CHAPTER III

RESEARCH METHOD

This chapter discuss about research design, population, samples and sampling technique, description of treatment, data collection method, research instrument, validity and reliability testing, normality and homogeneity, and data analysis technique.

A. Research Design

In fact, there are two kinds of research approaches namely quantitative and qualitative approach. In the quantitative approach the result of data is in the form of numbers and statistical report, while, the qualitative approach the result of data is mostly in the form of statements. This research used quantitative approach, experimental design. There are many kinds of experimental research designs, such as pre-experimental, true experimental, factorial design and quasi experimental (Ary *et al*, 2010: 302).

Here, the researcher used pre-experimental design, involving one group pre-test post-test. The researcher used pre-experimental design because she did not have random assignment of subjects to groups. The researcher wanted to find out the differences of mean score of students' listening between before being taught by using dictation and after being taught by using dictation on listening

ability of the first grade students in MTsN 2 Tulungagung.

In this research, the group is given a pre-test before the treatment. After the treatment finished, the post-test was administered to know students' progress. One group pre-test post-test design, a single group observed not only after given treatment but also before it.

Table 3.1. Pre-experimental research design

Pre-test	Treatment	Post-test
Y_1	X	Y_2

Adapted from Ary *et al* (2010:304)

Based on the table 3.1., the procedures of this research used one group pre-test post-test design were:

1. Administering a pre-test to measure listening ability of the students of first grade in MTsN 2 Tulungagung.

2. Applying the experimental treatment teaching listening by using dictation technique to the students of first grade in MTsN 2 Tulungagung.

3. Administering a post-test to measure listening ability of the students of first grade in MTsN 2 Tulungagung.

In this case, the researcher wanted to find out the differences of mean students' score listening ability before and after being taught by using dictation technique.

B. Population, Sample and Sampling

1. Population

Population is the large group that the researcher would like to generalize the result of the research. According to Fraenkel and Wallen (2006:92) "The large group to which one hope to apply the result". Creswell (2012:142) states that "A population is a group of individuals who have the same characteristic". Meanwhile, Ary et al (2010:148) states "Population is the larger group about which the generalization is made". Based on the description above, the researcher took conclusion that population is the large group used by the researcher to generalize the result of the research.

The population of this research is all of the students of first grade in MTsN 2 Tulungagung in academic year 2015/2016 which consists of seven classes. Each class consist of 28 up to 35 students. Total of population is 212 students. But, the researcher conducted in one class.

2. Sampling Technique

Sampling is a technique taking of samples in group population which have opportunity to be chosen as samples. Sampling is an important characteristic of inferential statistics is the process of going from the part to the whole (Ary *et al*, 2010:148). Because the researcher conducted the research only in one class, she used purposive sampling to take samples from group population. Purposive sampling is a technique of taking samples based on some characteristics and the purpose of this research. The researcher used

purposive sampling because the researcher found some characteristics of the samples. They were good attitude, active in the class, and are not noisy during teaching learning process. The classroom having those characteristics is VII G class. It was proved by the researcher when she conducted PPL in MTsN 2 Tulungagung, besides that one of English teacher said that VII G class is quiet in the class and they always pay attention when the teacher explaines the material. Therefore, the researcher chose VII G class as the sample of this research.

3. Sample

According to Ary *et al* (2010:148) sample is the small group that is observed. Creswell (2012:142) states that "A sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population". Fraenkel and Wallen (2006:92) also give explanation that sample is the group on which information is obtained. Based on the description above, the researcher defines that sample is small group taken from population with certain technique that is researched by the researcher. The samples of this research were the students of VII-G in MTsN 2 Tulungagung in which total 35 students; they are 19 female students and 16 male students.

C. Research Variables

     Variable is anything that will be researched by the researcher. According to Frankel and Wallen (2006:40) variable is a concept a noun that stands for variation within a class of subject such as chair, gender, eye color, achievement, motivation, or running speed. Based on the title of this research, there are two variables:

1. Independent variable

   Independent variable is variable that influences or those to because of change the dependent variable. Creswell (2012: 116) states "An independent variable is an attribute or characteristic that influences or affects an outcome or dependent variable." The independent variable of this research is using dictation technique.

