CHAPTER III

RESEARCH METHOD

In this chapter, the researcher presents research method. It focuses on the method used in conducting this study. The method consist of research design; population, sampling and sample; research variables; research instrument;; reliability and validity testing; normality and homogenity testing; data and data source; data collection method and method of data analysis.

A. Research Design

Research is a way of observation and has the objective to find the answer of problems or discovery process (Sukardi, 2003:3). In an experiment, a researcher manipulates one or more independent variables, controls any other relevant variables, and observes the effect of the manipulations on the dependent variable(s) (Ary, 2006:265).

The design of this research is Experimental Research Design. According to Sugiyono (2006:80), experimental research is a research which has the purpose to find the cause-effect relationship among variables in a controlled condition. The essential feature of experimental research is that investigators deliberately control and manipulate the conditions which determine the events, in which they are 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 (Louis, 2007:291).

There are several types of Experimental research design. Sugiyono (2006: 81) states that some types of experimental research design are pre experimental design, true experimental design, factorial design and quasi experimental design. The type of the experimental research design used in this research is pre-experimental design. Pre-experiments are the simplest form of research design. In a pre-experiment either a single group or multiple groups are observed subsequent to some treatment presumed to cause change. There are some form of the pre-experimental design, those are one-shot case study, one group pre-test and post-test design and intact group comparison.

This study classified in to experimental research that use one group pre test and post test design. In the one group pre-test and post-test design, a single group is measured or observed not only after being exposed to a treatment of some sort, but also before it by applying pre-test. A pre-test provides a measure on some attribute or characteristic that the researcher asses for participants in an experiment before the group receive a treatment, while a post-test measure on some attribute or characteristic that is assessed for participants in an experiment after a treatment (Creswell, 2008:301).

The test illustration of one group pre-test and post-test design is seen in this table (Sukardi, 2003:184).

Table 3.1 The Illustration of Research Design

Pre-test	Independent variable	Post-test
YI	X	Y2

X   : alphabet soup game treatment

Y1   : students' achievement on writing ability before taught by

        using alphabet soup game

Y2   : students' achievement on writing ability after taught by

        using alphabet soup game

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 a pre-test (Y1) with a purpose of measuring writing ability of first grade students at MTsN Bandung before applying treatment.

2. Applying the experimental treatment (X) teaching writing ability by using alphabet soup game to the first grade students at MTsN Bandung.

3. Administering a post-test (Y2) with a purpose of measuring writing ability of first grade students at MTsN Bandung after applying treatment.

In this research, the researcher use experimental research with quantitative approach. The researcher wants to know the effectiveness of using alphabet soup game towards writing ability of the first grade

students at MTsN Bandung. Since the design belongs to pre-experimental, the researcher used purposive sampling in determining the sample. In purposive sampling sample elements are judged to be typical and representative. Based on the criteria made and recommendation from the English teacher, the researcher decided to take VII C that consists of 44 students. The effectiveness was known after finding out the significant difference between the students taught before using alphabet soup game and after using alphabet soup game by comparing pre-test and post-test score.

B. Population, Sampling, and Sample

1. Population

A researcher needs to define the population carefully before collecting the sample, including the description of the member to be included. Population is all members included class of people, events, or objects (Ary, 2006:148). According to Sugiyono (2006:89), population is not only about the quantity of the subject/object that is going to be learnt, but also involves the whole characteristics of the subject or object. In this research the population are all of first grade students at MTsN Bandung on second semester. The first grade of MTsN Bandung consists of nine (9) classes that are classified in to two; VII A and VII B as "superior class" while VII C - VII I as "regular class". The quantity of students in each class of the population is as follow:

Table 3.2 Population of the Research

Class	X (total of students)
VII A	30
VII B	30
VII C	44
VII D	46
VII E	46
VII F	46
VII G	44
VII H	46
VII I	46
$\sum$ X	378

2. Sampling

Margono (2003:121) states that sampling is technique to choose sample that the number of sample is appropriate to collect the data source, by considering the nature and the distribution of population so that subject gotten the representative sample. Sampling is also as a way to select number of individuals as a sample which represents the population.

Ary et al (2006:149) states that two major types of sampling procedures are probability sampling and non-probability sampling. Probability sampling involves sample selection in which the elements are chosen by chance procedures, while non-probability sampling includes methods of selection in which elements are not chosen by chance procedures. Its success depends on the knowledge, expertise and judgment of the researcher.

In this research, the researcher used non-probability sampling type purposive sampling technique. In purposive sampling, also referred to as

judgment sampling, sample elements judged to be typical or representative are chosen from the population (Ary et al, 2006:156). In other words, the researcher should be sure that the sample is representative and suitable with the purpose of research since it was impossible to take the sample randomly in case of the design and the agreement of the school. So, the researcher use this kind of sampling to get sample and for the result the researcher gets 44 students from C class of seventh grade as the experimental group and also as the control group by considering some factors:

1. VII C class was assumed to be homogeneous by basing on the recommendation of an English teacher that handles first grade students' of MTsN Bandung.

