

CHAPTER III RESEARCH METHODOLOGY

A. Research Design

This research used a quantitative method. According to Sugiyono, quantitative methods are a research method resting on positivism philosophy that is used to research population or particular sample, generally the technique to take the sample is taken randomly, the data collection uses research instrument, the data analysis has quantitative or statistics in order to test the hypothesis that has been made.¹In quantitative method, this research was designed as an experimental research. "It is procedures in quantitative research in which the investigator determines whether an activity or materials make difference in result for participants."²Besides, according to Gay, the experimental research is the only method of research that can truly test hypotheses concerning cause and effect relationships.³So, in an experimental research, the research has purpose to try something or the techniques that can influence the result of studying.

More detailed, in this research, the researcher used a quasi experimental design with nonequivalent control group design. Gay and Airasian stated that quasi experimental design is used when the researcher keeps the students in existing

¹Prof. Dr. Sugiyono. *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. (Bandung: Alfabeta, 2011), P. 14

²John W. Cresswell. *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. (New Jersey: Pearson Education, 2008) P. 60

³L.R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and Application Sixth Edition* (New Jersey: Pearson Education, 2000), P. 367

classroom intact and the entire classrooms are assigned to treatments.⁴Furthermore, in the nonequivalent control group design involves random assignment of intact groups to treatments, not random assignment of individuals.⁵Two (or more) treatment groups are pretested, administered a treatment, and posttested. It is the appropriate one to use in this research.

There were two variables in this research, independent variables and dependent variable. Independent variables was Draw Label Caption technique and dependent variable was students' writing ability on descriptive paragraph. In this research, there were two classes used. One class was as an experimental group and the rest was as a control group. The experimental group was treated by using Draw Label Caption technique and control group was treated without using Draw Label Caption technique. Therefore, in this research, the researcher did pretest and post-test to measure change or effect in individuals in the two groups.

The nonequivalent control group design can be seen as below :

Table III.1

The Research Design

O1	X	O2
O3		O4

O1 : pretest for Experimental group

X : treatment for experimental group, Draw Label Caption technique

⁴Ibid. P. 394.

⁵L.R. Gay and Peter Airasian, Op Cit, P. 395

O2 : post test for experimental group

O3 : pretest for control group

O4 : post-test for control group

B. Location and Time of the Research

This research was conducted at MTs Al-Huda Pekanbaru that is located on Soebrantas street. The research was done on May 2013.

C. Subject and Object of the Research

The subject of this study was the first year students at MTs Al-Huda Pekanbaru in academic year 2012-2013, and the object of this research was the effect of using Draw Label Caption technique toward students' writing ability on descriptive paragraph.

D. Population and Sample of the Research

The population of this research was the first year students of MTs Al-Huda Pekanbaru in academic year of 2012/2013. The first year students in this school were divided into five classes. The total number of the first year students in this school was 156 students.

Table III.2

**The Total Population of the First Year Students at
MTs Al-Huda Pekanbaru**

No	Class	Number of Students
1	VII A	30
2	VII B	30
3	VII C	30

4	VII D	32
5	VII E	34
	Total	156

Because the total population of 156 students was large enough to be taken as sample, the writer took only two classes by using cluster sampling. According to Gay et al, cluster sampling randomly selects groups, not individuals. All the members of selected groups have similar characteristic.⁶ It means the homogenous characteristics are the consideration. In addition, in cluster sampling, each member of the population under study has an equal chance of being selected and the probability of a member of the population being selected is unaffected by the selection of other members of the population⁷. Then, in Cluster sampling, the sample units contain groups of elements (clusters) instead of individual members or items in the population⁸.

To take the sample by using cluster sampling, the researcher named cards based on every first year students' classes in MTs Al-Huda Pekanbaru. After mixing these cards, the researcher took two cards randomly as a sample of this research.

Table III.3
The Total Sample of the Research

No	Class	Male	Female	Total Number of Student
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⁶Ibid. 129

⁷ Louis Cohen et al, *Research Methods In Education* (New York: Routledge. 2007), 110

⁸ Yogesh Kumar Singh. *Fundamental of Research Methodology and Statistics* (New Delhi: New Age International Limited,2006) 89

1	VII A	12	18	30
2	VII C	14	16	30
	Total	30	30	60

E. Technique of Data Collection

In collecting data for this research, the writer used a test. According to H. Douglas Brown, test is a method of measuring a person's ability, knowledge, or performance in a given domain⁹. In addition, Suharsimi Arikunto states that test is used to measure whether there is or no and how big the ability of the object of research (students)¹⁰. From the statements above, the writer concludes that test is designed to measure or to know whether the guided writing by teaching Draw Label Caption technique could improve the students' ability in writing a descriptive Paragraph.

The test was given to the students. The test was taken twice, pre-test and post-test. Pre-test was taken before applying the treatment and post-test was taken after applying the treatment. In pre-test and post-test, the students were given the same topic. Between pre-test and post-test, the writer applied the treatment (Draw Label Caption Technique) to experimental group and applied without treatment to control group.

