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## CHAPTER III

### METHOD OF THE RESEARCH

#### A. The Research Design

This research is an experimental research. According to Creswell (2008:299) experimental research is used when the writer wants to establish possible cause and effect between the independent and the dependent variables. Creswell (2012:295) stated that, experiment is testing an idea (for practice or procedure) to determine whether it influence an outcome or dependent variable. Lodico et.al added (2010:24) experimental research is designed to determine cause-effect relationship. It means that in an experimental research, we make some tests after giving treatment to find out how far the influence of our strategy to the students. In conducting this research, two classes as sample based on the total sampling. The first class was used as experimental class which was taught by using bio poem strategy. During the treatment to measure the students' ability in writing a descriptive paragraph.

Design of this research was a quasi-experimental research, to see the effect of bio poem strategy on students' writing ability of descriptive text. According to Creswell (2012:309) quasi-experimental research include assignment, but not random assignment of participants to groups. This is because the experimenter cannot artificially create groups for the experiment. design. In this study, bio poem strategy was the independent variable which

might cause/influence students' writing ability on descriptive paragraph as the dependent variable.

There were two variables used in this research. The first using bio poem strategy symbolized as (X) and the second students' writing ability on descriptive paragraph symbolized as (Y). In conducting this research, the writer involved the eight grade students of MTs Darul Falah Salo Kampar Regency, the classes were divided into an experimental class and a control class. Both of the classes were given a pre-test to know students' ability in writing. After that, the experimental class was given the treatment by using bio poem strategy for 6 meetings while the control class was given conventional teaching strategy. At the end, both of the classes were tested again to find out the students' result in a post-test. According to Creswell (2012:310) the plan of this design can be seen as follow:

**Table III.1**  
**The Research Design**

	Pre- and Posttest Design			Time
	→			
Select Control Group	Pre-test	No Treatment	Post-test	
Select Experimental group	Pre-test	Experimental Treatment	Post-test	

## B. The Time and Location of Research

This research was conducted at MTs Darul Falah Salo Timur of Kampar Regency. This school is located in JL. Prof. M.Yamin SH Pekanbaru-Bangkinang. The research was conducted from January to February 2017.

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### **C. The Subject and Object of The Research**

Based on the title, the subject of this research was the eight grade students MTs Darul Falah Salo Timur of Kampar Regency. While the object of this research was the effect of using bio poem strategy on students' writing ability on descriptive paragraph.

### **D. Population and Sample of Research**

#### **1. The Population of the Research**

The population of this research was the eight grade students of MTs Darul Falah Salo Timur of Kampar Regency academic year 2016/2017. It consists of 2 classes, class VIII.A, VIII.B. The total number of the eight grade students of MTs Darul Falah Salo Timur of Kampar Regency was 34 students, while the sample was only two classes. The writer chosen VIII A and VIII B as sample. The VIII B class was chosen as experimental class while VIII A was as control class. There were 17 students in class VIII A and 17 students in class VIII B. The following table describes the total population of the research.

#### **2. The Sample of the Research**

Majority of the population selected for the data source called sample (Sukardi,2014:54). Sampling technique is a technique to determine the sample. There are various sampling techniques used in research. In this research, writer used total sampling. According to Sugiyono (2015:67) total sampling is a sampling technique when all members of the population



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used as a sample. This is often done when the population size is relatively small, less than 30 people or research to make generalizations with a very small error. In this research, the writer took the whole of available population as the sample of the research because the number of the population was not so large. Furthermore, those two classes were homogeneous. It was indicated by the same curriculum used by the school for both classes and the students competence in writing skill in which both classes were not different. In this research class VIII B as experimental class, while VIII A as control class.

### E. The Technique of Collecting Data

To obtain data from sample of this research, the writer used a writing test. The test had been distributed to measure the students' writing ability in writing descriptive paragraph. The aspects that should be measured in writing descriptive paragraph were content, Organization, vocabulary, language feature, and spelling and punctuation.

The test that used to found out the students writing ability in writing descriptive paragraph. Written test were divided into :

#### 1. Pre-Test

Pre-Test was used to collect data about students' writing ability in descriptive paragraph. The test was administered to experimental and control groups.

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## 2. Post-Test

Post-test was used to collect data about students writing ability in descriptive paragraph. The test was administered to experimental and control groups.

Both pre-test and post-test used to collect data either from experimental and control groups were assessed by two rates. The students' writing ability in descriptive paragraph was measured by using writing assessment.

According to Arikunto (2009:245), there were 5 components to categorized students' writing ability. Each components has 20 as the highest score and the total of the components are 100. In this research, the writer took 80 as the highest score. Then the score was interpreted into following category:

**Table III.2**  
**The Classification of Students' Score**

Score	Categories
80 – 100	Very Good
70 – 79	Good
60 – 69	Enough
50 – 59	Less
30 – 39	Bad

## 3. Validity of the Test

Validity is the most important idea to consider when preparing or selecting an instrument to use. A test is said valid if it measures accurately what it is intended to measure (Hughes,2003:26). To know the



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validity of the test, the writer used content validity. Content validity examines the degree to which an instrument measures the intended content area covered by the measure (for example, curriculum, a personality trait, a set of behaviors) (Lodico.et.al,2010:98). Regarding Sugiyono (2014:353) content validity is kind of test that is used to measure achievement and the effect of treatment or program. It means that to measure the students' achievement, the test must be created based on the material that they had learned.

