

## CHAPTER III

### RESEARCH METHODOLOGY

#### A. The Design of the Research

This research was categorized as quasi experimental research. Quasi-experimental is a research design having sameness but not the entire characteristic of a true experiment. The element, most frequently missing is random assignment of subjects to the control and experimental conditions.<sup>1</sup>

It is aimed to search whether there is an effect or not of treatment which has been done to the experimental subject without random assignment.<sup>2</sup>

In this research, the writer used two groups or two classes as the sample, namely: experimental group and control group. Those classes were not chosen randomly. For experimental group, the students were treated with particular teaching on what problems of research the writer had. Meanwhile, control group was only given a pre-test and pos-test without particular treatment as it was done in the experimental group.

**Table III. 1**  
**Research Design**

| Class        | Pre-test       | Treatment | Post-test      |
|--------------|----------------|-----------|----------------|
| Experimental | O <sub>1</sub> | X         | O <sub>2</sub> |

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<sup>1</sup> Gay, L. R and Peter Airasian. 2000. Educational Research. 6<sup>th</sup> Ed. New Jersey: van Hoffman Press. P. 389

<sup>2</sup> Jhon W. Cresswell, *Education Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*, (New Jersey: Person Education, 2008), p. 314

|                |                |   |                |
|----------------|----------------|---|----------------|
| group          |                |   |                |
| C ontrol group | O <sub>1</sub> | - | O <sub>2</sub> |

Where:

O<sub>1</sub> : Pre-test for experimental group and control group

X : Receiving particular treatment

O<sub>2</sub> : Post-test for experimental group and control group

**Table III. 2**  
**The Variable of the Research**

| Variable X   | Variable Y                      |
|--|---------------------------------|
| Overview, Ask, Read, Write, Evaluate, and Test.(OARWET ) | Students' reading comprehension |

Before doing the treatment, the writer gave pre-test to all of the samples. Pre-test was given in order to find out the students' reading comprehension before Overview, Ask, Read, Write, Evaluate, Task (OARWET) Method. Then, the teacher taught reading materials by using Overview, Ask, Read, Write, Evaluate, Task method for experimental group and using teacher's strategy as for control group. After eight meetings, both of groups were given test again (post test) to find out the effect of implementation of Overview, Ask, Read, Write, Evaluate, and Task toward the students' reading comprehension.

Based on the explanation above, procedures of this research are divided into two ways, they were:

1. Procedures of collecting data for experimental group

a. Pre-test

The pre-test was carried out to determine the students' reading comprehension with their score.

b. Treatment

The treatment was conducted for experimental group. This used overview, ask, read, write, evaluate, and task method applied for about eight meetings.

c. Post-test

After conducting the treatment, the post-test was administered and it was analyzed as final data for this research. The test given was the same test as given in the pre-test. As explained by Roestiyah "if pre-test is administered before the student follows the instruction, then the post test is given after the students teaching program. Tests given in the post-test are identical given in the pre-test, it means test material used was the test material as well".<sup>3</sup>

2. Procedures of collecting data for control group

a. Pre-test

The control group was given pre-test to know their reading comprehension. The test was the same the for experimental group.

b. Conventional Strategy

When the experimental group was treated by using OARWET method , the control group was taught by using conventional strategy as usual. This was to compare the students' reading comprehension between experimental group and control group.

c. Post-test

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<sup>3</sup> Roestiyah, *Strategi Belajar Mengajar*. (Jakarta : Rineka Cipta, 2008), p.118

Post-test was also given to control group and the result was analyzed and used as final data for this research.

#### **B. The Location and Time of the Research**

This research was conducted from April to Mei 2013. It was conducted to the second year students of state Junior High School 3 Kepenuhan.

#### **C. The Subject and Object of the Research**

The subject of this research was the second year students of state Junior High School 3 Kepenuhan, while the object of this research was the use of Overview, Ask, Read, Write, Evaluate, Test (OARWET) method toward students' reading comprehension.

#### **D. The Population and Sampling**

The total of population of this research was all the second year students of SMP N 3 Kepenuhan. They were divided into 3 classes of VIII 1 (25 students), 2 (25 students), 3 (26 students). Based on the data above, all of the populations were 76 students. In this research, the writer used quasi-experimental research; the writer took two classes only. They were VIII 1 class that consisted of 25 students as experimental group, and VIII 2 class that consisted of 25 students was control group. So the total of sample was 50 students.

The population of this research was homogenous in which the students were taught by the same teacher, same material books, in the same class. So the writer used cluster sampling to take the sample.