2. In order to apply the experimental stage, the samples must not be too "good" and too "bad" in their English achievement, especially writing ability. In other words, the researcher took the typical sample. It was intended to reduce the extraneous variable may appears since the design is pre-experimental research without control group. The best classes in the first grade are in "superior class" (VII A and VII B). The school didn't allow these classes to be taken as sample. According to the English teacher, among regular classes VII C and VII D are relatively more motivated in learning English rather than other classes but the difficulty of writing ability often appears in VII C rather than in VII D. . Thus, the researcher decided VII C as the most representative ones.

3. Sample

Sample is part of population that is chosen as the representative (Sukardi, 2003:54). The researcher must take sampling decision early in the overall planning to take sample of the research. In this case the researcher takes first grade students in C class as the sample under the consideration of the homogeneity.

C. Research variables

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 the consideration, when they are classified as independent variables or dependent variables (Ary et al, 2006:37).

1. Independent variable: is variable which influence other variable. In this research the independent variable is alphabet soup game.

2. Dependent variable: is the response or the criterion variable that is presumed to beinfluenced by the independent treatment conditions and any other. In this research the dependent variable is students' writing ability.

D. Research Instrument

Research instrument refers to any equipment used to collect the data (Arikunto, 2010:262). As an experimental research, the instrument

used in this research was tests, especially writing test. According to Ary et

al (2006:201) test is a set of stimuli presented to individual in order to

elicit responses on the basis of which a numerical score can be assigned.

There were two kinds of tests in this study, those were pre-test and

post-test. Pre-test was intended to measure students' writing ability before

the treatment given, while post-test was to measure students' writing

ability after the treatment given. The tests were in the form of subjective

test writing descriptive text to measure students' writing ability.

Furthermore, the writer give score to the students' writing by using

scoring guide of writing in the following formula below:

Table 3.3 Scoring Guide of Writing

Aspect		Score
Content	- Main ideas stated clearly and accurately, change of opinion clear	5
	- Main ideas stated fairly clearly and accurately, change of opinion relatively clear	4
	- Main ideas somewhat unclear and inaccurate, change of opinion weak	3
	- Main ideas not clear or accurate, change of opinion weak	2
	- Main ideas not at all clear or accurate, change of opinion very weak	1
Organization	- Well organized and perfectly coherent	5
	- Fairly well organized and generally coherent	4
	- Loosely organized but main ideas clear, logical but incomplete sequencing	3
	- Ideas disconnected, lacks logical sequencing	2
	- No organization, incoherent	1
Vocabulary	- Very effective choice of words and use of idioms and word forms	5

	- Effective choice of words and use of idioms and word forms	4
	- Adequate choice of words but some misuse of vocabulary, idioms and word form	3
	- Limited range, confused use of words, idioms, and word forms	2
	- Very limited range, very poor knowledge of words, idioms and word forms	1
Grammar	- No errors, full control of complex structure	5
	- Almost no errors, good control of structure	4
	- Some errors, fair control of structure	3
	- Many errors, poor control of structure	2
	- Dominated by errors, no control of structure	1
Mechanics	- Mastery o spelling and punctuation	5
	- Few errors in spelling and punctuation	4
	- Fair number of spelling and punctuation errors	3
	- Frequent errors in spelling and punctuation	2
	- No control over spelling and punctuation	1

Score:

The total number gotten x 100 = n
The maximal score

      To make easier to interpret the score of the students, the writer

considers the interval or rating scale of student's writing:

Table 3.4 Rating Scale

Score	Criteria
100 – 85	Excellent
84 – 70	Good
69 – 55	Average
54 – 40	Poor
39 – 0	Very Poor

E. Validity and Reliability Testing

As previously mentioned, the researcher used tests as the research instrument. A good test must fulfill and consider standardized of test itself.. There are some aspects to make a good test, those are : validity and reliability. 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 the most important consideration in developing and evaluating measuring instrument. . Ary et al (2006:225) defines validity as the extent to which an instrument measured what it claimed to measure. To measure whether the test has a good validity, the researcher analyzed the test from content validity, construct validity and face validity.

a. Content validity

Content validity refers to the validity which is seen from the content of the test as the representation of language skills. Thus, a test is said to have content validity if its contents constitutes a representative sample of the language of structure or content which is relevant with the purpose of the test (Isnawati, 2012:27). It also means that there is correspondence between curriculum objectives and the objectives being tested.