2. Dependent Variable

   Dependent variable is variable that was affected or that be the result because of the existence of the independent variable. Creswell (2012: 115) states "A dependent variable is an attribute or characteristic that is dependent on or influenced by the independent variable. The dependent variable of this study is the students' listening ability.

D. Description of Treatment

Treatment was given after administering pre-test and before administering post-test. During the treatment, the researcher applied dictation technique on teaching listening. Treatment was conducted by the researcher for four meetings.

1. First treatment was conducted on March 7th, 2016. In the first treatment the researcher used *guided dictation*. The steps are:

   a. Before Dictation

   Before beginning the dictation, the researcher wrote down some nouns or specialized words within the dictation on the board, then the researcher gave examples how to pronounce and the students had to memorize the words and its pronunciation.

   b. Doing Dictation

   At the beginning of the *guided dictation*, the researcher:

   1) First, played audio that have been recorded at normal speed.

   2) Second, played audio that have been recorded, the students had to write down what they had just heard. For any words that the students could not write, the researcher had them to leave the blank and continue the next.

   3) Third, played audio that have been recorded at normal speed without any pause and repetition. During this step, the students checked their work and made any last changes.

   c. After finishing dictation

After finishing the *guided dictation*, the researcher and students discussed together and played the audio again to do some corrections.

2. Second treatment was conducted on March 8th, 2016. In the second treatment the researcher used *running dictation*. The steps are:

a. Before dictation

Before beginning the *running dictation*, the researcher divided students into groups; of 4-5 students. Then, the researcher explained how to did running dictation, after that the researcher posted short sentences on the wall outside the classroom.

b. Doing dictation

The first runner read the first sentence and then run toward second runner and told him or her what to read (the second runner had to write down what have been told by the first runner). The second runner read the second sentence and then run toward third student and told him or her what to read (the third runner had to write down what have been told by the second runner). The third students and the last did the same thing.

c. After finishing dictation

After all students finished doing *running dictation*, the last student in each group told the transcript what they had heard. After each group told the transcript, the researcher asked the students to write down the short sentences in the board and the researcher read it. The researcher and students discussed together.

3. Third treatment was conducted on March 14ᵗʰ, 2016. Here the researcher used *unexploded dictation*. The steps are:

   a. Before dictation

   The teacher asked the students to mention daily activities which students do in the morning. Some vocabularies were relevant with words that they would hear in the *unexploded dictation.*

   b. Doing dictation

   At the beginning of the *unexploded dictation*, the researcher:

   1) First, played audio that have been recorded at normal speed. Here, the students just ask to listen.

   2) Second, played audio that have been recorded and gave pause at the end of the sentence. During each pause, the students had to write down what they have just heard. For any words that the students could not write, the researcher had them to leave the blank and continue the next.

   3) Third, played audio that have been recorded at normal speed without pause and repetition. During this step, the students checked their work and made any last changes.

   c. After finishing dictation

   After finishing the *unexploded dictation*, the researcher asked students to write down the transcript on the board. Then, the researcher played audio again. The students and researcher discussed together.

4. Fourth treatment was conducted on March 21st, 2016. Here, the researcher used *completion dictation*. The steps are:

   a. Before dictation

   The students were given two printed copies of the short sentences. One copy had a few words missing; the next copy had more words missing.

   b. Doing dictation

   The students listened to the audio and filled in the words missing on their first copy. Then the researcher played the audio again and the students filled in the missing words on the next copy which had more words missing than the first copy. The researcher played the audio three times. So, the students had to pay attention.

   c. After finishing dictation

   After finishing the *completion dictation*, the researcher wrote down the transcript on the board, then, the students completed the transcript on the board suitable with their answer. The researcher played the audio again and the students had to listen carefully to correct their work.

E. Data Collecting Method

Methods of collecting data used by the researcher is administering Test. Administering test is used to find out the students' score before and after using dictation testing technique in measuring students' listening ability.

