

## **CHAPTER III**

### **RESEARCH METHOD**

In this chapter, the writer discussed about research design, population and sample, research instruments, data collection procedure, and data analysis procedure.

#### **A. Research Design**

The design of the study was an experimental design because the writer measures the effect of using outline technique to the student writing ability. An experimental design is the general plan for carrying out a study with an active independent variable. The design is important because it determines the study's internal validity, which is the ability to reach valid conclusions about the effect of the experimental treatment on the dependent variable.<sup>1</sup>

This study was conduct with experimental design using pretest and posttest design. Pretest and posttest design usually involves three steps: (1) administering a pretest measuring the dependent variable; (2) applying the experimental treatment *X* to the subjects; and (3) administering a posttest measuring the dependent variable.<sup>2</sup> Differences attributed to application of the experimental treatment are then evaluated by comparing the pretest and posttest scores.

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<sup>1</sup> *Ibid.*, p. 301.

<sup>2</sup> *Ibid.*

**Table 3.1**  
**The schema of One-Group Pretest-Posttest Design**

<b>Pretest</b>	<b>Independent</b>	<b>Posttest</b>
<b>Y<sub>1</sub></b>	<b>X</b>	<b>Y<sub>2</sub></b>

In the present study, there is a single group. A single group divided into two groups. They are experiment group and control group. The experiment group gets treatment meanwhile the control group is not given by treatment. It is using outline technique and non outline technique. Furthermore, the groups will be given posttest. Next, the results of posttest were compared by using T test formula.

## **B. Population and Sample**

### **1. Population**

Population is the whole of the research subject.<sup>3</sup> In the present study, the population of the study is all of the Eleventh grade students of SMAN-4 Palangka Raya 2014/2015 academic year. The number of population is 389 students. Based on the documentation of SMAN-4 Palangka raya, the numbers of population of students are shown in the table below.

**Tabel 3.2**  
**Number of Population of the SMAN-4 Palangka Raya**

<b>No.</b>	<b>Classes</b>	<b>Number</b>
1.	XI-IIA 1	40
2.	XI-IIA 2	41
3.	XI-IIA 3	40

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<sup>3</sup> Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek*, Jakarta: PT Rineka Cipta, 2002, p. 108.

4.	XI-IIA 4	38
5	XI-IIA 5	31
6.	XI-IIS 1	39
7.	XI-IIS 2	32
8.	XI-IIS 3	33
9.	XI-IIS 4	30
10	XI-IIS 5	29
11.	XI-IBBU 11	36
<b>The Total Number</b>		<b>389</b>

## 2. Sample

Sample is half or representative of population to be researched.<sup>4</sup> The writer used non probability samples as sample of this study. Purposive sampling is a nonprobability sampling technique in which subjects judged to be representative of the population are included in the sample.<sup>5</sup> In the present study, the writer chose XI IIS 5 class as sample of the study. The number of XI IIS 5 class is 29 students as the experiment group and control group.

## C. Research Instruments

### 1. Research Instruments

Instrument is a device for operationally defining a variable.<sup>6</sup> Instrument is very needed in the research. Instrument is tool to get the data of the study, in which the data is the important thing to help the writer in answering the problem of study and also to prove the hypotheses. In the present study, the writer used test as instrument of the study. The type of the test will use to collect the data is in the form of writing test, especially analytical exposition writing test using and without

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<sup>4</sup> *Ibid.*, p. 109.

<sup>5</sup> Donald Ary, Lucy Cheser Jacobs, Chris Sorensen, Asghar Razavieh, *Introduction to Research in Education (eight edition)*, p. 648.

<sup>6</sup> *Ibid.*, p.643.

using outline technique. The test consists of the instructions and statement the subjects addressed in their writing and the alternative topics to be chosen. In the case, the students are assigned to choose one of topics that interest. They will ask to develop the topic into a text containing about 100-150 words. The allocated time to do each writing test is 90 minutes.

