

CHAPTER III METHOD OF INVESTIGATION

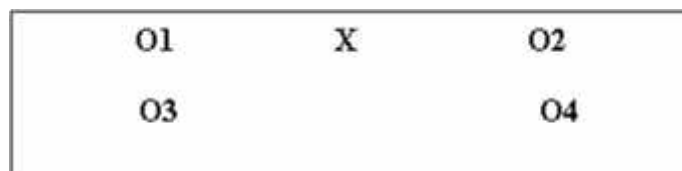
3.1 Research Design

The method of the study was experimental research. The design of this study was Quasi-Experimental design, which was called pre-test post-test nonequivalent-group design. An experimental research consisted of two groups. They were experimental group and control group. An Experimental group was a class taught using a new treatment while the control group was a class taught without using new treatment. According to Mubarok (2015:78), Experimental research is a research method used to find a specific treatment effect against the other in uncontrolled conditions.

In this research, the experimental and control group were the tenth grade students of MA Darul Hikmah Menganti Jepara. The experimental group was taught by using picture series, while the control group was taught without using picture series.

The design of the experiment could be described as follows (Mubarok, 2015:91):

Pattern:



(Mubarok, 2015:91)

Where:

- X : Treatment given experiment group
- O1 : Pre-test for the experimental group
- O2 : Post-test for the experimental group
- O3 : Pre-test for the control group
- O4 : Post-test for the control group

Based on the pattern above, the subjects of research consisted of experimental group and control group. Both classes were checked by pre-test

to know the quality of the subject. Then, the treatment was given to the experimental class. This treatment was symbolized as “X”. The control class was taught without using picture series. The test was held in the form of written. Then, the results of post-test (O2 and O4) were computed statistically.

3.2 Population and Sample

1. Population

According to Arikunto (2010:173), population is all the subject of the research. In this research, the population or the subjects of the research were the tenth grade students of MA Darul Hikmah Menganti Jepara in the academic year of 2016/2017. There were three classes of the tenth grade students (X.IPA 1, X.IPS 1, X.IPS 2).

2. Sample

Sample is part of the quality and characteristics of the population (Mubarok, 2015:32). The sample consisted of the students from the population who were chosen to participate in the study. This research was an experimental research, so the writer needed to take two classes that would be the sample for an experimental and control classes. The sample was taken from the tenth grade students of MA Darul Hikmah Menganti Jepara. The writer used sample random sampling to determine the two classes. It was chose base on the same characteristics. On this occasion, the writer chose two classes as sample, they were students of X.IPS 1 which consisted of 33 students and X.IPS 2 which consisted of 33 students. Then, the writer would divide those classes into two groups. X.IPS 1 as experiment group and X.IPS 2 as control group.

3.3 Variables

Nunan (1992:25) stated that a variable as the term lexically, is anything which does not remain constant. A variable is a property that takes on different values. In this experimental research, there were two types of variables; they were dependent and independent variable. Furthermore, to Brown (1988:10) stated “a dependent variable is the variable of focus or the

central variable on which other variables will act if there is any relationship. The independent variable is the variable selected by the writer to determine the relationship with the dependent variable.”

In this study, the variables were:

1. Independent Variable : Teaching Writing Narrative Text by Using Picture Series.
2. Dependent Variable : The Student’s Test Score.

3.4 Instrument of the Research

In this research, the writer used test as method of data collection. Test was used in order to know the difference achievement between experiment and control classes after the treatment was given. Type of the test that was used by the writer was essay writing that asked the students to produce a product was a narrative text. For the test, the writer gave pre-test, treatment, and post-test.

1. Pre-test

The purpose of pre-test was to know the ability of the students in writing narrative text before given the treatment. Pre-test would give to both of groups, experimental group and control group.

2. Post-test

The post test was given to both groups to measure the students’ achievement on writing test. Then, the students’ test scores were compared between score of experimental group and control group.

To assess writing test, the writer used elements of writing. The elements of writing could be seen on the table below:

Table 3.1
Testing Composition Writing for Intermediate Level

Categories	Score	Criteria
Content	30-27	Excellent to very good: knowledgeable; substantive; through 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.
		Very poor: does not show knowledge of subject; non-substantive; not pertinent.
Organization	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 disconnected; lacks logical sequencing and development.
	9-7	Very poor: does not communicate; no organization.
Vocabulary	20-18	Excellent to very good: sophisticated range; effective word/idiom choice and usage; word from mastery; appropriate register.
	17-14	Good to average: adequate range; occasional errors of word/idiom form; choice; usage but meaning not obscured.
	13-10	Fair to poor: limited range; frequent errors of word/idiom form, choice, usage; meaning confused or obscured.
	9-7	Very poor: essentially translation; little

		knowledge of English vocabulary, idioms, word form.
Language use/grammar	25-22	Excellent to very good: Effective complex construction; few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions.
	21-18	Good to average: effective but simple construction; minor problems in complex constructions; several errors of agreement, tense, number, word order/ function, articles, pronouns, prepositions but meaning seldom obscured.
	17-11	Fair to poor: major problems in simple/ complex constructions; frequent errors of negation, agreement, tense, number, word order/ function, articles, pronouns, preposition and fragments, run-ons, deletions; meaning confused or obscured.
	10-5	Very poor: virtually no mastery of sentence construction rules; dominated by errors; does not communicate.
Mechanics	5	Excellent to very good: demonstrates mastery of conventions; few errors of spelling, punctuation, capitalization, paragraphing.
	4	Good to average: occasional errors of spelling, punctuation, capitalization, paragraphing, but meaning not obscured.
	3	Fair to poor: frequent errors of spelling, punctuation, capitalization, paragraphing, poor handwriting; meaning confused.
	2	Very poor: no mastery of conventions; dominated by errors of spelling, punctuation,

		capitalization, etc. paragraphing; handwriting illegible.
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Taken from: Hughes (2003:104)

Table 3.2
Scoring the Students' Writing Ability

No	Writing Element	Score
1	Content	30
2	Grammar	25
3	Organization	20
4	Vocabulary	20
5	Mechanic	5
Total		100

Taken from: Brown (2004:246)

3.5 Method of Data Collection

1. Pre-test

The pre-test would give to both of groups, experimental group and control group in order to know the students' ability in writing narrative text before treatment given. Students would ask to write a narrative task without using picture series. The pre-test was in written form.

