

CHAPTER III

METHOD OF RESEARCH

This chapter discussed research design, research setting, population and sample, research variable and indicator, method of data collection, and technique of data analysis.

A. Research Method

In this research, the researcher used the form of quantitative approach to analyze the data. Quantitative is a process of discovering knowledge by using numeric data as a tool to discover the information.¹ It means that this approach is used to get the result from the data that can be counted or measured.

In this research, the researcher conducted an experimental research with a form true experimental as a design. According to Sumadi Suryabrata, it is an approach to educational research in which an idea or hypothesis of cause effect that can be test or verify by setting up situation then comparing a class which is treated with a class which is not treated.² In this research, the researcher chose two classes as the subject; those are experimental and control class. An experimental class is a class which was given the treatment by using Mistake Buster Technique while the control

¹Deni Darmawan, *Metode Penelitian Kuantitatif*, (Bandung: PT Remaja Rosdakarya, 2013), p. 37.

²Sumadi Suryabrata, *Metodologi Penelitian*, (Jakarta: PT Raja Grafindo Persada, 1995), p.29.

class is a class which was given treatment without Mistake Buster Technique. This research used pre-test and post-test control class design. The design of the experimental could be described as follows:

$$\begin{array}{l} E = O1 X O2 \\ C = O3 Y O4 \end{array}$$

Adopted from Arikunto³.

Where:

E = Experimental class

C = Control class

O1 = Pre-test for experimental class

O2 = Post-test for experimental class

O3 = Pre-test for control class

O4 = Post-test for control class

X = Treatment by using Mistake Buster Technique

Y = Treatment without using Mistake Buster Technique

Subjects of research are divided into an experimental class (top line) and a control class (bottom line). The quality of subjects is first checked by pre-testing them (O1 and O3). Then, the experimental treatment is taught by using Mistake Buster Technique, while the control class is taught without Mistake Buster

³Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, (Jakarta: PT Rineka Cipta, 2006), p. 86.

Technique. The test held in the form of composition. The results of post-test (02 and 04) are then computed statistically.

B. Research Setting

1. Subject, place, and time of the research

This research was conducted in SMP Islam Asy-Syafi'iyah Batealit Jepara, which is located at Jalan taman siswa km 02 Pekalongan Batealit Jepara. This research was conducted from 10th to October 19th, 2016.

The subjects of this research are the eighth grade students of SMP Islam Asy-Syafiyah Batealit Jepara in academic year of 2016/2017. This research was conducted in the first semester. Due to limitation of time, the writer did not take all students as the subjects of the research, but took VIII A and VIII C as a sample.

C. Population, Sample, and Sampling Technique

1. Population

According Arikunto, population is the entire subject of research.⁴ In this study the writer chose the population of SMP Islam Asy-Syafi'iyah Batealit, especially the eighth grade in the academic year of 2016/2017

⁴Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, p. 130.

The population is divided into three classes; those are class VIIIA, VIIIB, and VIIC. The number of population is 90 students.

Table 3.1
List of the population

No	Class	Total Students
1	VIII A	29
2	VIII B	31
3	VIII C	30
Total		90

2. Sample

Sample is part of population, which is determined to participate on the research.⁵ In this case, the writer took sample from the eighth grade students (VIII A as an experimental class that consists of 29 students and VIII C as a control class that consists of 30 students) of SMP Islam Asy-Syafi'iyah Batealit Jepara in the academic year 2016/2017.

3. Sampling Technique

In this research, the writer used random sampling toward class of sample, because it is technique in which all person of population may have the same opportunity to be chosen as the sample. Random technique is also a technique to choose sample by random each class (population) and it is based lottery. In this case, the researcher took two classes, VIII

⁵ Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, p.13.

A and VIII C as the sample. Each class consists of 29 and 30 students. The two classes were given the same material but with different techniques. For VIII A as the experimental class was taught by mistake buster technique and VIII C as control class was taught by conventional method.

