CHAPTER III

RESEARCH METHOD

This chapter discusses about the methodology used in conducting this research. It presents the research design, population, sample and sampling, the research instrument, validity testing, normality and homogeneity testing, data collecting method, and the data analysis.

A. Research Design

This research was conducted in pre-experimental using quantitative approach with one-group pre-test post-test design. Based on Gay (1992:298-299), the experimental method is the only method of research that can truly test hypotheses concerning cause-and-effect relationships. It represents the most valid approach to the solution of educational problems, both practical and theoretical and to the advancement of education as a science.

In line with Ary et al (2010:26), experimental research involves a study of the effect of the systematic manipulation of one variable(s) on another variable. The manipulated variable is called experimental treatment or the independent variable, the observed and the measured variable is called the dependent variable.

In addition, independent variable can be said as the treatment or the cause that will influence the dependent variable. While, the dependent variable is the effect or the result of the manipulation of independent variable. This

means that in experimental research occurs the directly attempts in order to know the influence of the particular treatment (independent variable) to dependent variable. In this research, the independent variable was guessing game technique and the dependent variable was speaking skill.

According to Sugiono (2009:74), there are three kinds of pre-experimental designs, that is one-shot case study, one-group pretest-posttest design and intact-group comparison. In one-group pretest-posttest design, the observation is done twice, before giving treatment which called pretest and after giving treatment that called posttest.

This research was classified as pre-experimental design because there are no control of extraneous variables and the samples are not taken randomly. In the one-group pretest-posttest design, the result of pretest and posttest will be compared in order to know the significant different before and after being taught by using the particular treatment.

A diagram of one-group pretest-posttest design:

Y1	X	Y2
Pretest	Treatment	Posttest
	(Independent variable)	(Dependent variable)

The procedures of experimental research which use one-group pretest-posttest design applied in this research are:

1) Administering a pretest with a purpose of measuring the speaking skill of the eight grade students of MTs Negeri Bandung.

2) Applying the experimental treatment in teaching speaking by using guessing game technique.
3) Administering a posttest with a purpose of measuring speaking skill of eight grade students at MTs Negeri Bandung.

In this research, the researcher wanted to know the effectiveness of using guessing game technique in teaching speaking by conducting pre-experimental design. The result of pretest and posttest will determine what the treatment is give influence to the students' speaking skill or not. The effectiveness of the technique was known after knowing the significant difference between the students were before and after being taught by using guessing game technique.

B. Population, Sample, and Sampling

In this research, the researcher must determine the population before collecting the samples. The population means the total of students that will be selected. The populations were the students of the eight grade of MTs Negeri Bandung, which consist of ninth classes.

Meanwhile, the sample is the total of students who was taken from population and will be observed. The researcher took the samples from all the students of eight C class of MTs Negeri Bandung that consisted of 42 students with 12 boys and 30 girls.

In selecting the sample, the researcher used purposive sampling technique. Purposive sampling was the technique to determine sample with a particular consideration. The eight C class was taken as the sample of this research because based on the English teacher recommendation, the students of the C class had average proficiency among other classes of the eight grade.

C. Research Instruments

In this research, instrument has the importance function. According to Sugiono (2009:92), research instrument can be used to measure the variable that was observed. Meanwhile, Instrument is one of the significant steps in conducting this research. The main instrument that used in this research was speaking test. In collecting data, the researcher administered both pretest and posttest.

Deals with Gay (1992:154), "Tests produce numerical scores that can be used to identify, classify, or evaluate test takers." So, the test is always needed by the teacher or researcher who want to measure the students' competence.

In this research, the researcher applied oral test in both pretest and posttest. While applying the test, the students were tested to perform their speaking by answered some questions from the researcher.

D. Validity Testing

In conducting this research, test was used by the researcher as an instrument. The test was used to measure the students' ability after they were given treatment. The researcher do the testing of validity in order to know whether the test is good or not.

According to Gay (1992:154), validity is the most important quality of any test. Validity is concerned with what a test measures and for whom it is appropriate. Thus, the validity of instrument is the device used to get the valid of data. Those means that the instrument can be used to measure what should to measure.

In this research, the researcher analyzed the test from content validity in order to measure whether the test has a good validity or not. This kind of validity can be done by compared between the content of the instrument to the material that have been taught. The content or structure of the test must relevant with the objective of the test. Besides, based on the result score of students in tryout test showed that the students performed their ability as being measured (See appendix 1). Furthermore, it can be concluded that speaking test administrated in tryout has met the criteria of content validity.

Gay (1992:156) stated that content validity is of prime importance for achievement test. A test score cannot accurately reflect a students' achievement if it does not measure what the student was supposed to learn. So, the tester have to determine the validity of test early before it tested to the students.

