

CHAPTER III

RESEARCH METHOD

In this chapter, the present researcher describes; research design, population and sample of the study, research instrument of study, research instrument validity, research try out, research instrument reliability, data collection procedures, and data analysis.

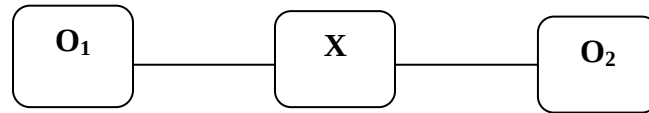
A. Research Type

The type of the research was quantitative research. It was because the writer wanted to investigate the effect of comic strips on students' writing scores. Quasi-experimental design was used in the present study. Quasi-experimental designs are similar to randomized experimental designs in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment groups because the quasi-experimental design doesn't provide full control. It is extremely important that writer be aware of the threats to both internal and external validity and considers these factors in the interpretation.¹

The type of study used is experimental study. It utilizes one group pre-Test/Post-Test Design. Creswell states that this type includes a pre-test measure

¹Donald Ary, Lucy Cheser, Jacobs, Chris Sorensen, Asghar Razavieh, *Introduction ...*, p.316.

followed by a treatment and a post-test for a single Group.² This design can be diagrammed as follows:



Where:

O₁ : Pre-test

X : Treatment

O₂ : Post-test

B. Research Design

The research design of this study was quasi-experimental design using T-test. Experimental design was a plan for experiment that specifies what independent variable applied, the number of levels of each, how object assigned to group, and the dependant variables. T-test was a statistical procedure used to compare responses from two groups. T test was generally applied to normal distribution which has a small set of values. This test compares the mean of two samples. The T-test can be used for the case of a quantitative outcome with a categorical explanatory variable that has two variables.³

The design of this study was experimental design. Experimental design was a plan for an experiment that specifies what independent variables was be applied, the number of levels of each, how subjects are assigned to groups, and the dependent

²John W.Creswell, *Qualitative And Quantitative Approach*, California: SAGE Publications, inc,1994, P. 132.

³Husaini Usman, *Pengantar Statistik*, Jakarta: Bumi Aksara, 1995, P. 92

variable.⁴ The writer uses the experimental design because the writer wants to measure the effect of using comic strips in teaching writing of narrative text.

The type of this study was quasi-experimental study. Quasi-experimental research was research in which the investigator can control the treatment and the measurement of the dependent variable but cannot control assignment of the subjects to treatment.⁵ The type of this study was Quasi-Experimental study by the nonrandomized control group; pretest-posttest design was one of the most wide used quasi-experimental designs in educational research.⁶ The writer uses quasi experiment because it was not based on random assignment of subjects to experiment and control group. The writer use quasi experiment by nonrandomized control group, pre test–post test design. There are two groups in this model, they are experiment group and control group. Pre-test was be given for both groups to measure the score of students before treatment given. Experiment group was be given treatment with using comic strips and control group was be taught without using comic strips (handout). Posttest was be given for both groups to measure the students score after treatment was given. Quasi-experimental research designs do have one clear advantage over pure experimental designs, which was that they are studied in natural educational settings. If we find programme effects we can at least be confident that these work in real schools and classrooms with all their complexity rather than just in the laboratory

⁴*Ibid*, p.641.

⁵*Ibid*, p.648.

⁶*Ibid*, p. 146.

setting. This makes quasi-experimental research a good way of evaluating new initiatives and programmes in education.

Table 3.2
Design of Pre-test and Post-test

Group	Pre-test	Treatment	Post-test
A	Y I	X	Y 2
B	Y 1	-	Y 2

Where :

E: Experimental group

C: Control group

X: Treatment

Y1: Pre – test

Y2: Post – test

C. Population and Sample of the Study

1. Population

According to Arikunto, population was the whole of research subject; if someone wants to research all of the elements in research area his research was called population research on census study.⁷

The large group about which the generalization was made was called a population. A population was defined all members of any well-defined class or

⁷Suharsimi Arikunto, *Procedure Penelitian: Suatu Pendekatan Praktek* (Jakarta:PT.Rineka Cipta, 2000), P. 108.

people.⁸ In this study, the writer takes SMA Muhammadiyah Palangka Raya students to the population of his study.

The Population of the researcher was all the students of first year students of SMA Muhammadiyah Palangka Raya amount 112 Students in five classes X1-X5 each class consists of 22 students.

