**CHAPTER III**

**METHOD AND PROCEDURE**

 In this chapter, the writer discussed (1) the method of the research, (2) the research variables, (3) the operational definition, (4) the population and sample of the study, (5) technique for collecting the data, (6) the validity and reliability of the test, and (7) the technique for analyzing the data.

**3.1 Method of the Research**

 In doing this study, the writer used the experimental research, a quasi experimental design. Ary, Donald (2010:316) states that “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 does not provide full control, it is extremely important that researchers be aware of the threats to both internal and external validity and consider these factors in their interpretation. The basic study of this study is as follows (Fraenkel, Wallen, and Hyun 2012:273).

**Experimental M O1** $X\_{1}$ **O2**

**Control M O3** $X\_{2}$ **O4**

Where:

 O1 : The pre-test of the experimental group

 O2 : The post-test of the experimental group

 O3 : The pre-test of the control group

 O4 : The post-test of the control group

 $X\_{1}$ : Treatment for experimental group (Using LINCS Strategy)

 $X\_{2}$ : Treatment for control group (Normal Fashion)

**3.2 Research Variables**

 A variable is a concept a noun that stands for variation within a class of objects, such as chair, gender, eye color, achievement, motivation, or running speed. There are two kinds of variables in this research: the independent and dependent variables. An independent variable is presumed to affect (at least partly cause) or somehow influence at least one other variable. A dependent variable is the variable that the independent variable is presumed to affect (Cohen, Louis 2007:77-80). The independent variable of this study was the use of LINCS strategy and the dependent variable was the students’ vocabulary.

**3.3 Operational Definition**

The title of this study “Teaching Vocabulary Using LINCS Strategy to the Fourth Grade Students of SD Negeri 12 Indralaya”. The LINCS strategy was designed to improve vocabulary test scores of the students. Vocabulary is the foundation of a language. We cannot advance speaking English or another language until the fundamental of vocabulary are mastered.

**3.4 Teaching procedure**

**Pre Activities**

1. Greeting and Motivation.
2. Introduce the new concept/information and talk about it before actually teaching the main material. Help him/her make the associations between the new vocabulary and his/her known vocabulary. New vocabulary should also be related to the student's real-life. This will help him/her make connections between things related to him/her personally and new vocabulary being taught.

**Whilst Activities**

1. Explicitly teach the rules or the main ideas of the new material being covered. Provide lots of examples to help reinforce the concepts. Also, provide lots of visual and gestural cues to support the verbal information. Provide the student with guided practice of the new skill being learned.

**Post Activities**

1. At the end of the activity, go over what you just practiced with the students. Summarize the rules or the main ideas and provide a few more examples to highlight the new material being learned.
2. The teacher closed the teaching and learning activities.

**3.5 Population and Sample of the Study**

**3.5.1 Population of the Study**

 The larger group about which the generalization is made is called a population. A population is defined as all members of any well-defined class of people, events, or objects (Ary, Donald 2010:148)

 In this study, the population was taken from all of the fourth grade students of SDN 12 Indralaya in the academic year of 2012/2013.

**TABLE 1**

**Population of the Study**

|  |  |  |
| --- | --- | --- |
| **No** | **Class** | **Number of Students** |
| 1 | VIA | 30 |
| 2 | VIB | 30 |
| **Total** | 60 |

 Source: SDN 12 Indralaya in the academic year of 2012/2013

**3.5.2 Sample of the Study**

 The small group that is observed is called a sample. A sample is a portion of a population (Ary, Donald, 2010:148). A sample design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample (Kothari, C. R, 2004:55). The writer took all of the population as the sample.

**TABLE 2**

**Sample of the Study**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Class** | **Group** | **Number of Students** |
| 1 | VIA | Experiment | 30 |
| 2 | VIB | Control | 30 |
| **Total** | 60 |

 Source: SDN 12 Indralaya in the academic year of 2012/2013

**3.6 Technique for Collecting the Data**

 Tests are valuable measuring instruments for educational research. A test is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned (Ary, Donald, 2010:201). The test was administered twice; as the pretest and the postest.