E. Normality and Homogeneity Testing

1. Normality Testing

Normality testing is needed to find out whether the data is in normal distribution or not. It is intended to show that the sample data come from a normality distributed population. Therefore, the researcher intended to test the normality of the data by using SPSS 16.0 with One-Sample Kolmogorov-Smirnov Test. The normality testing was done towards the pretest and posttest scores in tryout. The data for testing normality can be seen in appendices II. While, the hypotheses for testing normality as follow:

a. H_o : Data is in normal distribution
b. H_a : Data is not in normal distribution

Based on the hypothesis for testing normality above, it showed that the data is in normal distribution if H_o is accepted. The data is not in normal distribution if H_a is accepted. Besides, H_o is accepted when the significance value is higher than 0.05 ($\alpha = 5\%$), but Ho is rejected when the significance value is lower than 0.05 ($\alpha = 5\%$).

The result analysis for normality testing can be seen below:

Table 2.1 Normality Results of Tryout Test

One-Sample Kolmogorov-Smirnov Test

		pretest	posttest
N		42	42
Normal Parameters[a]	Mean	15.55	17.74

	Std. Deviation	2.568	2.480
Most Extreme Differences	Absolute	.189	.137
	Positive	.107	.115
	Negative	-.189	-.137
Kolmogorov-Smirnov Z		1.225	.890
Asymp. Sig. (2-tailed)		.100	.407
a. Test distribution is Normal.			

Based on the result of pretest-posttest in normality testing above, it is known that the significance value of pretest is 0.100 and the significance value of posttest is 0.407. So, it can be concluded that the test is normal, because the significance value of pretest 0.100 and the significance value of posttest 0.407 are higher than 0.05.

2. Homogeneity Testing

Homogeneity testing is intended to know whether the variance of data is homogeneous or not. In this section, the researcher wants to find out the variance score of one sample. Moreover, the procedure used to test the variance of homogeneity is by determining F_{value}. In homogeneity testing, F_{value} should be lower than F_{table}. In order to get the F_{value}, the data of students' scores in pretest and posttest will be analyzed below:

Table 2.2 Analysis of Students' Tryout Scores to Test Homogeneity

No.	Subject	Pretest (*X*)	X^2	Posttest (*Y*)	Y^2
1.	1	12	144	14	196
2.	2	13	169	16	256
3.	3	11	121	14	196
4.	4	12	144	15	225

5.	5	16	256	18	324
6.	6	13	169	15	225
7.	7	18	324	21	441
8.	8	20	400	22	484
9.	9	12	144	16	256
10.	10	12	144	14	196
11.	11	19	361	21	441
12.	12	16	256	18	324
13.	13	20	400	21	441
14.	14	11	121	14	196
15.	15	17	289	19	361
16.	16	16	256	19	361
17.	17	12	144	14	196
18.	18	14	196	15	225
19.	19	17	289	19	361
20.	20	13	169	15	225
21.	21	16	256	18	324
22.	22	15	225	17	289
23.	23	17	289	18	324
24.	24	16	256	19	361
25.	25	14	196	16	256
26.	26	18	324	21	441
27.	27	16	256	18	324
28.	28	15	225	16	256
29.	29	19	361	22	484
30.	30	16	256	18	324
31.	31	16	256	17	289
32.	32	19	361	21	441
33.	33	18	324	20	400
34.	34	12	144	14	196
35.	35	17	289	20	400
36.	36	20	400	21	441
37.	37	16	256	19	361
38.	38	16	256	18	324
39.	39	14	196	16	256
40.	40	17	289	19	361
41.	41	16	256	19	361
42.	42	16	256	18	324
		$\sum X = 653$	$\sum X^2 = 10423$	$\sum Y = 745$	$\sum Y^2 = 13467$

a. Identifying variances

$$Sx^2 = \sqrt{\frac{n.\sum X^2 - (\Sigma X)^2}{n(n-1)}}$$

$$= \sqrt{\frac{42.10423 - (653)^2}{42(42-1)}}$$

$$= \sqrt{\frac{437766 - 426409}{42(41)}}$$

$$= \sqrt{\frac{11357}{1722}}$$

$$= \sqrt{6.595}$$

$$= 2.57$$

$$Sy^2 = \sqrt{\frac{n.\sum Y^2 - (\Sigma Y)^2}{n(n-1)}}$$

$$= \sqrt{\frac{42.13467 - (745)^2}{42(42-1)}}$$

$$= \sqrt{\frac{565614 - 555025}{42(41)}}$$

$$= \sqrt{\frac{10589}{1722}}$$

$$= \sqrt{6.149}$$

$$= 2.48$$

b. Identifying F_{value}

$$F = \frac{S_{max}}{S_{min}}$$

$$= \frac{2.57}{2.48}$$

$$= 1.036$$

c. Degrees of Freedom

$df_1 = n - 1 = 42 - 1 = 41$

$df_2 = n - 1 = 42 - 1 = 41$

Based on the computation above, it showed that F_{value} is 1.036. While, to get $F_{table,}$ we can see F_{table} in number 40 and the result of F_{table} in significant level 5% is 1.69. As mentioned earlier, the homogeneity testing is fulfilled if the computation of F_{value} is lower than F_{table}. Therefore, F_{value} is lower than F_{table} (1.036 < 1.69). It means that the homogeneity is fulfilled. So, it can be concluded that the variance values in the class of sample based on the pretest and posttest scores are homogeneous.