1. Pre-test

Pre-test was given to the samples before being taught listening by using dictation technique. It was given to know the students' ability in listening before they were taught by using dictation technique. The researcher gave a pre-test in the first meeting on March 7th, 2016 before doing the treatment. The test consisted of 10 cloze tests, 5 multiple choice, and 5 completions. The audio would be played in three times and the allocated time was 40 minutes. It is the first method of gathering data used by the researcher in this research.

2. Post-test

Post-test was given to the samples after the researcher giving treatment using dictation technique in teaching listening. Here, the post test was conducted after fourth treatment on March, 21st, 2016. The post test was in the form of 10 cloze tests, 5 multiple choices, and 5 completions, to know students' listening ability after get the treatment. Here, the test would be played in three times and the allocated time was 40 minutes. The mean score of post-test would be compared with mean score of pre-test. Hence, the researcher could find out the differences mean of students' score between before being taught by using dictation and after being taught by using dictation on the teaching listening.

F. Research Instrument

This research, the researcher used test as the research instrument. It would be conducted by the researcher her-self and be consulted to English teacher in MTsN 2 Tulungagung; meanwhile, the audio was recorded by the researcher. The researcher used her own record because the researcher wanted to introduce to the students before the students listening to native speaker or foreign language. The instrument of this research was test, there were pre-test and post-test. Both pre-test and post-test had similar topic. Both the test had similar type of exercise, in the form of 10 cloze test, 5 multiple choices, and 5 completion. So, there are 20 questions. The researcher would give 40 minutes to do the test and the audio would be played in three times.

The researcher used procedures to gather the data, when the students' answered correctly in each question they would get five. While, the students' answered incorrectly they would get zero. Here the students would be assessed based on the scoring procedure provided by the researcher. Each student's work will be calculated as follows:

$$Score = B \times 5$$

Where:

B : correct answer

G. Validity and Reliability Testing

1. Validity Testing

A test is valid if it measures what it is supposed to measure. It was in line with Cohen *et al* (2007:133) "Validity was essentially a demonstration that a particular instrument in fact measures what it purports to measure." McAlpine (2002:11) also defines that "A valid assessment is one which measures that which it is supposed to measure." Hence, validity is the most important consideration to develop the instrument. The researcher was developed the instrument used content validity.

Content validity is validity of test can be observed from content of its test. According to Cohen *et al* (:137) "Validity the instrument must show that it fairly and comprehensively covers the domain or items that it purports to cover." It means the test must really cover the items of listening skill. In this research both pre-test and post-test are in the form of 10 cloze test, 5 multiple choices, and 5 completion.

Therefore, the content validity of the test in this research was designed based on core competence and basic competence in English syllabus curriculum 2013 of first grade of junior high school in the second semester. The English syllabus describes bellow:

Table 3.2. Core competence and basic competence

Core Competence	Basic Competence	Indicator
3. Memahami pengetahuan (faktual, konseptual, danprosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya terkait fenomena dan kejadian tampak mata.	3.8. Memahami fungsi sosial, struktur teks, dan unsur kebahasaan pada teks untuk menyatakan dan menanyakan tingkah laku/tindakan/fungsi orang, binatang, benda, sesuai dengan konteks penggunaannya.	Students are able to: 1. differentiate the pronunciation simple present verbs with Subject I, you, they, we and he, she, it. 2. listening to the short texts and finding certain information. 3. write the certain verbs.

Table 3.3. Content validity of pre-test and post test

No.	Indicators	Items' number	Total
1.	Differentiate the pronunciation of simple present verbs with Subject I, you, they, we and he, she, it based on audio.	part C number 1 – 5	5
2.	Listening to the short texts and finding certain information.	part B number 1-5	5
3.	Write the certain verbs based on audio	part A number 1-10	10

Based on the table 3.2 and 3.3, the test had content validity because the content of test appropriate with indicators and English syllabus of first grade of junior high school in the second semester. The blue print of pre-test and post-test can be seen in appendix 10.