In this case, the researcher had learned the currriculum of the first grade English teacher of MTsN Bandung. Based on the curriculum and the syllabus, there are two kind genres of text taught and learned on the first grade, those are descriptive text and procedural text. Then, the researcher decided to take descriptive text in conducting the research. It was suitable for the students of first grade in Junior High School at MTsN Bandung. The content of test was adapted from "English in Focus for Grade VII Junior High School by Antono Wardiman dkk". The content validity of the tests used in this research can be seen as the table follow:

Table 3.5 Content Validity

Standard of Competence	Competence Indicators	Testing Objectives	Test items	
			Pre-test	Posttest
12. Express the meaning of written functional text and simple short essay in the form of descriptive and procedural text related to surrounding environment.	1. Students are able to identify the descriptive text	1. To measure student's ability in identifying the descriptive text	Write a simple descriptive text with the theme "MYSELF"	Write a simple descriptive text based on the on of the words which has found from alphabet soup game
	2. Students are able to comprehend the steps in writing descriptive text	2. To measure student's ability in comprehending the steps in writing descriptive text		
	3. Students are able to write a descriptive text	3. To measure student's ability in writing descriptive text		

b. Construct validity

A test is said to have construct validity if it can be demonstrated that is measures just the ability which is supposed to measure (Isnawati, 2012:29). It is the process of determining the extent to which test performance can be interpreted in terms of one or more constructs. In this study, the writer administered a writing test and the technique of scoring the students' writing is based on the five aspects of writing; they are content, organization, vocabulary, grammar and mechanic.

c. 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). In this test, there were some aspects that are considered from this test to make a good test based on the face validity. They are:

-   The instruction must be clearly for the students, so the students are able to understand what they should do in that test.

-   In this test, the students of seventh grade were instructed to write a descriptive text. Thus, the theme which gave by the writer must be suitable with their level.

-   The consideration of time allocation must be suitable so that the students are able to supposed, when they finished their task before the time was up.

In this study, the writer conducted the achievement test because the writer wants to know the students achievement in writing skill of descriptive text after it is given treatment of alphabet soup game.

2. Reliability

Based on the Harrison in Johnson (2001) says that the reliability of a test is its consistency. Thus, reliability is a measure of accuracy, consistency, dependability or fairness of scores resulting from administration of particular examination. Ary et al (2006:236) also defines reliability as the degree of consistency with which an instrument measures whatever it is measuring. Thus, it can be said that a reliable test is consistent and dependable.

Before giving posttest, the researcher made test to be tried out to the students to know how far the reliability of the instrument. Then the researcher analyzed each item of instrument and computed it by using SPSS 16.0 version. Then the result of computing can be seen below:

Table 3.6 Reliability Statistic

Reliability Statistics

Cronbach's Alpha	N of Items
.918	5

Based on the table above, it showed that the reliability of cronbach's alpha is 0,918. According to Triton in Sujianto (2009:97) the value of cronbach's alpha can be interpreted as follow:

Table 3.7 Cronbach'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 above, it can be concluded that the instrument of this research was in the category very reliable because 0,81<0,918>1,00.

F. Normality and Homogenity 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 data is presented on the table

below:

**Table 3.8 The Result of Pre-test and Post-test of One Group Experimental
to Test Normality**

No	Subject	Pre-test (X)	Post-test (Y)
1	AZS	72	80
2	ARW	40	60
3	ARK	72	88
4	ADS	36	60
5	AY	68	84
6	CAN	52	68
7	DEW	72	84
8	DNA	76	92
9	DIM	48	72
10	DFH	36	64
11	DAP	40	52
12	EW	56	68
13	EHS	52	68
14	FFW	60	76
15	FO	72	80
16	FMH	60	68
17	FH	84	96
18	HRS	64	80
19	IDA	72	92
20	IFW	36	60
21	IF	44	72
22	JL	40	68
23	KSPTH	48	72
24	KH	88	96
25	LZN	36	60
26	LMN	52	80
27	MHAF	36	64
28	MFA	68	80
29	MIS	56	76
30	MNA	68	88
31	MPN	36	72

32	NHA	48	72
33	NRZ	52	76
34	RAT	64	80
35	RFZ	68	88
36	RA	36	48
37	RYR	32	72
38	SLS	52	84
39	SIH	80	96
40	S	60	80
41	WS	64	92
42	WES	60	88
43	YDAP	68	88
44	YWT	56	72

