

CHAPTER III

RESEARCH METHODOLOGY

In this chapter the writer explained the research method, research design, population and sample, instrument and data collection techniques and analysis.

A. Research Method

In this research used quantitative research method with quasi-experimental design. In a quantitative method, the data collected is processed statistically or in a numerals to answer the research question (Donald, 2010). While a quasi-experimental design is used to identify any casual impact between the independent variable and dependent variable with groups that are randomly assigned.

According to Kaswan and Suprijadi (2016: 12) a research design is the architectural plan of a research project. Decision regarding that what, where, when, how much, by what means concerning an inquiry or a research study constitute a research design. A research design is the arrangement of condition for collecting and analysis of data in a manner that aims to combine relevance to the research purposes. Research design classified into three categories :

1. Quantitative Research Design
2. Qualitative Research Design
3. Mixed Method

Quantitative research method is a deductive theory based research process that focuses primarily on testting theories and specific research hypothesis that

consider finding differences and relationships using numeric data and statistical method to make specific conclusion about the phenomena (Kaswan & Suprijadi, 2016).

In this research, the independent variable is picture as the media of teaching, and the dependent variable is the student's writing ability in descriptive text. The following the research design was used identify the effect between independent variable and the dependent variable (John. W Cresswell, 2012).

Table 3.1 Quasi-Experimental Design

Pretest and Posttest Design

Select Control Group	Pre-Test	No treatment (Lecturing, group discussion and individual task)	Post-Test
Select Experimental Group	Pre-Test	Experimental Treatment (Lecturing and using picture and picture strategy both individually and in the group)	Post-Test

As shown in table above, the writer intended to find out if there is no significance differences between discovery learning and communicative approach using picture and picture on students' writing descriptive text. It involves two classes that are divided into the experimental class, the students are given treatment by communicative approach using picture as the media, in the control class the students are not given treatment by using picture as the media of teaching but the students are given by discovery learning.

B. Research Design

The researcher used the experimental design. Creswell (2012) has argued, "Experimental research or experiment refers to research in which at least one independent variable is manipulated, other relevant variable are controlled, and the effect on one or more variables is observed". Experimental design was used to establish cause and effect by manipulating an independent variable to see its effect on a dependent variable. According to Creswell, 2012:307 stated that experiments have common characteristics, their use and applications vary depending on the type of design used, those are: 1) True experiments, 2) Quasi-experiments, 3) Factorial designs, 4) Time series experiments, 5) Repeated measures experiments, 6) Single subject experiments.

Types of Experimental Designs						
	True Experiment	Quasi-Experiment	Factorial	Time Series	Repeated Measures	Single Subject
Random assignment?	Yes	No	May be used	No	No	No
Number of groups/ individuals compared?	Two or more	Two or more	Two or more	One group	One group	One individual studied at a time
Number of interventions used?	One or more interventions	One or more interventions	Two or more interventions	One or more interventions	Two or more interventions	One or more interventions
Number of times the dependent variables measured/ observed?	Once	Once	Once	After each intervention	After each intervention	Multiple points
Controls typically used?	Pretest, matching, blocking, covariates	Pretest, matching, blocking, covariates	Pretest, matching, blocking, covariates	Group becomes its own controls	Covariates	Individuals become their own control

Figure 3.1 Types of Experimental Design

This study was Quasi-experimental design. Quasi-experimental as a research design that used the experimental group and control group. Sugiyono (2008:107) in Setyowati (2015), states that experimental research is research method that uses to find the influence for treatment toward another variable in the controlled condition. There are several design experiment such as pre-experimental design, true experimental design, factorial design, and quasi-experimental design. In this research, the researcher was used quasi-experimental design. According to Wiersma (1986:139) in Setyowati (2015), quasi experimental research less assigning subject at random to experimental treatment; it involves the use of intact group of subjects. This study used pre-test-post-test control design. Pre-test was given to two groups sample in the first meeting of the research to know students' ability in writing about descriptive text, treatment was given only to experimental group, and post-test was conducted to the two groups sample in the final of the research.

The explanation as follows:

1. Experimental group is a group of students who teach by communicative approach.
2. Control group is a group of students who teach by scientific approach.

After give the treatment, the two groups will be given a test and the test scores will be analyze to examine the hypothesis to know is there any differences between experiment class one and experiment class two.