**Table III. 3**  
**Total of Population at the Second Year**  
**Students of SMPN 3 Kepenuhan**

| No                         | Classes           | Number of the Students |
|----------------------------|-------------------|------------------------|
| 1                          | VIII <sup>1</sup> | 25                     |
| 2                          | VIII <sup>2</sup> | 25                     |
| 3                          | VIII <sup>3</sup> | 26                     |
| <b>Total of Population</b> |                   | <b>76</b>              |

**Table III. 4**  
**Total of Sample at the Second Year**  
**Students of SMPN 3 Kepenuhan**

| No                     | Classes           | Total     |
|------------------------|-------------------|-----------|
| 1                      | VIII <sup>1</sup> | 25        |
| 2                      | VIII <sup>2</sup> | 25        |
| <b>Total of Sample</b> |                   | <b>50</b> |

#### **E. The Technique of Collecting Data**

To obtain needed data in this research, the writer used the techniques of collecting data as follows:

##### **1. Test**

The test was distributed to measure the students reading comprehension. The test was divided into two tests; pre-test was given before the treatment, and post-test was given after

doing the treatment. The type of the test was multiple choice tests which consisted of 25 items. Every multiple choice item consisted of four answer options (a, b, c, and d).

Then, the score of test and reading comprehension of recount test can be classified in this table below:<sup>4</sup>

**Table III. 5**  
**The Classification of Students' Score**

| <b>The Score Level</b> | <b>Category</b> |
|------------------------|-----------------|
| 80-100                 | Very Good       |
| 66-79                  | Good            |
| 56-65                  | Enough          |
| 40-55                  | Less            |
| 30-39                  | Fail            |

## **F. The Validity and Reliability of the Test**

### **1. Validity**

Every test, whether it is a short, informal class room test, or a public examination should be as valid as the test constructor can make it. The test must aim at providing a true measure of the participation skill in which it is intended to measure. Before the items were used to get the data, all of them were tried out first. Try out was intended to know value of the test. The value it self was used to find out the level of difficulties. The standard of value was used. Heaton states that validity of a test is extended to which it measures what it is supported to measure and nothing else.<sup>5</sup>

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<sup>4</sup>Suharsimi Arikunto. *Dasar-Dasar Evaluasi Pendidikan*. (Jakarta: PT. Renika Cipta,2009),p. 245

<sup>5</sup> J.B. Heaton, *Writing English Language Test*. (New York: Cambridge University, 1988), p. 159

The items that could not fulfill the standard value were replaced. The facility value under 0.30 is considered difficult and above 0.70 is considered easy. The level of difficulty was used to show how easy and difficult an item was. It was calculated by using the formula:

$$P = \frac{B}{JS}$$

Where:

P = Difficulty level

B = the number of correct answer

JS = the number of student

For example, if the number 1 is correct answered by 8 students of 20 students, the difficulty could be calculated as follows:

$$\begin{aligned} P &= \frac{B}{JS} \\ &= \frac{8}{20} \\ &= 0.4 \end{aligned}$$

If the value is changed into percentage, it could be calculated  $0.4 \times 100\% = 40$ . The value was considered standard, and could be used to get the data. In other words, the item did not need to be changed. After doing try out, the researcher found that there were no any items modified because the level of difficulty reached the standard item of difficulty. Then, the proportion correct was represented by “p”, whereas the proportion incorrect was represented by “q”.

The purpose of try out was to obtain validity and reliability of the test. It was determined by finding the difficulty level of each item. The data obtained by using posttest of the Experimental Group was evaluated by consorting 5 components:

1. Some of the students are not able to find main idea.

2. Some of the students are not able to identify language feature.
3. Some of the students are not able to identify communicative purpose.
4. Some of the the students are not able to indentify various meaning.
5. Some of the students are not able to generic structure.

**Table III. 6**  
**The students are able to find main idea**

| Variable | Finding main idea |     |     |     |      | N  |
|----------|-------------------|-----|-----|-----|------|----|
| Item no  | 1                 | 6   | 11  | 18  | 21   | 20 |
| Correct  | 11                | 12  | 10  | 8   | 13   |    |
| P        | 0,55              | 0.6 | 0.5 | 0.4 | 0.65 |    |
| Q        | 0.45              | 0.4 | 0.5 | 0.6 | 0.35 |    |

$$P = \frac{B}{JS}$$

$$Q = 100 - P$$

The table above shows the portion of correct answers for item number 1 than shows the proportion of correct 0.55, item number 6 shows the proportion of correct 0.6, item number 11 shows the proportion of correct 0.5, item number 18 shows the proportion of correct 0.4 and item number 21 the proportion of correct is 0.65. Based on the standard level of difficulty “P” <0.30 and >0.70, it is pointed out that difficulties in average of each items number for finding main idea are accepted.