⁹H. Douglas Brown. *Language Assesment*. (San Fransisco: Longman, 2003). P. 3

¹⁰Suharsimi Arikunto. *Dasar-Dasar Evaluasi Pendidikan*. (Jakarta: PT. Rineka Cipta. 2009),P. 223

To assess the score of the students' writing ability, the researcher used the scoring guide based on the assessment of English teacher at MTs Al-Huda Pekanbaru. The scoring guide can be described as follows¹¹ :

Table III.4
Assessment Aspect of Writing Descriptive Paragraph

No.	Aspect Assessed	Score			
		1	2	3	4
1	Content				
2	Organization a. Identification b. Description				
3	Vocabulary				
4	Language Features a. Using simple present tense b. Using adjective and compound adjective c. Using attributive has and have d. Using linking verbs				
5	Spelling & Punctuation				
Total					
Maximum Score		20			

Explanation of Score:

1 = incompetent

2 = competent enough

3 = competent

4 = very competent

Final Score = $\frac{\text{Total Score}}{20} \times 80$

¹¹Siti masro Ritonga. *Lesson Plan of First Year Students of MTs Al-Huda Pekanbaru*. (Pekanbaru:Unpublished. 2012)

Maximum Score

F. Technique of Data Analysis

In analyzing the data, the researcher used scores of pre-test and post-test of experimental and control group. This score was analyzed statistically. In this research, the researcher used this formula:

1. Independent sample t-test

The t-test for independent sample was used to determine the first and the second of the formulation of the problem, whether there is probably a significant difference between the means of two independent samples.¹² Then, when investigating the difference between two unrelated or independent groups on an approximately normal dependent variable it is appropriate to choose an independent sample t-test¹³. In addition, Sofyan Yamin and Heri Kurniawan stated that independent sample t-test is used to compare the mean score from two independent groups of sample¹⁴. The data were statistically analyzed by using SPSS 16.0 version to know whether the result of the research is statistically significant.

After computing T-test, it was necessary to obtain the degree of freedom that was used to determine whether T-score was significant or not. The T- obtained

¹²L.R. Gay and Peter Airasian. *Op cit*, P. 484

¹³George E.Morgan, et al. *SPSS For Introductory Statistics*. (New Jersey: Lawrence Erlbaum Associates, Inc, 2004), 136

¹⁴Sofyan Yamin and Heri Kurniawan. *SPSS Complete: Teknik Analisis Statistik Terlengkap dengan Software SPSS*. (Jakarta: Salemba Infotek, 2011), 51

Value was consulted with the value of T- table by using degree of freedom. The formula of degree of freedom is as follows:¹⁵

$$df = (N1 + N2) - 2.$$

df : The degree of freedom

Nx : The number of students in experimental class

Ny : The number of students in control class

If the writer had consulted the t-obtained value with t-table by using degree of freedom, the writer can conclude that if $t_o < t\text{-table}$, H_o is accepted. It means there is no significant effect of using Draw Label Caption technique toward students' writing ability on descriptive paragraph. If $t_o > t\text{-table}$, H_a is accepted. It means there is a significant effect of using Draw Label Caption technique toward students' writing ability on descriptive paragraph.

G. The Validity and Reliability of the Test

The tests used had the validity and reliability. A test is said to be valid if it measures accurately what it is intended to measure.¹⁶ In the reseach, the writer used content validity. According to Sugiyono, content validity is a kind of test that is used to measure achievement and the effect of treatment or program. To measure achievement, the test must be created based on appropriate material, easy

¹⁵Ibid, 212.

¹⁶ Athur Hughes. *Testing for Language Teachers*. Canada: Cambridge University Press, 2003), p. 26.

to be comprehended or suitable with students' level.¹⁷ The test of the research was appropriate to students' knowledge and it was familiar materials to the students' daily life.

Besides, reliability in quantitative research is essentially a synonym for dependability, consistency, and replicability over time, over instruments and over groups of respondents¹⁸. Ary stated that reliability is the extent to which an instrument is consistent in measuring whatever it is measuring¹⁹. According to Gay, reliability is the degree to which a test consistently measures whatever it is measuring²⁰. It is reflected in the obtaining how far the test or instrument test is able to measure the same subject on different occasions indicating the similar result. In short, the characteristic of reliability is sometimes termed consistency. It is clear that reliability is used to measure the quality of the test scores and the consistency of the test.

According to Creswell, there are five types of reliability. They are test-retest reliability, alternate forms reliability, alternate forms and test retest reliability, interrater reliability and internal consistency reliability²¹. Gay says that "inter judge reliability can be obtained by having two (more) judges independently

¹⁷Prof. Dr. Sugiyono. *Op Cit*, P. 176

¹⁸Louis Cohen. *Op Cit*. 146

¹⁹Donald Ary, et al. *Introduction to Research in Education*. (Canada: Wadsworth, Cengage Learning, 2006), P. 236

²⁰L.R. Gay and Peter Airasian. *Op Cit*. P. 169

²¹Jhon.w.cresswell. *Op Cit*. P.170

score to be compared to the score of both judges.”²² In this research, the researcher used inter rater reability, because the researcher had two raters in order to assess the students’ writing ability.

²² L.R. Gay and Peter Airasian. *Op Cit.* P. 175