



CHAPTER III

THE RESEARCH METHODOLOGY

A. The Research Design

This research was an experimental research. The design of this research was a quasi-experimental research, to see the effect of pictures series on students' writing ability of narrative text. John W. Creswell (2012: 309) states that quasi-experiments include assignment, but not random assignment of participants to groups. This is because the experimenter cannot artificially create groups for the experiment which consists of two variables. In this study, pictures series was the independent variable which might cause/influence students' writing ability on narrative text as the dependent variable.

There were two variables used in this research. The first was using picture series symbolized as (X) and the second was students' writing ability on narrative text symbolized as (Y). In conducting this research, the researcher involved the eleventh grade students of MAN Kuok 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 picture series 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 Sugiyono (2008) the plan of this design can be seen as follows:

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Table III.1
The Research Design

Group	Pre-test	Treatment	Post-test
E	O ₁	X	O ₂
C	O ₁	-	O ₂

Note:

- E = Experimental group
 C = Control group
 O₁ = Pre-test of experiment and control groups
 O₂ = Post-test for experimental and control groups
 X = Treatment for experimental group by using Picture Series
 - = The using of traditional technique

B. The Location and Time of the Research

The research was conducted to the eleventh grade students at MAN Kuok. It is located on Jalan Gemas, Kuok Kampar Regency. The research was conducted on July 22th 2016.

C. The Subject and Object of the Research

The subject of this research was the eleventh grade students of MAN Kuok Kampar Regency in 2015/2016 academic year, while the object of this research was picture series and their writing ability on narraative text.

This selection was based on the reason that those students learned in several types of the text and the researcher had, taught the eleventh grade in this school.

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D. The Population and Sample of the Research

1. Population of the Research

According to Gay (2000:122) “population is the group of interest to the researcher, the group to he or she wants the results of study. The population of this research was the eleventh grade students of MAN Kuok Kampar Regency in the academy year at 2015/2016. The total number of students of seventh grade was about 152 students. The specification of the population was revealed on the following table:

Table III.2
The Total Population of the Second Year Students of
MAN Kuok Kampar Regency

No.	Class	Total Students
1	XI 1 Natural Science	20
2	XI 2 Natural Science	23
3	XI 3 Natural Science	22
4	XI 1 Social Science	20
5	XI 2 Social Science	22
6	XI 3 Social Science	22
7	XI 4 Social Science	22
Total		152

Considering that population of this research was bigger, thus the researcher took the sample of the population of the research. In this research the researcher took 2 classes of the population.

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2. Sample of the Research

The population was large enough to be taken all as sample of the research. Based on the total population above, the researcher took two classes for the samples by using Cluster Random Sampling Technique. Cluster sampling randomly selects groups, not individuals (Sugiono, 2008:). All the members of selected groups have similar characteristics. Cluster random sampling is most useful when the population is very large or spread out over a wide geographic area.

Based on explanation above, to find the sample, the researcher used lottery by passing out small rolled paper marked by sequence name of the class. Then after passing out the paper, the samples of this research were XI IPA 1 as control class and XI IPS 1 as the experimental class. The data can be seen in table as follows:

Table III.3
The sample of the Research

No	Classes	Population
1	XI IPS 1 (Experimental Class)	20
2	XI IPA 1 (Control Class)	20
Total		40 Students

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E. Technique of Collecting Data

In this research, the researcher used test to collect data. The test was used to find out the students' ability in writing narrative text. The data of this research were the score of the students' writing ability obtained by writing test. The test was given twice to the sample in both experimental class and control class, the first test was pre-test and the second was post-test. Pre-test was done before teaching by using picture series and post-test was to know the effect of using picture series to get data about students writing ability.

The students' ability on writing narrative text was measured by using writing assessment used by the English teacher of MAN Kuok Kampar Regency. The assessment form can be seen as follows:

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Table III. 4

Writing Narrative Form Score
Assessment Aspect of Writing Narrative Text

No	Aspect Assessed	Score			
		1	2	3	4
1	Content				
2	Organization <ol style="list-style-type: none"> a. Orientation b. Complication c. Resolution 				
3	Vocabulary				
4	Language features <ol style="list-style-type: none"> a. Specific and individualized participants b. Action verb c. Behavioral and verbal processes d. Simple past tense e. Temporal conjunctions and tempiral circumstance 				
5	Mechanics (Spelling and Punctuation)				
Total					
Maximum Score		20			

Explanation of Score:

1 = Incompetent

2 = Competent Enough

3 = Competent

4 = Very Competent

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

According to Arikunto (2009:245), there were 5 components to categorize students' writing ability. Each components had 20 as the highest

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score and the total of the components was 100. In this research, the researcher took 80 as the highest score. Then the score was interpreted into following category:

1. 80 - 100 = A (Very Good)
2. 66 - 79 = B (Good)
3. 56 - 65 = C (Enough)
4. 40 - 55 = D (Less)
5. 30 - 39 = E (Bad)

Table III.5

The criteria of Assessment Aspect of Writing Ability

Aspect	Criteria	score
Content	Clear and effective	4
	Clear and ineffective	3
	Less clear	2
	Unclear and understandable	1
Organization	The connection between ideas is clear	4
	There is transition between ideas	3
	The connection between ideas is not clear enough	2
	The connection between ideas is unclear	1
Vocabulary	Appropriate and effective	4
	Appropriate, but less effective	3
	Less appropriate and ineffective	2
	Inappropriate and ineffective	1
Grammatical features	Appropriate	4
	Less appropriate but it does not influence the meaning	3
	Less appropriate but influence the meaning	2
	Inappropriate	1
Spelling and Punctuation	Appropriate	4
	Appropriate enough	3
	Less appropriate	2
	Inappropriate	1

(Source: School based curriculum)



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F. Validity and Reability of the Instrument

1. The Validity of the Test

In order to measure the validity of writing ability test, the writer used content validity. Fraenkel & Norman (2000:153) content validity is partly a matter of determining if the content that the instrument contains is an adequate sample of the domain of content it is supposed. 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 eleventh grade students at MAN Kuok Kampar Regency.