Then, the research design is

E	X	O	Y
C	X		Y

E : Experimental Group

C : Control Group

X : Pretest both of experimental and control group

Y : Posttest both of experimental and control group

O : The group is learning by communicative approach

C. Population and Sample

1. Population

Kaswan and Suprijadi (2015: 112) as cited in Noviany stated that population has very specific meaning and refers to the group of people or further unit of analysis which is the focus of the study. In addition Margono (2004), population is all the data that concern in a scope and at the time that specify.

In this research, the population was the seventh-grade students of MTs Al-Basyariyah in the academic year of 2018/2019 Bandung that consist of six classes. There are about 204 students as the population.

2. Sample

Sample is a part of the population that becomes the project of the research. Sugiyono (2012) said that sample is part of total and characteristic of population.

In this research takes the seventh grade students of MTs Al-Basyariyah Bandung as the population. The writer takes two classes of seventh-grade of MTs Al-Basyariyah Bandung. They are 7th B and 7th E and consists of 34-36 students on each class. In this research, the writer used cluster sampling. Cluster is groups that a sampling technique where the entire population is divided into groups. Where, two classes (7th B as experimental group and 7th F as control group) were chosen based on their same average number of students in the class or English score in previous semester at school.

D. Instrument

According to Tavakoli (2012) in Nurdiansyah states that “Instrument is any device which is used to collect the data”. In this research, there are some instrument that can be use to collect the data such as test, observation, and interview.

1. Test

Test is a technique for collecting data related to the students’ scores.

Test present a large number of the data that product evaluation is usually made. The writer uses test as the instrument.

a. Pretest

Pretest is given to all students, both of the experimental group and control group in order to find out whether experimental group and controlled group are in the same level at the beginning or not. The student would be give a question.

PRE TEST INSTRUMENT		
Name : Class : Activity : Writing Descriptive Text Time : 40 Minutes Instruction 1. Write your full name in the space given! 2. Choose one of the pictures above and write a text by describing the chosen picture minimal 150 words in 40 minutes. Arrange in a paragraph	SCORE	
1  HOUSE 2  SCHOOL 3  KA'BAH		

Figure 3.2 Pretest Instrument

To administered the writing test, the writer used as analytic score in order to be more reliable in scoring students' writing. Jacob et al in Reyhan (2012) created the scale of writing script are rated on five aspects as follow: content, organization, vocabulary, language use and mechanic. For more detail, the table below provide the scoring standards from Jacobs, et al (1981) in Reyhan (2012).

Table 3.2

The Criteria of Scoring Writing

Aspect of Writing	Range	Criteria
Content	30-27	Excellent to very good: knowledgeable; substantive; thorough; development of thesis; relevant to assigned topic.
	26-22	Good to average: some knowledge of subject; adequate range; limited development of thesis; mostly relevant to topic, but lacks detail.
	21-17	Fair to poor: limited knowledge of subject; little substance; inadequate development of topic.
	16-13	Very poor: does not show knowledge of subject; no substantive; not pertinent.
Organization	20-18	Excellent to very good: fluent expression; ideas clearly stated/supported; succinct; well-organized; logical sequencing; cohesive.
	17-14	Good to average: somewhat choppy; loosely organized but main ideas stand out; limited support; logical but incomplete sequencing.
	13-10	Fair to poor: non-fluent; ideas confused or disconnected; lacks logical sequencing and development
	9-7	Very poor: does not communicate; no organization.
Vocabulary	20-18	Excellent to very good: sophisticated range; effective word/idiom choice and

		usage; word from mastery; appropriate register.
	17-14	Good to average: adequate range; occasional errors of word/idiom form; choice; usage but meaning not obscured.
	13-10	Fair to poor: limited range; frequent errors of word/idiom form, choice, usage; meaning confused or obscured.
	9-7	Very poor: essentially translation; little knowledge of English vocabulary, idioms, word form.
Language Use / Grammar	25-22	Excellent to very good: effective complex construction; few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions.
	21-18	Excellent to very good: effective complex construction; few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions.
	17-11	Fair to poor: major problems in simple/complex constructions; frequent errors of negation, agreement, tense, number, word order/function, articles, pronouns, preposition and fragments, runons, deletions; meaning confused or obscured.
	10-5	Very poor: virtually no mastery of sentence construction rules; dominated by errors; does not communicate.
	5	Excellent to very good: demonstrates mastery of conventions; few errors of spelling, punctuation, capitalization, paragraphing.
Mechanic	4	Good to average: occasional errors of spelling, punctuation, capitalization, paragraphing, but meaning not obscured.
	3	Fair to poor: frequent errors of spelling, punctuation, capitalization, paragraphing; poor handwriting; meaning confused.
	2	Very poor: no mastery of conventions; dominated by errors of spelling, punctuation, capitalization, etc. paragraphing; handwriting illegible.

