_2)	X_2^2
1	A	70	4900	70	4900
2	B	65	4225	70	4900
3	C	50	2500	75	5625
4	D	85	7225	80	6400
5	E	60	3600	70	4900
6	F	75	5625	80	6400
7	G	80	6400	85	7225
8	H	70	4900	75	5625
9	I	70	4900	75	5625
10	J	70	4900	65	4225
11	K	50	2500	70	4900
12	L	65	4225	75	5625
13	M	60	3600	70	4900
14	N	75	5625	80	6400
15	O	60	3600	80	6400
16	P	75	5625	80	6400
17	Q	60	3600	85	7225
18	R	70	4900	85	7225
	N=18	$\sum X_1$=1210	$\sum X_1^2$=82850	$\sum X_2$=1370	$\sum X_2^2$=104900

$$SD_1^2 = \frac{\sum X_1^2}{N_1} - \left(\overline{X}_1\right)^2$$

$$= \frac{82850}{18} - 4518.827$$

$$= 4602.778 - 4518.827$$

$$= 83.951$$

$$SD_2^2 = \frac{\sum X_2^2}{N_2} - \left(\overline{X}_2\right)^2$$

$$= \frac{104900}{18} - 5792.901$$

$$= 5827.778 - 5792.901$$

$$= 34.877$$

$$F_{max} = \frac{s\,max}{s\,min} SD_1^2 = 83.951, \quad SD_2^2 = 34.877$$

$$= \frac{34.877}{83.951}$$

$$= 0.415$$

$$df_1 = N - 1 = 18 - 1 = 17$$

$$df_2 = N - 1 = 18 - 1 = 17$$

The calculation shows the result of F_{max} is 0.415. Furthermore, the homogeneity is fulfilled if F_{max} calculation is lower than F table. The value of F table in 5% level and df1=df2=17 is 2.27. It can be said that the result of F_{max} calculation is lower than F table or $F_{table} > F_{calculation}$ (2.27>0.415). It means that the variance value in the class sample based on pre-test and post-test score is homogeneous.

G. Data and Data Sources

1. Data

According to Arikunto (2010:172) data is written facts or notes gotten by the researcher that will be organized in research activity. Data can be in the form of fact or numbers. In a research, the role of data is very important since it is used to answer the problems.

Data is information about something or the result of research that use necessity. It can be opinion or fact. In this research the data was students' listening comprehension score before and after the treatment given. This score is very crucial information that can show the effectiveness of using missing lyric.

2. Data Source

While data source is data can be gotten from the subject. Data source can be classified into two types. There are primary data and secondary data. Primary data is source of data where the researcher can directly get the data, while secondary data is data that collected by the researcher indirectly it means the data got from book, journal, magazine etc. The main data of this research was the students' scores in pretest and posttest and they were taken directly when the research was being conducted. Furthermore, the data of this research belonged to primary data.

Arikunto (2010:172) classifies data source into three; person, place and paper. Regarding to this statement, data sources in this research can be classified as follows:

a. Person: Tenth grade students of MA Unggulan Bandung in which the treatment was given.

b. Place: X classroom where the tests were administered

c. Paper: students' listening comprehension tests

H. Data Collecting Method

Data collection method is a systematical and standard procedure used to collect the data. Indeed, the data collection method in this research was done in three steps:

1. Pre test

As stated previously, the researcher administered pre-test before the treatment was given. It was done on Tuesday, May 27th 2014. The pre-test consisted of fill in gap song lyric. The main level of listening comprehension used in pretest is literal comprehension by considering students' level. The aim of administering pre-test is to get initial information of the groups before the experimental stage is conducted. In this case, the researcher gives the students 20 questions based on song lyric.

2. Treatment

After administering the pre-test, the researcher gave the treatment to the students. The treatment was applied on Wednesdays, May 28th 2014 and Thursday, May 29th 2014. The researcher applied the treatment of listening by fill in gap using missing lyric too. Then, the material was given to the students in the

form of listening file on the computer. The step of the treatment can be classified in to three phases:

a. Pre-listening activity

In this phase, the researcher introduced the materials that were going to be discussed. Then before the materials were discussed, the researcher gave a pre-listening teaching by playing some listening test on each computer unit. The listeningwas related to the sentence in the script. It was needed to activated the studentsattention related to the topic before came to the real listening-activity.

b. While-listening activity

In this step, the scripts wereshowed to the students. The script is more than one, so students have the opportunity to choose which script should be listen earlier. After that, the researcher guided the students to listen the script. The activities of this part areincludingof listen the speaker example and try to understanding the speaker instruction or direction.

c. Post-listening activity

Post listening activity is instructional activity that the students and teacher do after listening takes place. In this step, post-question were conducted. The researcher did it by giving listening test. It was assisted by the computer, but it was not computer based test.

3. Post-test

The last method used to collect the data was administering post-test. Post-test was administered to the group after being exposed with missing lyric as the treatment. It was done on Friday,May 30th 2014. The post-test consist of fill in gap

and the number of question in these test also 20 questions. The researcher used literal listening as the main level of listening comprehension. The purpose of administering post-test in this study was to observe and measure any changes of the students listening comprehension after being taught by using missing lyric.

1. Method of collecting data

To collect the data, the researcher usedadministering test. The test will give to the sample of the students. The test here is comprehension test. It is will do at finds out the student's achievement in teaching listening.

2. Research Instrument

Test

The researcher will give the students question in the form of fill the blanks. After that, the researcher play song and the students should be concentrating to listen the song. In the same time, the students must answering or fill up fill the blank according the song.

I. Method of Data Analysis

Method of data analysis is the way data analyzed by the researcher. In managing and analyzing the data collected, the researcher will use quantitative data analysis so the researcher will analyze the data by using statistical technique.

The analysis is used to find the significant difference of the students' listening comprehension before and after the use of missing lyric. In this study the researcher used paired sample T-Test through SPSS 16.00 to analyze the data.

Indeed, the method in further analysis of the data is as follow:

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

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 statistical table in significance level 0.05: 2 = 0.025 (two tailed test) with degree of freedom (df) is n-1.

4. Determining the significance value based on the output of SPSS 16.00 analysis. In this case, the value of significance should be lower than 5% significance level (< 0.05).

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

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

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

6. Making conclusion. If Ho is rejected, it means that there is significant difference of the students' reading comprehension ability before and after being taught by using missing lyric. So, if Ho is accepted means that there is no significant difference of the students' listening comprehension before and after being taught by using missing lyric.