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 3.9 One-Sample Kolmogorov-Smirnov Test 1

		pre test score
N		44
Normal Parameters[a]	Mean	56.36
	Std. Deviation	14.937
Most Extreme Differences	Absolute	.113
	Positive	.113
	Negative	-.100
Kolmogorov-Smirnov Z		.752
Asymp. Sig. (2-tailed)		.624

a. Test distribution is Normal

b.   Testing data of post-test using SPSS 16.00

Table 3.10 One-Sample Kolmogorov-Smirnov Test 2

		post test score
N		44
Normal Parameters[a]	Mean	76.27
	Std. Deviation	11.903
Most Extreme	Absolute	.100
Differences	Positive	.095
	Negative	-.100
Kolmogorov-Smirnov Z		.665
Asymp. Sig. (2-tailed)		.769

a. Test distribution is Normal

Based on the output from SPSS above it is known that the significance value of pre-test is 0.624 and the post test is 0.769. Both value from pre-test and post-test are bigger than 0.05. The significance value on pre-test is 0.640 and it is bigger than 0.05 (0.624 > 0.05). It means that H_0 is accepted and H_a is rejected and the data is in normal distribution. Then, for post-test score the value of significance is 0.533 and that is bigger than 0.05 (0.769 > 0.05). It also means that H_0 is accepted and H_a is rejected and the data is in normal distribution. So, it can be interpreted that both of data (pre-test and post-test score) 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. To know the homogeneity, the

researcher used one way anova with SPSS 16,0 version. The result can be seen in table below :

Table 3.11 Homogeneity Test

ANOVA					
Pretest					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8219.287	11	747.208	17.391	.000
Within Groups	1374.895	32	42.965		
Total	9594.182	43			

Based on the result above it can be concluded that this test is homogeneity because the significant show 0,000 < 0,05, so Ho rejected and Ha accepted . it means that there is significant different between pretest and posttest using alphabet soup game.

G. Data and Data Source

1. Data

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

The main data in this study are scores of pre-test and post-test taken from sample of the study. This score is very crucial information that can show the effectiveness of alphabet soup game. Data can be collected from any data sources.

2. **Data Source**

Data source in research is a subject from where the data gotten (Arikunto et al , 2006 :107). Based on the sources, there are two kinds of data, primary data and secondary data (Sugiyono, 2006:153). Furthermore, primary data is any kind of data collected through the researcher directly while secondary data is any kind of data collected through the researcher indirectly, such as from the other people or document. In this research the data belong to primary data taken from the scores of the pre-test and post-test.

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

a. Person: First grade students of MTs Negeri Bandung on class VII C in which the treatment was given.

b. Place: VII C classroom where the tests were administered

c. Paper: students' writing ability tests

H. Data Collection Method

Data collection method is an important aspect of any type of research study. It can defined as the various methods that have been adopted by an organization to analyze the accuracy of the data collected. In this research, the data was collected in three steps:

1. Pre-test

A pre-test provides a measure on some attribute or charactheristic that you assess for participants in an experiment before they receive a treatment (Creswell,2008: 301). At the first meeting, the researcher gave pre-test to the students. It was done on Monday, May 12th 2014. The pre-test is writing in form of descriptive text with the theme "MY SELF" that decided by the researcher. It was conducted to know the student's score in writing. This test was given in order to know how far the student's ability in writing descriptive text. It determined the readiness for instructional program, and to diagnosed individual's specific strengths and weaknesses in writing descriptive text.

2. Treatment

After conducting the pre test, the researcher gave the treatment to the seventh grade students in C class. The treatment was applied on Monday, May 19th 2014 and Thursday, May 22th 2014. The researcher applied the technique or treatment of using alphabet soup game. There are some steps to conduct a treatment. Those are :

a. The researcher divide students to be some groups, each group consist of four students

b. The researcher show a picture of alphabet soup game on the whiteboard and explains the methods to playing game

c. The researcher ask to each group chooses one of the category on the board in which they think they know a lot of words

d. After that, the researcher ask to next group to think, guess and write down as many words as they can related to the category printed in the space

e. Give evaluation to each group to write a descriptive paragraph based on the one of the words which has found and also show the generic structure and language feature of the text

f. Give instruction to students to submit the written evaluation given by teacher

3. Post-test

The last method used to collect the data was administering post-test. A`post-test is a measure on some attribute or characteristic that is assessed for participants in an experiment after a treatment (Creswell, 2008: 301). It was done on Monday, June 2nd 2014. The post-test is writing in form of descriptive text with the several theme that was found from playing alphabet soup game, it consist of : person, place, animal, fruit, hobbies. The purpose of administering post-test in this study was to observe and

measure the students' development in writing descriptive text after having the treatment.

I. Method of Data Analysis

Method of data analysis is the way to analyze the data by the researcher. In managing and analyzing the data collected, the researcher use quantitative data analysis by using statistical technique. The analysis is used to find the significant difference of the students' writing ability before and after using alphabet soup games. In this study the researcher used paired sample T-Test through SPSS 16.00 to analyze the data. The process of analyzing the data with the following steps:

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' writing ability before and after being taught by using alphabet soup game. So vice versa, if Ho is accepted means that there is no significant difference of the students' writing ability before and after being taught by using alphabet soup game.