2. Reliability Testing

Test besides have validity must have reliability. Hence the researcher who is considering using testing as a way of acquiring research data must ensure that it is appropriate, valid and reliable (Linn 1993; Borsboom et al. 2004 in Cohen *et al*, 2007:159). Test can be reliable if its gives the consistent result when it's tested on different time. It means if the test given to the students on the different time, the result of the test should be similar. According to McAlpine (2002:12) "A reliable assessment consistently gives the same results under identical circumstances."

To know the test is reliable or not, the researcher would give test to the students in other class in the similar grade and the exercises were same with pre-test and post-test. Here, the researcher used Cronbach Alpha to get reliability coefficient. According to Ary (2010: 246) "Cronbach alpha has wider applications than the K–R 20 formula. When items are scored dichotomously, it yields the same result as the K–R 20, but it can also be used when items are not scored dichotomously." Here, the researcher gave point 5 when the answer was correct, while incorrect answer would give 0. The try out would be conducted on February 22nd, 2016 in VII A class of MTsN 2 Tulungagung. The scores were calculated to get correlation using Cronbach Alpha. Sugiyono (2006: 216) states that "The criteria of reliability instrument can be divided into five classes:

a. If the alpha cronbach score 0.00 – 0.199, it means very less reliable

b. If the alpha cronbach score 0.20 – 0.399, it means less reliable

c. If the alpha cronbach score 0.40 – 0.599, it means quite reliable

d. If the alpha cronbach score 0.60 – 0.799, it means reliable

e. If the alpha cronbach score 0.80 – 1.000, it means very reliable

Table 3.4. Pre-test reliability coefficient

Reliability Statistics

Cronbach's Alpha	N of Items
.653	20

Table 3.5. Post-test reliability coefficient

Reliability Statistics

Cronbach's Alpha	N of Items
.748	20

The table 3.4. and 3.5. shows that the Cronbach's Alpha reliability. Pre-test reliability is 0.653, while, the reliability of post-test is 0.748. It means both of pre-test and post-test instruments are reliable, because the score is between 0.60 – 0.799. Based on the criteria of reliability instrument if the alpha cronbach score 0.60 – 0.799 is reliable. The result of students' tryout pre-test and post-test see appendix 4.

H. Normality and Homogeneity Testing

1. Normality Testing

Normality test is one of requirement that should be fulfilled in parametric analysis. Normality testing should be tested first before doing analysis toward the data. Normality test used to measure whether the data has normal distribution or not. To know the normality test, the researcher used One-sample Kolmogorov-Smirnov Test with SPSS 16.0. The normality testing would be done towards the result of tryout pre-test and post-test. The hypotheses for normality testing are:

a. H_0 : data is in normal distribution

b. H_1 : data is not in normal distribution

H_0 is rejected if the significance value less than 0.05 (< 0.05) it means that the data are non-normal. While, H_0 is accepted if the significance value greater than 0.05 (> 0.05) it means that the data are normal. The result of normality test can be seen in the table 3.6 dan 3.7:

a. Normality testing of try out pre-test

Table 3.6. Normality testing of try out pre-test

One-Sample Kolmogorov-Smirnov Test

		pretest
N		32
Normal Parameters[a]	Mean	56.7188
	Std. Deviation	1.4176E1
Most Extreme Differences	Absolute	.108
	Positive	.108
	Negative	-.089
Kolmogorov-Smirnov Z		.612
Asymp. Sig. (2-tailed)		.847

a. Test distribution is Normal.

b. Normality testing of try out post-test

Table 3.7. Normality Testing of Try out Post-test

One-Sample Kolmogorov-Smirnov Test

		posttest
N		32
Normal Parameters[a]	Mean	53.1250
	Std. Deviation	1.8038E1
Most Extreme Differences	Absolute	.143
	Positive	.143
	Negative	-.120
Kolmogorov-Smirnov Z		.806
Asymp. Sig. (2-tailed)		.534

a. Test distribution is Normal.

Based on the result of One- Sample Kolmogorov-Smirnov Test, it had known that the significance value from try-out pre-test is 0.847 and significance value of try-out post-test is 0.534. Both of try-out pre-test and post-test have significance value greater than 0.05. As stated above, if the significance value less than 0.05 it means that data are non-normal, while, if the significance value greater than 0.05 means that data are normal. From the

result above, it can be concluded that both of the data pre-test and post-test score are in normal distribution. H_0 is accepted because the significance value greater than 0.05.