F. Data Collecting Method

Data collecting method deals with how the researcher get the data. The data of this research were collected by administering test. The reseracher was used speaking test as the instrument. The type of speaking test which used is oral speaking test. It purposes is to measure the students' speaking skill by using English. The researcher gave speaking test on the first meeting intending to know how well the students' speaking skill before being taught by using guessing game technique. The researcher conducted two kinds of test those are pretest and posttest.

1. Pretest

Pretest was administered before doing the experimental research or before the researcher applying guessing game technique (treatment). The purpose of doing pretest is to get speaking score of the students before doing treatment. In pretest, the researcher called the students one by one to come in front of the class and sat in front of the researcher's table. Then, the researcher gave 10 questions that the student must answer orally.

2. Posttest

Posttest was administered after doing the experimental research or after finishing of giving treatment. The purpose of doing posttest is to get the students' speaking score after doing treatment. In the posttest, the students were evaluated individually like in the pretest. The form of test was similar with pretest. In posttest, the researcher prepared 15 questions but the students must answer 10 questions orally.

In assessing the students' speaking skill, the researcher used scoring rubric that adapted and matched from Hughes (1989:111). They were as follow:

Table 2.3 Oral Language Scoring Rubric

Aspect	Score	Proficiency description
Accent	1	Pronounciation frequently untelligible.
	2	Frequent gross errors and a very heavy accent make understanding difficult, require frequent repetition.

	3	Foreign accent requires concentrated listening, and mispronounciations lead to occasional misunderstanding and apparent errors in grammar or vocabulary.
	4	Marked foreign accent and occasional mispronounciation which do not interfere with understanding.
	5	No conspicuous mispronounciation, but would not be taken for a native speaker.
	6	Native pronounciation, with no trace of foreign accent.
Grammar	1	Grammar is almost entirely innacurate phrases.
	2	Constant errors showing control of very few major patterns and frequently preventing communication.
	3	Frequent errors showing some major patterns uncontrolled and causing occasional irritation and misunderstanding.
	4	Occasional error showing imperfect control of some patterns but no weakness that cause misunderstanding.
	5	Few errors, with no patterns of failure.
	6	No more than two errors during the interview.
Vocabulary	1	Vocabulary inadequate for even the simplest conversation.
	2	Vocabulary limited to basic personal and survival areas (time, food, transportation, family, etc.)
	3	Choice of words sometimes innaccurate, limitations of vocabulary prevent discussion of some common professional and social topics.
	4	Professional vocabulary adequate to discuss special interests; general vocabulary permits discussion of any non-technical subject with some circumlocutions.
	5	Professional vocabulary broad and precise; general vocabulary adequate to cope with complex practical problems and varied situations.
	6	Vocabulary apparently as accurate and extensive as that of an educated native speaker.
Fluency	1	Speech is so halting and fragmentary that conversation is virtually impossible.
	2	Speech is very slow and uneven except for short or routine sentences.

	3	Speech is frequently hesitant and jerky; sentences may be left uncompleted.
	4	speech is occasionally hesitant, with some unevenness caused by rephrasing and groping for words.
	5	Speech is effortless and smooth, but perceptibly non-native in speech and evenness.
	6	Speech on all professional and general topics as effotless and smooth as a native speaker's.
Comprehension	1	Understands too little for the simplest type of conversation.
	2	Understands only slow, very simple speech on common social and tourist topics; requires constant repetition and rephrasing.
	3	Understands careful, somewhat simplified speech when engaged in a dialog, but may require considerable repetitioon and rephrasing.
	4	Understands quite well normal educated speech when engaged in a dialog, but requires occasional repetition or rephrasing.
	5	Understands everything in normal educated conversation except for very colloquial or low frequency items, or exceptionally rapid or slurred speech.
	6	Understands everything in both formal and colloquial speech to be expected of an educated native speaker.

There are limitations of total score here to category students' achievement, the maximum total score of speaking was 30 and the minimum total score was 6. So, the students who could pass the test were students who get the score more than 6. The score can be categorized in the table below:

Table 2.4 Standard performance

Score	Criteria
26-30	Excellent
21-25	Good

16-20	Average
11-15	Poor
6-10	Very Poor

G. Data Analysis

In this research, the researcher used a quntitative data analysis technique. It uses the statistical method. This technique is used to find the significant difference score before and after being taught by applying guessing game technique.

The researcher used T-test as the formula to analyze the data. Deals with Ary et al (2006:177), the formula of T-test as follows:

$$t = \frac{\mathbf{MD}}{\sqrt{\frac{\sum \mathbf{D^2} - \frac{(\Sigma \boldsymbol{D})^2}{\boldsymbol{N}}}{\mathbf{N\,(N-1)}}}}$$

Where:

t : t- score

MD : average difference

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

$(\sum D^2)$: difference scores summed then squared

N : number of samples