Thus, the test was given based on the material studied by the students. The material of the test was taken from the textbook used by the eight grade students MTs Darul Falah Salo.

#### 4. Reliability

Reliability refers to the consistency of scores, that is, an instrument's ability to produce "approximately" the same score for an individual over repeated testing or across different raters (Lodico.et.al,2010:93). According to Cohen (2007:146) reliability in quantitative research is essentially a synonym for dependability, consistency and replicability over time, over instruments and over groups of respondents. In addition Brown (2003:20) says that a reliable test is consistent and dependable.

In obtaining the reliability of test, the writer used two raters to score the students writing ability on descriptive paragraph. Brown (2003:21) says that the inter-rater reliability occurs when two or more

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scores yield inconsistency score of the same text, possibly for lack of attention to score criteria, inexperience, inattention or even preconceived. Thus, reliability was expressed numerically, usually as a reliability coefficient obtained by using correlation.

Then, in analyzing the reliability of the test, the writer used the post test scores in experimental class of rater 1 and rater 2 by using SPSS 20.0 version.

**Table III.3**  
**The Table of Correlation**

		Post Test Experiment Class Rater 1	Post Test Experiment Class Rater 2
Post Test Experiment Class Rater 1	Pearson Correlation	1	.544*
	Sig. (2-tailed)		.024
	N	17	17
Post Test Experiment Class Rater 2	Pearson Correlation	.544*	1
	Sig. (2-tailed)	.024	
	N	17	17

\*. Correlation is significant at the 0.05 level (2-tailed).

From the output above, it can be seen that  $r_o$  ( $r_{\text{obtained}}$ ) is 0.544 will be correlated to  $r_t$  ( $r_{\text{table}}$ ). It is necessary to find the df (degree of freedom).

$$df = N - nr$$

where:

df : degree of freedom

N : Number of cases

nr : number of correlated variable

$$df = 17 - 2 = 15$$



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The researcher took  $df = 15$  to be correlated at level 5%. At level 5%,  $r_{table}$  is 0.482. Thus, the  $r_{obtained}$  is higher than  $r_{table}$ , at level 5%. So the writer concluded that there is a significant correlation between score given by rater 1 and score given by rater 2. In the other words, the writing test is reliable.

## F. The Technique of Analyzing Data

### 1. Normality and Homogeneity of the Test.

Before analyzing the data by using t-test formula, the writer had to find out the normality test of the data. The normality test of the data was analyzed by using Kolmogorov-Smirnov technique with SPSS 20 version.

Analysis:

$H_0$ : population with normal distribution

$H_a$ : population with not normal distribution

If the probability  $> 0.05$   $H_0$  was accepted

If the probability  $< 0.05$   $H_0$  was rejected

Then, the researcher also had to find out the homogeneity of the test. To analyze the homogeneity was by comparing sig. in based on trimmed mean with 0.05.

Analysis:

Sig.  $> 0.05$  the data is homogenous

Sig.  $< 0.05$  the data is not homogenous



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## 2. Independent sample t-test

According to Pallant (2003:177) an independent sample t-test is used when we want to compare the mean score on some continuous variable for two different groups of subject. Hartotno added, to find out whether there is significant difference or there is no significant difference between two or more variables can be analyzed by using Independent sample t-test (Hartono,2015:177). Moreover Cronk point out that the independent sample t-test compares the means of two sample (Cronk,2008:58). The two samples are normally from randomly assigned groups.

In this research, the writer analyzed by using SPSS 20.0 version. According to Pallant (2003:180) to find out if there is a significant difference between two groups refer to the column labelled sig (2-tail) which appears under the section labelled t-test for equality of means. Two value are given. One for equal variance, the other for unequal variance. Choose whichever Levene's test result says should use:

- a. If the value in the sig.(2-tailed) column is *equal or less than* .05, then there is a significant difference in the mean score on dependent variable for each of the two groups.
- b. If the value is *above* .05, there is no significance difference between the two groups.

Ha is accepted if sig.(2-tailed)  $\leq$  .05

Ho is accepted if sig.(2-tailed)  $>$  .05

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## 3. Effect size

According to Pallant (2005:199) effect size is the strength of the difference between groups or the influence of independent variable. There are a number of different effect size statistics, the most commonly used being eta squared. Eta squared can range from 0 to 1 and represents the proportion of variance in the dependent variable that is explained by the independent (group) variable. The formula for eta squared is as follows

$$\eta^2 = \frac{t^2}{t^2 + (N_1 + N_2 - 2)}$$

Where:

- $\eta^2$  = eta squared  
 $t^2$  = t o  
 $N_1$  = Number of students

Based on Pallant (2003:181) to interpret the eta squared value the following guidelines:

**Table III.4**  
**The Table of Guidelines**

.01	Small effect
.06	Moderate effect
.14	Large effect