D. Variable and Indicator

Variable is the object of research or something that become the concern of research.⁶ There are two variables in Mistake Buster Technique.experimental research. Those are Independent (X) and Dependent Variable (Y).

This research, which used the mistake buster as technique in teaching writing on recount text had two variables, those are:

1. The Independent Variable

Independent variable is “variable that influences because of change or emergence the dependent variable”.⁷ The independent variable in this research was the use of Mistake Buster Technique in the teaching writing on recount text. The experimental class learnt writing recount text through Mistake Buster Technique while the control class learnt writing recount text without

The indicators are as follows:

⁶Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, p. 51.

⁷Sugiyono, *Statistika Untuk Penelitian*, (Bandung: CV Alfabeta, 2005), p. 3.

- a) The teacher prepares the recount text in a piece of paper.
- b) Students write the social function, generic structure, language features of narrative.
- c) Students explain the content of recount text.
- d) The teacher reads the wrong sentence and the students listen then correct the sentences grammatically.
- e) Students compose recount text with their own words.

2. The Dependent Variable

Dependent variable is variable that is affected or that became the result because of the existence of the independent variable.⁸ Dependent variable in this study was the students' achievement in writing recount text through Mistake Buster Technique. According to Douglas Brown, the indicators from the improvement of students understanding on writing recount can be seen from 5 aspects. Those are follows:⁹

- a) The Content Mastery
- b) The Organization Mastery
- c) The Vocabulary Mastery
- d) The Grammar Mastery
- e) The Mechanic Mastery

⁸Suharsimi Arikunto, *Prosedur penelitian Suatu Pendekatan Praktik*, p. 119.

⁹H Douglas Brown, *Language Assessment Principles and Classroom Practice*, (San Francisco Longman, 2004), p. 246.

E. Technique of Data Collection

In this study, the writer used instrument in order to get the better data. The instrument of the research is a tool or facility that used by writer for collecting the data in order to get better result. To make this research successful, the writer used some instruments to collect data, they are follows:

1. Test

In simple terms, test is as a method which is used to measure competence, knowledge, intelligence, and ability of talent which is possessed by individual or class to collect data.¹⁰ The test is used to collect students' writing that must be analyzed to identify students' understanding on writing recount text. The instrument of the test in this research is subjective test. Students are given a free chance to think as much as possible with arranging and grammatical correctly sentences about story of recount text.

There are pre-test and post-test in this research. Pre-test is given before the teacher teach new material by Mistake Buster Technique, the teacher asked students to write recount text correctly. Pre-test is given to the experimental and control class in same way. This test is given before the experiment run.

Post-test is given to the experimental and control class. It is to know students' achievement after they are taught the

¹⁰H. Douglas Brown, *Language Assessment: Principles and Classroom Practices*, (San Francisco: Longman, 2004), p. 3.

Mistake Buster Technique (experimental class) and without the Mistake Buster Technique (control class).

2. Documentation

Documentation is tool aiming at identifying documents or the field of study devoted to the study of documents.¹¹ This is an effort to help the researcher to collect the needed data and to support the researcher with the data dealing with the school and English learning process in the class.

This research, It is needed to get the learning devices, report of students' development, teachers' and the students' name list, and sketch of SMP Islam Asy-Syafi'iyah Batealit Jepara from the academic office.

F. Technique of Data Analysis

1. Scoring Technique

In this research, the writer used a writing test to measure students' ability in writing recount text. According to Douglas Brown, there are five major items or categories in analytic scoring writing test namely content, organization, vocabulary, grammar, and mechanic.¹²

¹¹Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek* p.231.