Pertaining to Scarvia B. Anderson in Arikuntoro (2008:65) a test is valid if it measures what it purpose to measure. Thus, validity is a curcial feature of any test. If a test does not have hight validity, it does not allow users to make the interpretation desired, it should not be used. Furthermore, Gay(2000:162) states that there are three kinds of valdity , they are content validity, criterion-related validity, and construct validity. In this research, the researcher used content validity. 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.

Gay (2000:168) states that there is no formula used in this kind of validity and there is no way how to express it quantitatively. So, it means content validity was test weere given based on material they had learned.

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The material of the test was taken from textbook used by the second year students at MAN Kuok Kampar Regency.

2. The Reliability of the Test

The reliability of a test concern with its precision as a measuring instrument. Pertaining to Richards and Richard (2010:495) reliability is a measure of the degree to which a test gives consistent result. It is also support by Brown (2003:20) who defined that a reliability test is a test which is consistent and dependable. It means that, a test is said to be reliable if it gives the same results when it given on different occasions or when it usedby different people.

According to Creswell (2012:160) there are five types of reliability. They ate test retest reliability, alternate forms reliability, alternate forms and test retest reliability, inter-rater reliability and inter consistency reliability. in this research, the writer used *inter-rater reliability*. It means, the score of the test was evaluated by more than one people. In this research, the studdents' writing ability was evaluated by two raters.

Next, the researcher used Pearson Product Moment by using SPSS 16 version to obtain the correlation between scores from rater 1 and rater 2. Then, to know the level of the correlation, the r is process throught *Sperman- Brown Prophecy formula* explained by Grant Hening (1987:83).

$$r =$$

where,

$$r = \text{inter-rater reliability}$$

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n = the number of raters whose combined estimates of the final mark

r = the correlation between raters, or the average correlation among all raters if there are more than two.

Then, the researcher used the category of reliability that can be seen from the following table:

Table III. 6
The Level of Reliability

No	Reliability	Level of Reliability
1	0.0-0.20	Low
2	0.20-0.40	Sufficient
3	0.41-0.70	High
4	0.71-1.0	Very High

Taken from Tinambunan in Meliawati in Zelly

Then, in analyzing the reliability of the test, the researcher used the pre test scores in experimental class of rater 1 and rater 2 by using SPSS 16.0 version.

Table III.7
The Table Correlation

		Correlations	
		pretrater1	pretrater2
pretrater1	Pearson Correlation	1	.566**
	Sig. (2-tailed)		.009
	N	20	20
pretrater2	Pearson Correlation	.566**	1
	Sig. (2-tailed)	.009	
	N	20	20

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Correlations

		pretestrater1	pretestrater2
pretestrater1	Pearson Correlation	1	.566**
	Sig. (2-tailed)		.009
	N	20	20
pretestrater2	Pearson Correlation	.566**	1
	Sig. (2-tailed)	.009	
	N	20	20

** . Correlation is significant at the 0.01 level (2-tailed).

From the output above, it can be seen that r_o ($r_{obtained}$) is 0.470 will be correlated to r_t (r_{table}). It is necessary to find the df (degree of freedom).

$$df = N - nr$$

df : degree of freedom

N : Number of cases

nr : number of correlated variable

$$df = 40 - 2 = 38$$

The researcher took $df = 38$ to be correlated either at level 5% or 1%. At level 5%, r_{table} is 0.444; while at level 1% r_{table} is 0.561. Thus, the $r_{obtained}$ is obtained higher than r_{table} , either at level 5% or 1%. So the researcher 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.

Moreover, it was calculated by using Sperman-Brown Prophecy Formula as follows:



$$r = \frac{nr}{1(n-1)r}$$

$$r = \frac{2(0.476)}{1+(2-1)0.476}$$

$$r = \frac{0.952}{1.476}$$

$$r = 0.64$$

based on the data obtained above, the researcher concluded that inter-rater reliability in this research was 0.64 Categorized as reliable.

G. Technique of the Data Analysis

1. Normality and Homogeneity of the Test

Before analyzing the data by using t-test formula, the researcher 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 16 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.



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Analysis:

Sig. > 0.05 the data is homogenous

Sig. < 0.05 the data is not homogenous

2. Analysis Data

In analyzing the data, the researcher used students' post-test score in experimental and control classes. This score was analyzed statistically.

In this research the researcher used these formulas:

a. Independent sample t-test

Hartono (2009: 208) said that to find out whether or not there is a significant difference between two or more variables that can be analyzed by using independent sample t-test. Gay (2000:484) added that the t-test for independent sample is used to determine whether or not there is probably a significant difference between the means of two independent samples.

In this research, the data were analyzed by using SPSS 16.0 Version. The significant value was employed to see whether or not there is a significant effect among the mean scores of both experimental and control classes. Statistical hypothesis:

1. $H_0 = \text{sig. (2 tailed)} > 0.05$
2. $H_a = \text{sig. (2 tailed)} < 0.05$

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b. 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 :

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