2. Treatment

Both of experimental group and control group were taught by using same material (narrative text), but both of them would get different treatment. Experimental group would be taught by using picture series as media and for control group would be taught by using conventional way. This table explained about the planning when the writer conducted the research.

Table 3.3
The Planning Observation in Experimental and Control Classes

T1	T2	T3
<p><u>Experimental class</u></p> <ul style="list-style-type: none"> • The teacher explained to the students about the definition, social function, and generic structure of narrative text. • The teacher gave an example of narrative text. • The teacher divided the students into seven groups. • The teacher gave each group picture series entitle of Hansel and Gretel. • The teacher asked the student to make a narrative text using picture series media. <p><u>Control Class</u></p> <ul style="list-style-type: none"> • The teacher explained to the students about the definition, social function, and generic structure of narrative 	<p><u>Experimental class</u></p> <ul style="list-style-type: none"> • The teacher explained to the students about the definition, social function, and generic structure of narrative text. • The teacher gave an example of narrative text. • The teacher divided the students into seven groups. • The teacher gave each group picture series entitle of Sleeping Beauty. • The teacher asked the students to make a narrative text using picture series media. <p><u>Control Class</u></p> <ul style="list-style-type: none"> • The teacher explained to the students about the definition, social function, and generic structure of narrative 	<p><u>Experimental class</u></p> <ul style="list-style-type: none"> • The teacher explained to the students about the definition, social function, and generic structure of narrative text. • The teacher gave an example of narrative text. • The teacher divided the students into seven groups. • The teacher gave each group picture series entitle The Little Purse with two Half-pennies • The teacher asked the students to make a narrative text using picture series media. <p><u>Control Class</u></p> <ul style="list-style-type: none"> • The teacher explained to the students about the definition, social function, and generic structure of narrative

<p>text.</p> <ul style="list-style-type: none"> • The teacher gave an example of narrative text. • The teacher divided the students into seven groups. • The teacher gave each group a worksheet entitled Hansel and Gretel. • The teacher asked the student to make a narrative text. 	<p>text.</p> <ul style="list-style-type: none"> • The teacher gave an example of narrative text. • The teacher divided the students into seven groups. • The teacher gave each group a worksheet entitled Seeping Beauty • The teacher asked the student to make a narrative text. 	<p>text.</p> <ul style="list-style-type: none"> • The teacher gave an example of narrative text. • The teacher divided the students into seven groups. • The teacher gave each group a worksheet entitled The Little Purse with Two Half-pennies • The teacher asked the student to make a narrative text.
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3. Post-test

The post-test would give after all treatments are conducted. It used to measure the students' achievement after experimental and control classes were gave treatment.

3.6 Method of Data Analysis

In scoring the students' writing ability, the writer analyzed the data by giving pre-test and post-test to the students. It applied some steps in analyzing of the data. These following steps were taken from brown (2004: 244–246).

1. Finding the Mean each Groups

After got the students' score, the writer calculated the mean of each element; the writer calculated the mean for each group using this formula:

$$\bar{X} = \frac{\sum X}{N}$$

(Sudjana, 2012: 109)

Where,

Σ : represents the summation

X : represents scores

N : represents number of scores.

2. Consulting the mean of level achievement

After calculating the mean of each group experimental and control group, the writer consulted the level achievement below:

Table 3.4
The Level Achievement

Mark	Score	Level Achievement
A	90-100	Excellent
B	80-89	Very Good
C	70-79	Adequate
D	60-69	Inadequate
E	Below 60	Fail

(Brown, 2004:287)

3. Finding the Standard Deviation

After consulting the mean to the level achievement, the writer found the standard deviation. The formula was as follows:

a. Standard deviation for experimental group:

$$SD_1 = \sqrt{\frac{\sum(x - \bar{x})^2}{N - 1}}$$

b. Standard deviation for control group

$$SD_2 = \sqrt{\frac{\sum(x - \bar{x})^2}{N - 1}}$$

Where,

SD = sample standard deviation

Σ = sum of the data

\bar{x} = sample mean

N = number of scores in sample.

4. Calculating Standard Error

After the writer got the standard deviation of each group, the writer calculated the standard error of the mean each group.

a. Experimental group

$$Sx_2 = \frac{S1_2}{\sqrt{n}}$$

b. Control group

$$Sx_2 = \frac{S1_2}{\sqrt{n}}$$

Where,

$S\bar{x}$: Standard Error of the Mean

s : Standard Deviation of the Mean

n : Number of Observations of the Sample

5. Calculating the standard error of the difference between the means

$$Sx_1^2 - Sx_2^2 = \sqrt{Sx_1^2 + Sx_2^2}$$

6. Calculating the t-test

After calculating the standard deviation, the writer calculated t-test as follows:

$$T = \frac{x_1 - x_2}{Sx_1 - x_2}$$

To finding the final result of the *t-test*, the writer used *t-table* to compare the *t-test* result. If the result of the *t-test* was higher than t-table, it meant that there was any significant different between those two groups. Meanwhile, if the t-test was lower than the result of t-table, it meant that there was no significant different between two groups.