**Table III. 7**  
**The students are able to identify language feature**

| Variable | Language feature |      |     |     |     | N  |
|----------|------------------|------|-----|-----|-----|----|
| Item no  | 2                | 10   | 12  | 19  | 25  | 20 |
| Correct  | 9                | 9    | 12  | 12  | 10  |    |
| P        | 0,45             | 0.45 | 0.6 | 0.6 | 0.5 |    |

|   |      |      |     |     |     |  |
|---|------|------|-----|-----|-----|--|
| Q | 0.55 | 0.55 | 0.4 | 0.4 | 0.5 |  |
|---|------|------|-----|-----|-----|--|

$$P = \frac{B}{JS}$$

$$Q = 100 - P$$

The table above shows the portion of correct answers for item number 2 that shows the proportion of correct 0.45, item number 10 shows the proportion of correct 0.45, item number 12 shows the proportion of correct 0.6, item number 19 shows the proportion of correct 0.6 and item number 25 the proportion of correct is 0.5. Based on the standard level of difficulty “P” <0.30 and >0.70, it is pointed out that difficulties in average of each items number for language feature are accepted.

**Table III. 8**  
**The students are able to identify the communicative purpose**

| Variable | Identify the communicative purpose |     |     |      |     | N  |
|----------|------------------------------------|-----|-----|------|-----|----|
| Item no  | 3                                  | 9   | 15  | 20   | 24  | 20 |
| Correct  | 13                                 | 10  | 12  | 11   | 12  |    |
| P        | 0.65                               | 0.5 | 0.6 | 0.55 | 0.6 |    |
| Q        | 0.35                               | 0.5 | 0.4 | 0.35 | 0.4 |    |

$$P = \frac{B}{JS}$$

$$Q = 100 - P$$

The table above shows the portion of correct answers for item number 3 than shows the proportion of correct 0.65, item number 9 shows the proportion of correct 0.5, item number 15 shows the proportion of correct 0.6, item number 20 shows the proportion of correct 0.55 and item number 24 the proportion of correct is 0.6. Based on the standard level of difficulty “P” <0.30 and >0.70, it is pointed out that difficulties in average of each items number for identify the communicative purpose are accepted.

**Table III. 9**  
**The students are able to identify the various meaning**

| Variable | Identify various meaning |      |      |     |     | N  |
|----------|--------------------------|------|------|-----|-----|----|
| Item no  | 4                        | 7    | 13   | 17  | 23  | 20 |
| Correct  | 11                       | 11   | 13   | 10  | 12  |    |
| P        | 0.55                     | 0.55 | 0.65 | 0.5 | 0.6 |    |
| Q        | 0.44                     | 0.45 | 0.35 | 0.5 | 0.4 |    |
|          |                          |      |      |     |     |    |

$$P = \frac{B}{JS}$$

$$Q = 100 - P$$

The table above shows the portion of correct answers of item number 4 that shows the proportion of correct 0.55, item number 8 shows the proportion of correct 0.55, item number 13 shows the proportion of correct 0.65, item number 17 shows the proportion of correct 0.5 and

item number 23 the proportion of correct is 0.6. Based on the standard level of difficulty “P” <0.30 and >0.70, it is pointed out that difficulties in average of each items number for various meaning are accepted.

**Table III. 10**  
**The students are able to able to identify of generic structure**

| Variable | Identfy generic structure |      |     |     |     | N  |
|----------|---------------------------|------|-----|-----|-----|----|
| Item no  | 5                         | 8    | 16  | 14  | 22  | 20 |
| Correct  | 13                        | 9    | 12  | 12  | 10  |    |
| P        | 0.65                      | 0.45 | 0.6 | 0.6 | 0.5 |    |
| Q        | 0.35                      | 0.55 | 0.4 | 0.4 | 0.5 |    |

$$P = \frac{B}{JS}$$

$$Q = 100 - P$$

The table above shows the portion of correct answers item number 5 shows the proportion of correct 0.65, item number 8 shows the proportion of correct 0.45, item number 16 shows the proportion of correct 0.6, item number 14 shows the proportion of correct 0.6 and item number 22 the proportion of correct is 0.5. Based on the standard level of difficulty “P” <0.30 and >0.70, it is pointed out that difficulty in average of each items number of identify for generic structute accepted. The standard level of validity used is:

- a. If the standard level is 1.00 – 0.30 its is difficult
- b. If the standard level is 0.30 – 0.70 its is accepted
- c. If the standard level is 0.70 – 1.00 its is easy<sup>6</sup>

Based on the standard level of validity above, the writer concludes that, it is pointed out that validity in average of each items number for finding main idea, comprehending the factual

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<sup>6</sup> Hartono, *Analisis Item Instrumen*, (Pekanbaru: Zanafa Publising, 2010), p. 39

information, identifying the unfamiliar vocabulary, identifying word reference in the texts, finding the inferences at the texts is accepted because the location is between of 0.30 – 0.70.