## **2. Research Instruments Try Out**

The writer conducted the different class as try out class. The try out test conducted at XI IIA 5 with 31 students. The result was valid, it meant that the test item as the instrumentation of this study was suitable to be given. The procedures of the try out are:

1. The writer gave a test trough try out of test items to students.
2. The writer collected the students' answer and give them scores.
3. The writer analyzed the students'score to find out instrument reliability and validity.

## **3. Research Instruments Validity**

Validity is the extend to which it measures what it is supposed to measure and nothing else.<sup>7</sup> Validity is always concerned with the specific use to be made of the results and with the truthfulness of our proposed interpretations.<sup>8</sup> There are three types of validity: face validity, content validity, and construct validity.<sup>9</sup>

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<sup>7</sup> J.B Heaton, *Writing English Language Tests*, London: Longman, 1975, p. 153.

<sup>8</sup> Norman E. Grounlund, *Measurement and Evaluation in Teaching*, New York: Macmillan publishing Company, 1985, p. 11.

<sup>9</sup> J.B Heaton, *Writing English Language Tests*, p. 153-154.

### **a. Face Validity**

Face validity is if a test item looks right to other testers, teachers, moderators, and testees.<sup>10</sup> Face validity refers to the extent to which examinees believe the instrument is measuring what it is supposed to measure.<sup>11</sup> Although it is not a technical form of validity, face validity can be important to ensure acceptance of the test and cooperation on the part of the examinees.

### **b. Content Validity**

Content validity is the kind of validity depends on a careful analysis of the language being tested and of the particular course objectives.<sup>12</sup> The test should be so constructed as to contain a representative sample of the course, the relationship between the test items and the course objectives always being apparent.

### **c. Construct Validity**

Construct validity is if a test has construct validity, it is capable of measuring certain specific characteristics in accordance with a theory of language behavior and learning.<sup>13</sup> This type of validity assumes the existence of certain learning theories or constructs underlying the acquisition of abilities and skills.

To measure the validity of the instrument, the writer used the formulation of Product Moment by Pearson as follow:<sup>14</sup>

$$r_{xy} = \frac{n (\sum XY) - (\sum X) \cdot (\sum Y)}{\sqrt{\{n \cdot \sum X^2 - (\sum X)^2\} \cdot \{n \cdot \sum Y^2 - (\sum Y)^2\}}}$$

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<sup>10</sup> *Ibid.*

<sup>11</sup> Donald Ary, Lucy Cheser Jacobs, Chris Sorensen, Asghar Razavieh, *Introduction to Research in Education (eight edition)*, p. 228.

<sup>12</sup> J.B Heaton, *Writing English Language Tests*, p. 154.

<sup>13</sup> *Ibid.*

<sup>14</sup> Hartono, *Statistik untuk Penelitian*, Yogyakarta: Pustaka Belajar, 2011, p. 84.

Where:

$r_{xy}$  = Total coefficient of correlation

N = Number of Cases/Students

XY = Multiplication Result between score X and Y

X = Total Value of Score X

Y = Total Value of Score Y.

Furthermore, it will calculate using t test formula as follow:

$$t_{\text{observe}} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Where:

t = The value of  $t_{\text{observe}}$

r = The coefficient  $r_{\text{observe}}$

n = Number of students

The distribution of  $t_{\text{table}}$  at alpha 5% and the degree of freedom (n-2) with the measurements of validity using the criteria below:<sup>15</sup>

$t_o > t_t = \text{Valid}$
$t_o \leq t_t = \text{Invalid}$

To know the validity level of the instrument, the result of the test will interpret to the criteria as follow:

0,00 – 0,200 = Very poor validity

0,200 – 0,400 = Poor validity

0,400 – 0,700 = Fair validity

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<sup>15</sup> Riduan, *Metode dan Teknik Menyusun Tesis*, Bandung: Alfabeta, 2010, p. 110.

