

### **CHAPTER III**

#### **RESEARCH METHOD**

In this chapter, the researcher presented research design, population and sample, research instrument, validity and reliability testing, normality and homogeneity testing, data collecting method and data analysis.

#### **A. Research Design**

This research was conducted in quantitative approach. Quantitative research emphasized on objective measurements and the statistical or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating preexisting statistical data using computational techniques. Quantitative research focused on gathering numerical data and explain a particular phenomenon.

Pre-experimental research design was conducted by the researcher in this research. It was one of design that intended to examine cause and effect, and to test the effectiveness of the theory. This design involved one group as its subject and it involved three steps, there were pre-test, treatment, and post-test. This research design can be done anywhere it could be at the class and outdoors. Classroom was the place that researcher used to did this research and the sample has been obtained from a population. The design of this research could be seen at the table below:

**Table 3.1 the design of one-group pre-test post-test**

<b>Pre-test</b>	<b>Treatment (Independent variable)</b>	<b>Post-test</b>
Y1	X	Y2

Note:

Y1 : students' achievement on writing descriptive text before being taught by using picture word inductive model.

X : picture word inductive model treatment.

Y2 : students' achievement on writing descriptive text after being taught by using picture word inductive model.

The procedures in conducting pre-experimental research used One-Group Pretest-Posttest design were described as follows:

1. Managing pre-test in order to measure the writing descriptive text ability of the first grade of MTs Darul Falah students.
2. Applying the treatment teaching writing by using picture word inductive model (PWIM) strategy of the first grade of MTs Darul Falah students.
3. Managing post-test in order to measure the writing descriptive text ability of the first grade of MTs Darul Falah students.

So, here the researcher wanted to know the effectiveness of using picture word inductive model (PWIM) strategy toward the student's ability in writing descriptive text by pre-experimental design. After knowing the significant differences score between the students who are taught before and after using picture word inductive model (PWIM), the effectiveness was known by the researcher.

## **B. Population and Sample**

### 1. Population

Population is the whole subject of the research which has certain quality and characteristics. According to Ary et al. (2010:148) population is defined as all members of any well-defined class of people, events, or objects. In this research, the researcher took the population of the first grader students at MTs Darul Falah which consist of five classes. The total numbers are 160 students.

### 2. Sample

Sample is part of population that is being studied. If the population was large, the sample is called for in a quantitative study. In this study, the researcher took the VII-B class as a sample of this research. This class consisted of 28 students of the first grade at MTs Darul Falah. The researcher chose this school because it has the mission that is to make the students like to learn faithfully and godly so that the students become skilled and have good moral characters. In order to know the effort of the teachers to create the skilled students, English must be taught by using joyful learning strategy.

Sampling technique is a technique to determine the sample. The sampling technique used in this research was purposive sampling. Purposive sampling is a sampling technique with particular consideration (Sugiyono, 2011). The researcher chose the VII-B class as the sample based on the suggestion from the English teacher because

among the other classes the students of VII-B class had homogeneity in their ability to learn English they had average proficiency.

### **C. Research Instrument**

Data collection instruments referred to devices used to collect data such as questionnaires, tests, structured interview schedules and checklists. In this research, the researcher used test as research instrument. The test here meant the students work, writing descriptive paragraph that has developed from the students draft of descriptive text. To measure the result of the data the researcher used rubric score. Then, the data produced use numeric based on the students score.

As an experimental research, the main instrument used in this research was test. The materials of the test were taken from English book which related to students' subject and based on junior high school curriculum with the subject is descriptive text. There were three kinds of test in this research, those were pretest, post-test and try out.

#### **a. Pre-test**

Pre-test was given to the students before they get the treatment. The researcher administered the pre-test to know the students' ability in writing descriptive text before treatment. The pre-test was an essay, the students should write a descriptive text about their idol in 30 minutes. The pre-test was held on February, 26<sup>th</sup> 2019.

b. Post-test

To measure students' writing ability after conducting the treatment process, the researcher administered post-test. The researcher gave post-test to the students after the treatment had finish. It was done to know the final score and to know the student difference achievement before and after conducting the treatment. In post-test, the students should write a descriptive text about their family in 30 minutes. The post-test was held on April, 9<sup>th</sup> 2019. Furthermore, the scoring for the tests was based on the rating scale scoring rubric.

