

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

The design of this research was an experimental research. The experimental research is the only type of the research that can test hypotheses to establish cause-and-effect relationship.¹ The design of this research was a quasi-experimental research. In conducting the research, the researcher used two classes at the eleventh grade students of Islamic Senior High School of Darel Hikmah Boarding School Pekanbaru. The first class was used as an experimental class which was taught by using topics and sluglines technique and the another class was used as a control class which was taught by using conventional technique. Experimental class and control class took pre-test and post-test, but treatment was conducted for experimental class only.

Quasi experimental design has many kinds of designs. The design that the writer choose was non-equivalent control group design. Gay states that non-equivalent design control group design involves random assignment of intact groups to treatments, not random assignment of individuals.² It is an appropriate one to this research in order to know the significant effect of using topics and sluglines technique on students' writing ability at the eleventh grade of Islamic Senior High School of Darel Hikmah Boarding School Pekanbaru. Furthermore, the writer used pre-test and post-test design. There were two variables in this research. Topics and Sluglines Technique was an independent variable, while the

¹L.R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and application Sixth Edition*, (New Jersey: Prentice Hall Inc, 2000), p. 367

²*Ibid*, p. 395

students' ability in writing report paragraph was a dependent variable. Therefore, the experimental class was provided with pre-test, treatment, and post-test. They can be drawing in the following scheme:

Table III.1
Research Design

Group	Pre-test	Treatment	Post-test
Experimental Class	T1	X	T2
Control Class	T1	-	T2

Where:

T1 : Pre-test for Experimental Class and Control Class

X : Topics and Sluglines

- : No treatment

T2 : Post-test for Experimental Class and Control Class³

B. Time and the Location of the Research

This research was conducted at the eleventh grade Students of Islamic Senior High School of Darel Hikmah Boarding School Pekanbaru that is located at H.R Soebrantas Street Pekanbaru in 2013/2014 of academic year. The research was done from September to October 2013.

C. Subject and Object of the Research

The subject of this study was the eleventh grade students of Islamic Senior High School of Darel Hikmah Boarding School Pekanbaru. The object of this research was the topics and sluglines technique on students' writing ability in report paragraph.

³ Sugiyono, *Metode Penelitian Pendidikan* (Bandung: Alfabeta, 2008), p, 25.

D. Population and Sample of the Research

1. Population

Population is a group of elements or cases, whether individuals, objects, or events, that conform to specific criteria and to which we intend to generalize the results of the research.⁴ The population in this research was the eleventh grade students at Islamic Senior High School of Darel Hikmah Boarding School Pekanbaru. The number of students was 115 students. It consisted of five classes.

It can be seen in the following table population below:⁵

Table III. 2
Total Population at the Eleventh Grade Students of Islamic Senior High School of Darel Hikmah Boarding School Pekanbaru

No	Classes	Total
1	XI IPA 1	20
2	XI IPA 2	20
3	XI IPS 1	27
4	XI IPS 2	25
5	XI RELIGION	23
Total		115

2. Sample

Sample is the group of subjects or participants from whom the data are collected.⁶ A good sample is one that is representative of the population from which it was selected.⁷ Based on the population above, it is quite large to be taken as sample, thus the researcher used cluster

⁴James H. mcMilan, and Sally Schumacher, *Research in Education*, (New Jersey: Person Education Inc, 2006). p. 119.

⁵Interview Data from English Teacher of MA Darel Hikmah Pekanbaru, 26 April 2013

⁶James H. mcMilan, and Sally Schumacher, *Ibid*, p. 119

⁷L.R. Gay and Peter Airasian, *Op cit*, p. 123.

random sampling. According to Gay, cluster sampling randomly selects groups, not individuals. All the members of selected groups have similar characteristics.⁸ Therefore, the researcher took two classes as an experimental class and a control class (XI IPA 1 and XI IPA 2) because they were homogenous and had the same characteristic.

E. Technique of Data Collection

In collecting data for this research, the writer used test as the instrument. According to Brown test is “ a method of measuring of a person’s ability, knowledge or performance in a given domain”.⁹The writer used pre-test in experimental class and control class in order to know the significant effect of using topics and sluglines technique on students’ writing ability in report paragraph at the eleventh grade students of Islamic Senior High School of Darel Hikmah Boarding School Pekanbaru. To measure or assess the students’ writing ability, the writer used scoring guide of English composition profile test individually.¹⁰ The scoring guide can be described as follows:

⁸L.R. Gay and Peter Airasian, *Ibid*, p. 129

⁹H. Douglass Brown. *Op. Cit.*, p.3

¹⁰M. Syafi’i S, M. Fauzan Ansyari and Jonri Kasdi. *The Effective Paragraph Development: The Process of Writing for Classroom Settings*, (Pekanbaru: LBS, 2001). Pp. 132-135