Table 3.3
Percentage of the Elements of Writing

Elements of writing	Score
Content	30
Organization	20
Vocabulary	20
Language use / Grammar	25
Mechanic	5
Total Score	100

1) Validity Test

Validity test is the extent to which a test (such as a chemical, physical, or scholastic test) accurately measures what it is supposed to measure. Validity is generally considered the most important issue in psychological and educational testing because it concerns the meaning placed on test result. The validity test of pretest in writing skill has done and the summarized following:

Table 3.4 Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Content	40,20	9,545	,867	,889
Organization	45,07	9,789	,920	,872
Vocabulary	45,10	10,024	,901	,876
Grammar	48,67	12,644	,752	,911
Mechanic	56,43	14,461	,672	,934

In the corrected item-total correlation values shows that the data in every indicator are more than 0.03 then the data is valid.

2) Reliability Test

Reliability in statistic and psychometrics is the overall consistency of a measure. A measure is said to have a high reliability if it procedures similar results under consistent conditions. Intra-rater reliability is the degree of agreement among repeated administrations of a diagnostic test performed by a single rater.

Table 3.5 Inter Rater Realibility

	Intraclass Correlation(a)	95% Confidence Interval		F Test with True Value 0			
	Lower Bound	Upper Bound	Value	df1	df2	Sig	Lower Bound
Single Measures	,693(b)	,553	,816	12,266	29,0	11 6	,000
Average Measures	,918(c)	,861	,957	12,266	29,0	11 6	,000

The data shows that inter rater realibility sig 0.00 from average measures smaller than 0.05. And this instrument has realibility high between evaluators, because interclass correlation and average measure (0.918) more than 0.08.

b. Posttest

Posttest was gave after the writer gave treatment by Communicative Approach using picture as the media. In experimental group the writer used Communicative Approach using picture as the media.

The posttest used the same with pretest, there is one essay question but different picture

POST TEST INSTRUMENT													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Name</td> <td style="width: 5%; text-align: center;">:</td> <td style="width: 80%;"></td> </tr> <tr> <td>Class</td> <td style="text-align: center;">:</td> <td></td> </tr> <tr> <td>Activity</td> <td style="text-align: center;">:</td> <td>Writing Descriptive Text</td> </tr> <tr> <td>Time</td> <td style="text-align: center;">:</td> <td>45 Minutes</td> </tr> </table>	Name	:		Class	:		Activity	:	Writing Descriptive Text	Time	:	45 Minutes	SCORE
Name	:												
Class	:												
Activity	:	Writing Descriptive Text											
Time	:	45 Minutes											
Instruction 1. Write your full name in the space given! 2. Please choose one of the topics above and write a text by describing the chosen topic minimal 150 words in 45 minutes. Arrange paragraph! A. Cat B. House C. Bag													

Figure 3.3 Posttest Instrument

2. Observation

The writer uses the observation to get the information during learning. How the atmosphere of teaching and learning situation in the class from beginning until the end of the treatment. Meanwhile, to find out the illustrations of communicative approach and scientific approach to improve students' writing skill and so the students' responses. The writer uses observation sheet and field note to collect the data.

Table 3.6 Observation Sheet

	Activities	Yes	No	Notes
Observing & Interview	The Students were interested to text and picture			
	The Student learned attentively			
	The students participated actively in the activity			
Exerimenting	The students understand the content of the text			
	The students can tell the story behind the picture in their own way			
	Students can write their own stories in the form of descriptive text			

Associating & Communicating	The students comprehend the material given			
	The students were abke to use the selected vocabulary in writing descriptive text			
	The students accompalish the task easily			

3. Interview

The writer uses the interview to find out the difficulties of students' writing skill especially in descriptive text, with some questions using Indonesian language. It can make the students understand, the writer took a sample of five students' from each group.