¹²H Douglas Brown, *Language Assessment Principles and Classroom Practice*, p. 246.

a. The Content Mastery

Content is the substance of the writing; the ideas expressed. It contains of reasonable sentences (supporting sentences) that support to the main idea.

b. The Organization Mastery

It refers to the organization of the content with idea development, focuses on central idea with appropriate elaboration and conclusion.¹³

c. The Vocabulary Mastery

Vocabulary plays important role in writing. It is the basic thing that should be owned by students. The lack of vocabulary means the failure in the communication. Students cannot make a communication especially in writing if they master little vocabulary. It means that uses varied and precise vocabulary appropriate for purpose.

d. The Grammar Mastery

Brown states that grammar is the system of rules governing the conventional arrangement and relationship of words in a sentence.¹⁴

¹³J. Michael O'Malley and Lorraine Valdez Pierce, *Authentic Assessment for English Language Learners; Practical Approaches for Teachers*, p. 142.

¹⁴H Douglas Brown, *Language Assessment Principles and Classroom Practice*, p. 362.

e. The Mechanic Mastery

Mechanic is absence of errors in spelling, capitalization, and punctuation.¹⁵ Mechanics connecting with the appropriate punctuation or spelling that is used in writing. Mechanic will make students' writing well and reasonable to be read. The examples of mechanic are capital letter, quotation, comma, semicolon, and others.

Table 3.2
Percentage of the Element of Writing¹⁶

No	Element of Writing	Score
1	The content of mastery	30
2	The organization mastery	20
3	The vocabulary mastery	20
4	The grammar mastery	25
5	The mechanic mastery	5
Total		100

Table 3.3
Scoring Guidance and the Explanation of Criteria¹⁷

No	Categories	Score	Criteria
1	Content	30-27	Excellent to very good: knowledgeable • substantive •thorough

¹⁵J. Michael O'Malley and Lorraine Valdez Pierce, *Authentic Assessment for English Language Learners; Practical Approaches for Teachers*, p. 142.

¹⁶H. Douglas Brown, *Language Assessment Principles and Classroom Practice*, p. 246.

¹⁷Arthur Hughes, *Testing for Language Teachers*, (New York: Cambridge University Press, 2003), p. 104.

No	Categories	Score	Criteria
			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 • non-substantive • not pertinent • OR not enough to evaluate.
2	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

No	Categories	Score	Criteria
			disconnected • lacks logical sequencing and development.
		9-7	Very poor: does not communicate • no organization • OR not enough to evaluate.
3	Vocabulary	20-18	Excellent to very good: sophisticated range • effective word/ idiom choice and usage • word form mastery • appropriate register.
		17-14	Good to average: adequate range • occasional errors of word/ idiom form, choice, usage <i>but meaning not obscured.</i>
		13-10	Fair to poor: limited range • frequent errors of word/ idiom form, choice, usage • <i>meaning confused or obscured.</i>
		9-7	Very poor: essentially translation, little knowledge of English vocabulary, idioms, word form • OR not enough to evaluate.
4	Grammar	25-22	Excellent to very good: effective complex constructions • few errors of agreement, tense, number, word order/ function, articles,

No	Categories	Score	Criteria
			pronouns, prepositions.
		21-18	Good to average: effective but simple construction • minor problems in complex constructions • several errors or agreement, tense, number, word order/ function, articles, pronouns, prepositions <i>but meaning seldom obscured.</i>
		17-11	Fair to poor: major problems in simple/ complex construction • frequent errors of negation, agreement, tense, number, word order/ function, articles, pronouns, prepositions, and/ or fragments, run-ons, deletions • <i>meaning confused or obscured.</i>
		10-5	Very poor: virtually no mastery of sentence construction rules • dominated by errors • does not communicate • OR not enough to evaluate.
5	Mechanic	5	Excellent to very good: demonstrates mastery of conventions • few errors of spelling, punctuation, capitalization, paragraphing.

No	Categories	Score	Criteria
		4	Good to average: occasional errors of spelling, punctuation, capitalization, paragraphing <i>but meaning not obscured.</i>
		3	Fair to poor: frequent errors of spelling, punctuation, capitalization, paragraphing • poor handwriting • <i>meaning confused or obscured.</i>
		2	Very poor: no mastery of conventions • dominated by errors of spelling, punctuation, capitalization, paragraphing • handwriting illegible • OR not enough to evaluate.