**Table 3.2 Scoring Rubric / Rating Scale**

The Writing Assignment Rubric Adapted from Brown (2007)

<b>Aspect</b>	<b>Score</b>	<b>Performance Descriptive</b>
Content (C) 30% - Topic - Detail	4	The topic is complete and clear and the details are relating to the topic
	3	The topic is complete and clear but the details are almost relating to the topic
	2	The topic is complete and clear but the details are not relating to the topic
	1	The topic is not clear and the details are not relating to the topic
Organization (O) 20% - Identification - Description	4	Identification is complete and descriptions are arranged with proper connectives
	3	Identification is almost complete and descriptions are arranged with almost proper connectives
	2	Identification is not complete and descriptions are arranged with few misuse of connective
	1	Identification is not complete and descriptions are arranged with misuse of connectives

Grammar (G) 20%	4	Very few grammatical or agreement inaccuracies
	3	Few grammatical or agreement inaccuracies but not effect on meaning
	2	Numerous grammatical or agreement inaccuracies
	1	Frequent grammatical or agreement inaccuracies
Vocabulary (V) 15%	4	Effective choice of words and word forms
	3	Few misuse of vocabularies, word forms, but not change the meaning
	2	Limited range confusing words, and word forms
	1	Very poor knowledge of words, word forms, and not understandable
Mechanics (M) 15% - Spelling - Punctuation - Capitalization	4	It uses correct spelling, punctuation and capitalization
	3	It has occasional errors of spelling, punctuation and capitalization
	2	It has frequent errors of spelling, punctuation and capitalization
	1	It is dominated by errors spelling, punctuation and capitalization

$$\text{Score} = \frac{3C + 2O + 2G + 1.5V + 1.5M}{40} \times 10$$

#### D. Validity and Reliability

There were two important characteristics that every measuring instrument should process of validity and reliability. According to Creswell (2012:159), reliability and validity are bound together in complex ways. These two terms sometimes overlap and at other times are mutually exclusive. Validity can be thought of as the larger, more encompassing term when assess the choice of an instrument. Reliability is generally easier to understand as it is a measure of consistency. If scores are not reliable, the scores are not valid; scores need to be stable and consistent first before the scores can be meaningful.

## 1. Validity

Validity is the most important consideration in developing and evaluating measuring instrument. Ary et al. (2010:225) defined 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 content validity and face validity.

### a) Content validity

Content validity is validity in terms of the contents of the test. In this test, the researcher gives the written test to measure students' ability in writing descriptive text. Therefore, this test was valid in terms of the content validity. The instrument of this research had a content validity because of the design from the syllabus of students in MTs Darul Falah in academic year 2018/2019. The content validity in this research was as follows:

**Table 3.3 Content Validity**

<b>Core Competence</b>	<b>Standard Competence</b>	<b>Indicators</b>
3. Memahami pengetahuan (faktual, konseptual, dan prosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni,	3.10 Memahami tujuan, struktur teks, dan unsur kebahasaan dari teks deskriptif lisan dan tulis tentang orang, binatang, dan benda, sangat	3.10.1 Siswa dapat menentukan struktur teks dan unsure kebahasaan untuk melaksanakan fungsi sosial teks deskriptif dengan menyatakan tentang deskripsi

budaya terkait fenomena dan kejadian tampak mata	pendek dan sederhana.	orang, binatang, dan benda, pendek dan sederhana, sesuai dengan konteks
4. Mencoba, mengolah, dan menyaji dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, dan membuat) dan ranah abstrak (menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut pandang/teori	4.11 Menyusun teks deskriptif lisan dan tulis, sangat pendek dan sederhana tentang orang, binatang, dan benda, dengan memperhatikan tujuan, struktur teks, dan unsur kebahasaan, secara benar dan sesuai dengan konteks.	4.11.1 Siswa dapat menyusun teks deskriptif lisan, pendek dan sederhana tentang orang, binatang, dan benda, dengan memperhatikan fungsi sosial, struktur teks, dan unsur kebahasaan yang benar dan sesuai konteks.

b) Face validity

Face validity test is if it measured what was supposed to measure. A test which does not have face validity may not be accepted. The researcher used face validity in this research by consulting with experts' opinion. The first was the English teacher of MTs Darul Falah who teaches in VII B class. The second was an English lecturer of IAIN Tulungagung. The third expert was advisor who guides the researcher in the process of conducting the research.



The researcher asked the experts opinion about the instrument whether it is appropriate for students or not.

## 2. Reliability

Reliability is the results of assessment in producing the score on different testing are consistency. According to Creswell (2012:159), reliability means that scores from an instrument are stable and consistent. Scores should be nearly the same when researchers administer the instrument multiple times at different times. The scores need to be consistent. When an individual answers certain questions one way, the individual should consistently answer closely related questions in the same way. According to Isnawati (2014:18), reliable test is consistent and dependable. So, if the test is administered in two different times, the test should have similar results.

It means that an instrument can be called reliable if it has a consistency in the result of measurement. The reliability of an instrument was needed to support the validity. In this research, the researcher tried to check the empirical reliability by using Cronbach's Alpha and to analyze the reliability the researcher used SPSS 16.0 after trying out the instrument.