INTERVIEW GUIDELINES FOR INTERVIEWING THE STUDENTS (AFTER THE IMPLEMENTATION)

1. Apakah anda menyukai mata pelajaran bahasa inggris? Jika tidak, apa alasannya?
2. Di dalam mata pelajaran Bahasa Inggris ada 4 skill atau 4 kemampuan yaitu listening, speaking, writing dan writing. Dari keempat skill tersebut apa yang paling susah menurut anda?
3. Menurut anda writing itu termasuk susah atau mudah?
4. Apakah anda menyukai cara guru saat menyampaikan materi di dalam kelas? Jika tidak, apa alasannya?
5. Bagaimana sikap anda terhadap pembelajaran writing dalam kelas bahasa Inggris?
6. Setelah mempelajari descriptive text menggunakan metode teknik picture to picture apakah teknik tersebut dapat membantu mengatasi kesulitan dalam menulis descriptive text?
7. Bagaimana pendapat anda tentang penggunaan teknik picture to picture dalam proses pembelajaran writing?
8. Apakah teknik picture to picture mempermudah anda dalam menulis descriptive text?
9. Apakah setelah menggunakan teknik picture to picture kemampuan menulis descriptive text anda meningkat?
10. Bagaimana kesan anda tentang cara peneliti mengajarkan writing dengan teknik picture to picture?

E. Data Collection Techniques and Analysis

1. Data Collection Technique

In collecting data, the writer uses three steps. They are test, observation, and interview.

a. Pretest

Pretest is given to all students, both of the experimental group and control group in order to find out whether experimental group and controlled group are in the same level at the beginning or not.

b. Treatment

The writer taught writing in descriptive text both of experimental and control group. The material is about descriptive text

c. Posttest

Posttest is given after the writer gives treatment by Communicative Approach using Picture as the media. In experimental group the writer uses Communicative Approach using picture as the media but in control group the writer uses Discovery Learning.

d. Observation

The writer uses observation sheet and field note to collect the data. The observation used to know how the implementation both of approaches in the research. The observation used to know how the situation of the classroom when learning process/treatment.

e. Interview

The researcher uses the interview to find out the difficulties of students' writing skill especially in descriptive text, with some questions using Indonesian Language it can make the students understand. The researcher took a sample of five students as a sample from each group.

2. Statistical Data Analysis

a. Normality Test

In this research, a test of normality of data is done with program of computer (Statistical Package for Social Science) SPSS. Normality test are used to determine if the population Gaussian data or not.

This test is used to measure by the scale ordinal data, interval, or ratio. If the analysis using parametric method, then the requirements must be met, namely the normality of the data come from a normal distribution. If the data is not Gaussian, then the alternative methods that can be used is statistics non-parametric.

To test this using a normality test lilliefors by looking at the value in the kolmogorov-smirnov if the students < 33 or Shapiro-Wilk if the student > 33. Gaussian stated if its significance is greater than 0.05.

b. Homogeneity Variance Test

Homogeneity Variance Test to test whether the data from both groups were homogeneous Gaussian or not. If both Gaussian and homogeneous were data is then the next step is to test t, but if both data and not homogeneous Gaussian then continued with the T-test.

c. Independent Simple Test

Independent simple t test is one of the test to know differences between two samples and independent sample t test has criteria, as follows:

- 1) If the value Asymp. Sig ≥ 0.05 : the data distribution there is differences.
- 2) If the value Asymp. Sig ≤ 0.05 : the data distribution there is no differences.

If the result of the test normality does not normal, and the test of homogeneity does not homogeneity. The writer has to test the data using non parametric as follow

d. Man Whitney U Test

Man Whitney u test is a non-parametric test which is used to determine (comparison) of the media of two free group (unpaired) if the data scale of the dependent variable is ordinal or internal/ratio but not normally distributed.

e. The Implementation

The writer described the implementation of communicative approach using picture. To describe it, the writer describes the implementation in every meeting at control and experiment groups.

f. The Difficulties

To find out the difficulties of students' in learning process that the writer used observation sheet and the results of interview.