2. **Homogeneity Testing**

Homogeneity testing used to show that the data samples come from population having same variance. Homogeneity test used to measure whether the data is homogeneous or not. Here, the homogeneity testing will be tested first before doing analysis toward the data. In this research, the researcher uses One-Way ANOVA to know the homogeneity. The hypotheses of One-way ANOVA are follows:

a. H_0 : data is homogeny

b. H_1 : data is not homogeny

If the F_{count} lower than F_{table} it means H_0 accepted. While if F_{count} greater than F_{table} it means H_0 rejected, and H_1 accepted, the data is not homogeny. The result of homogeneity testing can be seen in the table 3.8:

Table 3.8. Homogeneity testing of test

ANOVA

test

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4705.885	12	392.157	4.887	.001
Within Groups	1524.583	19	80.241		
Total	6230.469	31			

Based on the results of One-Way ANOVA, it have known that the F_{count} is 4.887 and F_{table} with significant value 0.05 and df 1 = 12, df 2 = 19 is 2.31 it

means that F_{count} is greater than F_{table}. As stated above, if F_{count} greater than F_{table} means that H_0 is rejected and H_1 accepted. So, the data is not homogenous.

I. Data Analysis Technique

In getting data from the test, the researcher gave test to the sample. Pre-test to know how are students' score before taught by using dictation and post-test to know how are students' score after taught by using dictation. The researcher wanted to know the result and the differences before and after being taught by using dictation technique. Here, the researcher would be used t-test formula and proven by Paired Sample *T-test* in SPSS 16.0 to find out the students' score in listening before being taught by using dictation technique compared with after being taught by using dictation technique. The formula of t-test as follows:

1. The researcher finds out the mean of pre-test ($\overline{X1}$) and mean of post-test ($\overline{X2}$), the formula is:

$$\overline{X1} = \frac{\sum X1}{N}$$

$$\overline{X2} = \frac{\sum X2}{N}$$

Where:

$\sum X1$: Total score of pre-test

$\sum X2$: Total score of post-test

N : total number of students

2. Then, the researcher finds out the mean of differentiate pre-test and post-test, the formula used is follow:

$$Md = \frac{\sum d}{N}$$

Where:

Md : the mean of differential pre-test and post test

$\sum d$: sum of different between post-test and pre-test

N : total number of students

3. After that, the researcher finds out the standard deviation, the formula used is:

$$S = \sqrt{\frac{\sum X^2 - \frac{\sum(x)^2}{N}}{N-1}}$$

$$S = \sqrt{\frac{\sum y^2 - \frac{\sum(y)^2}{N}}{N-1}}$$

Where

S : standard deviation

$\sum X^2$: sum of pre-test quadrate score

$\sum x$: sum of pre-tes score

$\sum Y^2$: sum of post-test quadrate score

$\sum y$: sum of post-test score

N : number of students

4. After that, the researcher finds out the total number of quadrate deviation ($\sum X^2$ d), the formula is:

$$\sum X^2 \, d = \sum d^2 - \frac{(\sum d)^2}{N}$$

Where:

$\sum X^2$ d : total number of quadrate deviation

$\sum d$: sum of different between post-test and pre-test

N : number of students

5. Next, the researcher finds out the t-test by using formula:

$$t_{count} = \frac{Md}{\sqrt{\dfrac{\sum x^2 \, d}{N \, (N-1)}}}$$

Where:

Md : mean different of pre-test and post-test

$\sum x^2$ d : total of quadrate deviation

N : number of students

6. Finally the researcher looks for t-table distribution with significant 5%

$$df = N\text{-}1$$

Where:

df : degree of freedom

N : number of students

The criteria for accepting or rejecting the hypothesis are: if the significance value less than 0.05 means that H_0 is rejected and H_a is accepted. On

contrary, if the significance value greater than 0.05 means that H_0 is accepted and H_a is rejected.