Table III. 3
Writing Assessment

No	Aspect Assessed	Highest Score
1.	Content	30
2.	Organization a. General Classification b. Descriptions c. Conclusion	20
3.	Vocabulary	20
4.	Grammatical Features	25
5.	Spelling & punctuation	5
Total Score		
Maximum Score		100

According to Arikunto, there were 5 components to categorize students' writing ability. Each component has 20 as the highest score and the total of the components are 100. Then the score was interpreted into the following category:¹¹

Tabel III.4
Scoring Guide

No	Score	Frequency	Percentage	Categories
1	80-100		%	Very Good
2	66-79		%	Good
3	56-65		%	Enough
4	40-55		%	Less
5	30-39		%	Fail
Total			100	

In testing students' ability in writing the writer used test to know the reliability and validity. The test can be said to be valid if it measures accurately what it is intended to measure.¹² To know the validity of the test, the writer used

¹¹Suharsimi Arikunto. *Dasar-Dasar Evaluasi Pendidikan : Edisi Revisi*. (Jakarta: Bumi Aksara, 2009), p. 245

¹²Arthur Hughes, *Testing for Language Teacher* (Cambridge: Cambridge University Press, 2003), P. 26.

content validity. Content validity was used by the writer in the test, because students were asked to write about the topics related to the material.

According to Gay, reliability is the degree to which a test consistently measures whatever it is measuring.¹³ It is clear that reliability is used to measure the quality of the test scores and the consistency of the test.

In obtaining the reliability of the test, the writer used inters rater reliability. Because in this research the writer used two raters to measure students' score in writing report paragraph. Brown says that inter rater reliability occurs when two or more scores yield inconsistent scores of the same test, possibly for lack of attention to score criteria, inexperience, inattention or even preconceived biases.¹⁴ In this research, the researcher used inters rater reliability, because the researcher had two raters in order to assess the students' writing ability. Then, the writer used SPSS 16 application to find the reliability of the test based on Alpha Cronbach technique. Then result will be shown in the output table. The output can be seen as follows:

Table III. 5

Result of the Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
.709	2

¹³L.R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and Application Sixth Edition*. (New Jersey: Pearson Education, 2000, p.169)

¹⁴H. Douglas Brown, *Language Assessment: Principles and Classroom Practices*. (New York: Pearson Education Inc, 2003), p. 21

Based on the table above, it was clear that the reliability value was 0.841. Based on Siregar writing, the tests will be able to be called as the reliability tests if the score of r_{11} is higher than 0.6¹⁵. The comparison between r_{11} and 0.6 can be written as follows:

$$0.709 > 0.6$$

It shows that the score of r_{11} was higher than 0.6, it means that the test was reliable.

F. Technique of Data Analysis

In analyzing data, the writer used score of post-test of the experimental class and control class. The scores was analyzed statistically by using independent sample T-test from SPSS 16.0 Version program.

Manually, the formula of t-test is as follows:

$$t_0 = \frac{M_x - M_y}{\sqrt{\frac{SD_x^2}{N-1} + \frac{SD_y^2}{N-1}}}$$

Where:

To = Table observation

M_x = Mean score of experimental class

M_y = Mean score of control class

SD_x = Standard deviation of control class

SD_y = Standard deviation of control class

¹⁵Siregar, Syofian. *Statistika Parametrik untuk Penelitian Kuantitatif: Dilengkapi dengan Perhitungan Manual dan Aplikasi SPSS Versi 17*, (Jakarta: Bumi Aksara 2013), 90.

N = Number of students/ sample¹⁶

After computing t-test, it was necessary to obtain the degree of freedom that was used to determine whether the t-score was significant or not. The t-obtained value is consulted with the value of t-table at the degree of freedom. The formula as follows:¹⁷

$$df = (N_x + N_y) - 2$$

Where:

df : the degree of freedom

N_x : the number of students in experimental class

N_y : the number of students in control class

If the writer had consulted the t-obtained value with t-table by using degree of freedom,

H_a : $t_o > t\text{-table}$

H_o : $t_o < t\text{-table}$

H_a is accepted if $t_o > t\text{-table}$ or there is a significant effect of using topics and sluglines technique on students' writing ability at the eleventh grade of Islamic Senior High School of Darel Hikmah Boarding School Pekanbaru.

H_o is accepted if $t_o < t\text{-table}$ or there is no a significant effect of using topics and sluglines technique on students' writing ability at the eleventh grade of Islamic Senior High School of Darel Hikmah Boarding School Pekanbaru.

¹⁶ Hartono. *Statistik untuk penelitian*. (Yogyakarta: Pustaka Pelajar. 2008), p. 193

¹⁷ Hartono, *Ibid*, p. 212