Table 3.3
Number of First Year Students in SMA Muhammadiyah
Palangka Raya

NO.	CLASS	NUMBER
1	X-1	22
2	X-2	24
3	X-3	22
4	X-4	22
5	X-5	22

2. Sample

A sample was a portion of a population.⁹ In this study, the writer takes two classes to be the sample. The first class was experiment group. This class was be treatment with using comic strip. The second class was control group. This class was be taught with using handout. The sample of this study was X-1 as an experiment class and X-2 as a control class which each class consist of 22 and 24 students. The number of student was 46 students. In this study, the writer uses cluster sampling

⁸*Ibid*, p. 148.

⁹*Ibid*, p. 148

because the unit chosen was not an individual but a group of individuals who are naturally together or grouped by the school.¹⁰

D. Research Instrument of Study

1. Test

A test was a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned.¹¹ The test was used to collect the data was in the form of writing test, especially narrative writing test using and without comic strips as teaching media. The test consists of the instructions and statement the subjects addressed in their writing and the alternative topics to be chosen. In this sense, the students are assigned to choose one of topics that interest but experiment class chooses the topics based on comic strips and the control class was without comic strips. They were asked to develop the topic into a text containing about 75-100 words. The allocated time to do each writing test was 60 minutes.

2. Test Construction

The test construction was based on the objective of the study. The study was aimed at finding the effectiveness of using comic strips in writing narrative text. To investigate the effectiveness of using comic strips, the subjects were assigned to write narrative text with using comic strips and without using comic strips. There were two tests pre-test and post-test. The result of the two tests was investigated using

¹⁰*Ibid*, p. 154

¹¹*Ibid*, p. 201

statistical analysis and the outcomes were compared to see the effects of using a comic strip on writing.

3. Scoring Method

There were three methods of scoring for judging the students writing. These are holistic, primary trait, and analytic scoring. Holistic scoring was a procedure in scoring students' writing on the basis of general impression of the composition as a whole. The second type is primary trait scoring. The primary trait scoring was a way of scoring a piece of writing by focusing on the specific feature or characteristics. The third type was analytic scoring. Analytic scoring was a procedure in scoring a piece of writing by referring to a list of features or sub skills on which a rater basis his or her judgment.¹²In this study the writer used analytic scoring method in evaluating the students; final composition.

E. Research Instrument Validity

4. Face Validity

Face validity was an estimate of whether a test appears to measure a certain criterion; it does not guarantee that the test actually measures phenomena in that domain. The face validity of the test items as follow:

1. The form of test items was written test.
2. The evaluation by written test based on scoring method.
3. Kind of the written test was writing narrative text.

¹²Sabarun, "*The Effectiveness of Using Outlines in Writing Expository Essay*", STAIN: Palangka Raya, 2010, p.29.

4. The language of items uses English.

5. The written test was suitable to Senior High School.

1. Content Validity

Content validity demands appropriateness between the ability to be measured and the test being used to measure it.¹³ The researcher used written test for students. The students in this study would write narrative text form written test instruction, so the test was really measures the writing ability of the students.

Table 3.5

Syllabus of Writing Narrative Text

Basic Competence	Material	Indicator	Evaluation			
			Type	Form	Time allocation	Source
Expressing the meaning and rhetorical steps accurately, fluently and unacceptable using a variety of languages by writing in the context of daily life in the text forms of recount, narrative and procedure texts.	Narrative text.	Understand the nature, the goal and the form of narrative and Make narrative text correctly.	Written	Subjective test	1x45	Developing English Competencies for Grade X Senior High School (SMA/MA),

¹³M.Soenardi Djiwandono, *Tes Bahasa dalam Pengajaran*, p,92.

						Setia Purna Invest.
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Table 3.6

Signification of content validity

Indicator of the study	Type of test	Total question
Students are able to write a text in form of narrative text.	Written test	One question

1. Normality

Normality was used for estimating parametric or non parametric test was be used to analyze the data obtained. Normality was a test normal to whether or not the

distribution of research data. Therefore, the writer used SPSS 16.0 program to measure the normality of the data.

2. Homogeneity

Homogeneity test aimed to test the equality (homogeneity) some samples.¹⁴ The writer used SPSS 16.0 program to measure the homogeneity of the data.

F. Research Instrument try out

In order to prove the test were suitable to the students who were the sample of this study, the writer was conducting a try out test. Then the writer chooses student in the same school but different class to try out the test. The try out test was being conducted to SMA Muhammadiyah Palangka Raya (X-3). If the result was valid, it means that the test items as the instrumentation of this study are suitable to be given. These procedures try out as follows:

- 1) Preparing the instrument.
- 2) Telling the students how they must do with the test of try out.
- 3) Giving the test items to the student
- 4) Collecting to the student's work.
- 5) Calculating the result of the giving score.
- 6) Analyzing the result of the test
- 7) If the result was valid, it means that the test items as the instrumentation of this study are suitable to be given.