The criteria of reliability according to Sujianto (2009:97), the value of Cronbach's Alpha as follows:

<b>Cronbach's Alpha</b>	<b>Interpretation</b>
0,00 – 0,20	Less reliable
0,02 – 0,40	Rather reliable
0,41 – 0,60	Quite reliable
0,61 – 0,80	Reliable
0,81 – 1,00	Very reliable

**Table 3.4 Reliability by Using Cronbach's Alpha**

### **Tryout**

#### Case Processing Summary

		N	%
Cases	Valid	17	100.0
	Excluded <sup>a</sup>	0	.0
	Total	17	100.0

#### Reliability Statistics

Cronbach's Alpha	N of Items
.759	2

From the analysis, it was found that the value of try out score is 0.759. It meant that the try out test was reliable.

## **E. Normality and Homogeneity**

### **1. Normality**

Normality distribution test was a test to measure whether the data has a normal distribution or not. Usman and Akbar (2008: 140) stated that normality testing is useful to determine whether the data which have been collected have normal distribution or be taken from normal population.

In this research, the computation of normality testing in this research using SPSS 16.0 that is non-parametric statistic One-Sample Kolmogorov-Smirnov test because the research without determining the specific qualifications about the population parameter which was a sample. The value of significance ( $\alpha$ ) = 0.05. Testing of data normality was conducted by the rules as follow:

- a. If the value of significance  $> 0.05$ , so the data distribution is normal.
- b. If the value of significance  $< 0.05$ , so the data distribution is not normal.

**Table 3.5 Normality by using  
One-Sample Kolmogorov-Smirnov Test**

		pretest	posttest
N		28	28
Normal Parameters <sup>a</sup>	Mean	62.07	81.93
	Std. Deviation	7.907	8.789
Most Extreme Differences	Absolute	.118	.184
	Positive	.096	.178
	Negative	-.118	-.184
Kolmogorov-Smirnov Z		.625	.972
Asymp. Sig. (2-tailed)		.829	.301

a. Test distribution is Normal.

Based on table above, the significance value of pre-test is 0.829 and post-test is 0.301. Both of significance value from pre-test and post-test were bigger than 0.05. It means that the data is in normal distribution.

## 2. Homogeneity

Homogeneity testing was conducted to know whether the data has a homogeneous variance or not. The researcher used *Levene* statistic with

IBM SPSS Statistics 16.00 to conduct homogeneity testing. Basic decisions making in homogeneity testing are as follows:

- a. If the value of significance  $> 0.05$ , so the data distribution is homogeneous.
- b. If the value of significance  $< 0.05$ , so the data distribution is not homogeneous.

**Table 3.6 Homogeneity Test**

Hasil			
Levene Statistic	df1	df2	Sig.
.874	1	54	.354

From the table above, the significance value is 0.354 and it was higher than 0.05. It could be concluded that the data distribution was homogeneous.

## **F. Data Collecting Method**

Data collecting method is the method that was used by the researcher to collect the data. This research used test to collect the data. Arikunto (2013) stated that to measure how far the ability of object, the researcher must use the text.

Test was used to measure language skill (writing) of the subject being researched. Test referred to a set of questions that was used to measure or assess the achievement of the test-taker. The data were collected by giving written test. The researcher used the essay test/writing test to measure the writing skill. There were procedures of conducted the research:

### 1. Pre-test

Pre-test was given to the students before the students being taught writing descriptive text by using basic questioning technique. It was given to know the students' ability in writing descriptive text before the students got the treatment. The pre-test was conducted in the first meeting on February, 26<sup>th</sup> 2019. The test was in the form of essay or writing test. Time allocation was 30 minutes.

### 2. Post-test

Post-test was given to the students after the students being taught writing descriptive text by using basic questioning technique. This test was administered to know the students' ability in writing descriptive text after the students done the treatment. The post test score would be compared with score of pre-test. Hence, the researcher could find out the differences between before and after being taught by using picture word inductive model in writing descriptive text. The post-test was conducted on April, 9<sup>th</sup> 2019.

## **G. Data Analysis**

To find the significant difference on the student's writing ability before and after being taught using Picture Word Inductive Model (PWIM), the researcher decided to use a quantitative data analysis technique using statistical method.

The first data (pre-test) was the score of student's writing ability before taught using picture word inductive model (PWIM) and the data result (post-test) of student's writing ability was data of average score of student's writing ability using picture word inductive model (PWIM). The researcher gave the students test after they got the treatment. If the post-test score is higher than pre-test, it means that teaching descriptive text using picture word inductive model (PWIM) strategy is effective. The researcher used SPSS 16.0 to know the significant differences of the student's writing ability before and after taught using picture word inductive model (PWIM) strategy.