0,700 – 0,900 = High validity

0,900 – 1,000 = Very high validity

#### **4. Research Instruments Reliability**

Reliability refers to the consistency of test scores. That is, how consistent test scores or other evaluation results are from one measurement to another.<sup>16</sup> Reliability is a necessary characteristic of any good test: for it to be valid at all, a test must first be reliable as a measuring instrument.<sup>17</sup> There are a number of ways to investigate the reliability or consistency of raters. Two important aspects of reliability are intra-rater reliability (self-consistency) and inter-rater reliability (agreement between raters). Intra-rater reliability refers to the tendency of a rater to give the same score to the same script on different occasions, while inter-rater reliability refers to the tendency of different raters to give the same scores to the same scripts.<sup>18</sup>

To achieve the acceptable score of inter rater reliability, the raters are trained. First, the researcher explained the purposes of the test and intended use of the test results to the rater. Then, each point of the criteria used to score is explained.

After that, the rater got same understanding of criteria, the researcher gave the rater two composition samples to be rated. The scores of two raters from the researcher and the rater were correlated to examine whether the scores belong to acceptable scores or not.

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<sup>16</sup> Norman E. Gronlund, *Measurement and Evaluation in Teaching*, p. 14.

<sup>17</sup> J.B Heaton, *Writing English Language Tests*, p. 155.

<sup>18</sup> Sara Cushing Weigle, *Assessing Writing*, p. 134.

To obtain inter rater reliability, the score of two raters were correlated using SPSS program used product moment calculation. The researcher got the interpretation of coefficient correlation, whether they belong to high, moderate, or positive weak/negative inter rater reliability category. The obtained coefficient should indicate that the students' writing products using outline technique has achieved the acceptable level of reliability. In this case, the researcher will apply the coefficient correlation and the interpretation of inter rater reliability proposed by Winkle et al as shown in table: 3.3<sup>19</sup>

**Table 3.3. Inter Rater Coefficient Correlation and Interpretation**

Correlation Coefficient	Interpretation
.90 to 1.00 or -.90 to -1.00	Very high positive or negative correlation
.70 to .89 or -.70 to -.89	High positive or negative correlation
.50 to .69 or -.50 to -.69	Moderate positive or negative correlation
.30 to .49 or -.30 to -.49	Low positive or negative correlation
.00 to .29 or -.00 to -.29	Little if any correlation

#### **D. Data Collection Procedures**

The study is aimed at investigating the effectiveness of using outline on the quality of composition written by experimental group of students. To collect the data, the writer divided the subject. There is a single subject of the study. A single subject divided into two groups; they were experiment group and control group. Control group is taken from the same individuals. Both of groups were given pretest. Next, the group will be given treatments but the treatment is in different order: using outline technique and using non outline technique. The

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<sup>19</sup> Anthony C. Winkle, and Jo Roy Mc Cuen, *Writing the Research Paper*, Orlando: Harcourt Brace Jovanovich Publishers, 1989, p. 35.



different order of treatments functioned to control invalidity. The last, giving posttest to the groups.

The steps of the data collection procedure as follows:

1. The writer divided a single subject into experiment group one and control group one.
2. The writer gave pretest to experiment group and control group.
3. The writer gave treatment to the experiment group only.
4. The writer gave posttest to experiment group and control group.
5. The writer gave the scores and analyzed the data using manual calculation and SPSS program.

#### **E. Data Analysis Procedures**

The data of the study are the students' writing scores. In this case, the data are in form of quantitative data. The data was analyzed by means of inferential statistics. In this case, the writer applied t-test for correlated samples to examine the difference score between the students who use outline technique and those who do not use outline technique in writing analytical exposition paragraph. The writer analyzed the data by applying some procedure in the following:

1. Giving the test. Test in the form of a worksheet contains the instruction and directions to do the test.
2. Collecting the data of students' worksheet test result.
3. Giving score to the students' test result.
4. Tabulating the data into the distribution of the table, then find out the mean, standard deviation, and standard error of mean both of groups.

5. Analyzing the data using T-test. In addition, the SPSS 16.0 program is applied to compare the data.
6. Interpreting the result of test by using degree of freedom (df).
7. Making discussion to clarify the research finding.
8. Giving conclusion.

**Figure 3.1**

**Steps of collecting, data analysis procedure and testing hypothesis**