**Table III. 11**

**The data of students' tryout**

| NO | STUDENT'S NAME | STUDENT'S ANSWER | SCORE |
|----|----------------|------------------|-------|
| 1  | Student 1      | 13               | 52    |
| 2  | Student 2      | 13               | 52    |
| 3  | Student 3      | 16               | 64    |
| 4  | Student 4      | 16               | 64    |
| 5  | Student 5      | 12               | 48    |
| 6  | Student 6      | 14               | 56    |
| 7  | Student 7      | 11               | 44    |
| 8  | Student 8      | 13               | 52    |
| 9  | Student 9      | 12               | 48    |
| 10 | Student 10     | 17               | 68    |
| 11 | Student 11     | 15               | 60    |
| 12 | Student 12     | 15               | 60    |
| 13 | Student 13     | 11               | 44    |
| 14 | Student 14     | 12               | 48    |
| 15 | Student 15     | 15               | 60    |
| 16 | Student 16     | 14               | 56    |
| 17 | Student 17     | 17               | 68    |
| 18 | Student 18     | 15               | 60    |
| 19 | Student 19     | 15               | 60    |
| 20 | Student 20     | 12               | 48    |

**ACCEPTED**

Based on the data of students tryout, there is no rejected because the students score is higher than 0.30 and smaller than 0.70 (<0.30 and >0.70), then the minimal score of the students'

answer is 44 and the maximum score of the students answer is 68, therefore the students tryout is accepted.

## 2. Reliability

Sugiono states that reliable instrument mean instruments are used several times to measure the same object, in a different time would produce the same data. Heaton explains that reliability is the accuracy of the result obtained by the instrument or measurement.<sup>7</sup> To obtain the reliability of the test given, the researcher used the formula as follows<sup>8</sup>:

$$\text{KR 20: } r_i = \frac{k}{k-1} \frac{St^2 - \sum P_i q_i}{St^2}$$

Where:

K = number of items in the instrument

P<sub>i</sub> = proportion of subjects who answered the item correctly

q<sub>i</sub> = proportion of subjects who answered the item with the wrong (1 - P<sub>i</sub>)

p<sub>i</sub> q<sub>i</sub> = the multiplication result between p and q

S<sub>t</sub><sup>2</sup> = total variance

We must first calculate the total variance before:

$$St^2 = \frac{X^2}{n}$$

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<sup>7</sup> J.B. Heaton. *Op. Cit.*, p. 162

<sup>8</sup> Sugiyono, *Statistika Untuk Penelitian*, (Bandung: Alfabeta, 2007), p.359

N = Number of respondents

$$X^2 = \sum Xt^2 - \frac{\sum X^2 t^2}{n}$$

$$X^2 = 3903 - \frac{277^2}{20}$$

$$X^2 = 3903 - \frac{76729}{20}$$

$$X^2 = 3903 - 3836.45$$

$$X^2 = 66.55$$

$$St^2 = \frac{X^2}{n} = \frac{66.55}{20} = 3.3275$$

$$ri = \frac{25}{25 - 1} \frac{3.3275 - 6.08}{3.3275}$$

$$ri = 1.0416 \frac{-2.7525}{3.3275}$$

$$ri = 1.0416 \times -0.8272$$

$$ri = -0.8615$$

(See appendix 1)

### G. The Technique of Data Analysis

There are two variables; the independent variable (X) and dependent variable (Y) which variable (X) is nominal scale and variable (Y) is interval scale. Therefore, the suitable formula for analyzing the data is Independent Sample T-Test, as follow:

$$T_o = \frac{M_x - M_y}{\frac{SD_x^2}{\sqrt{N-1}} + \frac{SD_y^2}{\sqrt{N-1}}}$$

Where:

$T_o$  = The value of t-obtained

$M_x$  = Mean score of experimental class

$M_y$  = Mean score of control class

$SD_x$  = Standard deviation of experimental class

$SD_y$  = Standard deviation of control class

N = Number of student

For analyzing the post-test and pre-test scores, writer used Paired-Sample T-Test, as follows:

$$t = \frac{\bar{d} - \mu_d}{\frac{s_d}{\sqrt{n}}}$$

Where:

t : The value of t

$\bar{d}$  : Mean

$\mu_d$  : Mean different

$s_d$  : Standard deviation

The writer used Independent Sample T-Test and Paired-Sample T-Test to analyze the data of the research through SPSS.