¹⁴*Ibid*, p. 136

G. Data Collection Procedures

In collecting the data of this study, the writer was taken the data from pre-test and post-test. Pre-test was being given to the subjects before doing teaching and learning process (treatment). Meanwhile, post-test was being given after applying teaching and learning process (treatment).

In this study, the writer was applying steps as follow:

1. The researcher was observing the school (SMA Muhammdiyah Palangka Raya).
2. The researcher was trying out the test to class X (3). Kind of the test try out was asking students to write a narrative text based on the topic that researcher have decided.
3. The researcher was check the results of the test try out.
4. The researcher was divide the students (sample) into two class (experimental and control) class by using cluster sampling.
5. The researcher was give a pre-test to both classes (experimental and control) class.
6. The researcher was check the result of pre-test of experimental and control class.
7. After the pre-test given, the researcher was teach the students in experimental class about narrative text by using comic strips and control class without using comic strips. Experimental class was being taught using grammar translation method while control class was being taught using audio lingual method. The treatment was being done several times.

8. After doing the treatment, the researcher was given the post-test to both classes.
9. Then, the writer was checking the students' answers in the post-test.
10. The writer was give scores to students' answers by using scoring rubric. In this case, the writer was applying T-test for correlated samples to examine the significant difference score between experimental class and control class.
11. Finally, the writer was comparing the students' scores in the pre-test and post-test. It was done to know whether the students' scores in experimental class are higher or not than students' scores in control class.

H. Data Analysis procedures

To analyze the data has been collected; the writer uses some procedures in this study:

1. The writer was give test to the students of the tenth grade students at SMA Muhammadiyah Palangka Raya.
2. The writer was collecting the data of the students' test result.
3. The writer was give score the students' test result by using the formula:

$$\text{Score} = \frac{B}{N} \times 100\%$$

Where:

B : Frequency of the correct answer

N : Number of test items

4. The writer was tabulate the data into the distribution of frequency of score table, then looking for the mean, median and modus of students' score, standard deviation, and standard error of experiment group and control group.

- a. Mean

$$Mx = \frac{\sum fx}{N}$$

Where:

Mx : Mean

Fx : Total result product between each score with frequency

N : Number of case

- b. Median

$$Mdn = 1 + \frac{1/2 N - fkb}{fi} \times i$$

Where:

Mdn : Median

N : Number of case

Fkb : Cumulative frequency located in under interval contain median

Fi : Authentic frequency (frequency of score contain median)

i : Interval class

- c. Modus

$$Mo = 1 + \frac{fa}{fa + fb} \times i$$

Where:

Mo : Modus

Fa : frequency located in above interval contain modus

Fb : frequency located in under interval contain modus

i : Interval class¹⁵

d. Standard Deviation

e.
$$SD = \sqrt{\frac{\sum fx^2}{N}}$$

Where:

SD : Standard Deviation

i : Interval

N : Number of students

f. Standard Error

g.
$$Sem = \frac{sd}{\sqrt{n-1}}$$

Where:

Sem : Standard Error

Sd : Standard Deviation

N : Number of students¹⁶

5. The writer analyzed the normality and homogeneity of pretest and posttest at experiment and control group.

¹⁵ Hartono, *Statistik Untuk Penelitian*, Yogyakarta: Pustaka Belajar, 2011, p. 33.

¹⁶ *Ibid*, p. 60.

6. The writer was calculate the data by using t-test if data distribution as normal the writer use t-test if it is not normal the writer use non parametric to test the hypothesis of the study. To examine the hypothesis, the writer uses t-test statistical calculation as follows:

$$t_o = \frac{M1 - M2}{SEm1 - m2}$$

Where:

M1-M2 : The difference of two mean.

SEm1-m2 : The standard error of difference between two mean.

To know the hypothesis is accepted or rejected using the criterion:

If $t\text{-test} \geq t_{\text{table}}$, it means H_a is accepted and H_o is rejected.

If $t\text{-test} \leq t_{\text{table}}$, it means H_a is rejected and H_o is accepted.¹⁷

7. The writer was interpreted the result of t-test. The writer counted the degree of freedom (df) with the formula as follows:

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

¹⁷Anas Sugiono, *Pengantar Statistik Pendidikan*, Jakarta: Rajawali Press, 1978, p. 372

Where:

df : Degree of freedom

N1 : Number of subject group 1

N2 : Number of subject group 2

2 : Number of variable¹⁸

8. The writer was discussed and concludes the result of data analysis.

¹⁸*Ibid*, p. 284