2. Analysis of pre test

a. Test of Normality

Test of the data normality is used to know whether the data came from normal distribution or not. The researcher used Liliefors formula. The steps of Liliefors test as follows:

1) Hypothesis

Ho: the sample is from population which normal distributed.

Ha: the sample is not from population which normal distributed.

2) Statistical test

$$L_o = \max |F(z_i) - s(z_i)|$$

$$\text{Where } z_i = \frac{x_i - \bar{x}}{s}$$

Explanation:

z_i = Standard value (i)

x_i = Sample of data (i)

$$F(z_i) = P(z \leq z_i)$$

$$F(z_i) = \frac{\text{Total } Z_1, Z_2, \dots, Z_n \leq Z}{n}$$

3) Level significant (α) = 0,05

4) Critical Area (CA) = $\{L | L > L_{\alpha, n}\}$ with n is size of sample.

5) Test decision

Ho rejected if L_o in critical area.

6) Conclusion

a) Sample is from population that normal distributed, if Ha accepted.

b) Sample is not from population that normal distributed, if Ho rejected.

b. Test of The Homogeneity

It is meant to get the assumption that sample of research come from a same condition or homogeneous.

The formula is:

$$F = \frac{\text{Biggest Variance}}{\text{Smallest Variance}}$$

Cited from Sugiono.¹⁸

The hypotheses in homogeneity test are:

$$\text{Ho: Homogeneity variance} = \sigma_1^2 = \sigma_2^2$$

$$\text{Ha: Non homogeneity variance} = \sigma^2 \neq \sigma_2^2$$

If the calculation result of $F_{count} \leq F_{table}$ by $\alpha = 5\%$ degree of significant so Ho is accepted, it means the data is homogeneous or both of classes have same variance, but in the other way if $F_{count} > F_{table}$, the data is not homogeneous.

c. Test of Average

It is used to examine the average whether experimental class and control class that has been decided having significant different average.

$$\text{Ho: } \mu_1 = \mu_2$$

$$\text{Ha: } \mu_1 \neq \mu_2$$

The formula that is used in the t-test as follows:¹⁹

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

With,

$$s^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}$$

¹⁸Sugiyono, *Statistika untuk Penelitian*, p. 140.

¹⁹Sudjana, *Metoda Statistika*, (Bandung: Tarsito, 2005), p. 239.

Where:

\bar{X}_1 = Average of experimental class

\bar{X}_2 = Average of control class

n_1 = Number of experimental class

n_2 = Number of control class

s_1^2 = Standard deviation of experimental class

s_2^2 = Standard deviation of control class

Criteria test is H_0 is accepted if $-t_{1-\frac{1}{2}a} \leq t \leq t_{1-\frac{1}{2}a}$, where $t_{1-\frac{1}{2}a}$ obtained from the distribution list t with $df = (n_1 + n_2 - 2)$ with $(1 - \frac{1}{2}a)$. Values for other t H_a rejected.

3. Analysis of Post-test

To examine the hypothesis that have been stated, these following steps are used:

a. Test of The Normality

The test of the normality of second step is the same as the normality test on the initial data.

b. Test of The Homogeneity

The test of the homogeneity of second step is the same as the homogeneity test on the initial data.

c. Test of The Average (Right-hand Test)

Proposed hypothetical test in average similarity with the right test is as follows:

$H_0: \mu_1 \leq \mu_2$

$H_a: \mu_1 > \mu_2$

μ_1 : Average data of experimental class

μ_2 : Average data of control class

The t-test formula is used.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

With,

$$S^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}$$

Where:

\bar{X}_1 = Average of experimental class

\bar{X}_2 = Average of control class

n_1 = Number of experimental class

n_2 = Number of control class

s_1^2 = Standard deviation of experimental class

s_2^2 = Standard deviation of control class

Testing criteria that apply H_a is accepted if $t_{count} \leq t_{table}$ with determine $df = (n_1 + n_2 - 2)$ and the significant $\alpha = 5\%$ with opportunities $(1-\alpha)$. Values for other t H_0 is rejected.