 The pretest was used to find out the student’s vocabulary before the treatment and the posttest was to find out the students’s vocabulary achivement after the treatment. In this study, the test consisted of 40 items in the form of multiple choice.

**3.7 Validity and Reliability of the Test**

**3.7.1 Validity of the Test**

 Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. Validity can also be thought of as utility. In other words, validity is the extent to which differences found with a measurement reflect true differences among those being tested.

 In this study, the writer estimated the validity of the test by means of content validity. Content validity is the extent to which a measuring instrument provides adequate coverage of the topic under study. If the instrument contains a representative sample of the universe (Kothari, C. R, 2004:73-74).

**TABLE 3**

 **Item Specification for the Test**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Objective** | **Material** | **Indicator** | **Items Number** | **Types of Test** |
| To measure the students’ mastery on vocabulary | animals, number, and fruits  | noun,singular,number, noun, andnumber | 1-345-1516-2526-40 | Multiple choice |
|  |  | **Total** | **40 Items** |  |

**3.6.2 Reliability of the Test**

Before the test was administered to the sample students, the test had been tried out to non sample students of SDN 12 Indralaya to assure it was reliable for this research. In testing the reliability coefficient, the following is the Kuder Richardson 21 (KR-21) formula (Fraenkel, Wallen, and Hyun, 2012:156).

$KR21= \frac{K}{K-1} $ $\left[1- \frac{M (K-M)}{K (SD)^{2}}\right]$

Where:

KR 21 = Kuder Richardson Realibility Coefficient

K = Number of the Test Items

M = Means of the Test Scores

SD = Standard Deviation of the Set of the Test Scores

To get standard deviation, the formula is as follows:

 SD= $\frac{\sqrt{\sum\_{}^{}(X-X)^{2}}}{n}$

In which:

SD = Standard Deviation of the Set of the Test Scores

n =Total Number of Score

 Dealing with it, Fraenkel, Wallen, and Hyun, (2012:199) write that for research purposes, a useful is that reliability should be at least 0.7 and reliability higher. To get the result of calculation of the reliability coeficient the writer took 36 students as the sample.

**TABLE 4**

**RESULT OF TRY OUT TEST**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Samples** | **Students' Correct Answers** | **Mean (**$\overline{X})$ | $$X- \overline{X}$$ | $$( X-X )^{2}$$ |
|
| 1 | 34 | 29 | 5 | 25 |
| 2 | 36 | 29 | 7 | 49 |
| 3 | 37 | 29 | 8 | 64 |
| 4 | 25 | 29 | -4 | 16 |
| 5 | 32 | 29 | 3 | 9 |
| 6 | 31 | 29 | 2 | 4 |
| 7 | 26 | 29 | -3 | 9 |
| 8 | 28 | 29 | -1 | 1 |
| 9 | 37 | 29 | 8 | 64 |
| 10 | 32 | 29 | 3 | 9 |
| 11 | 23 | 29 | -6 | 36 |
| 12 | 33 | 29 | 4 | 16 |
| 13 | 33 | 29 | 4 | 16 |
| 14 | 21 | 29 | -8 | 64 |
| 15 | 31 | 29 | 2 | 4 |
| 16 | 38 | 29 | 9 | 81 |
| 17 | 31 | 29 | 2 | 4 |
| 18 | 28 | 29 | -1 | 1 |
| 19 | 38 | 29 | 9 | 81 |
| 20 | 28 | 29 | -1 | 1 |
| 21 | 23 | 29 | -6 | 36 |
| 22 | 20 | 29 | -9 | 81 |
| 23 | 26 | 29 | -3 | 9 |
| 24 | 38 | 29 | 9 | 81 |
| 25 | 27 | 29 | -2 | 4 |
| 26 | 27 | 29 | -2 | 4 |
| 27 | 27 | 29 | -2 | 4 |
| 28 | 32 | 29 | 3 | 9 |
| **Samples** | **Students' Correct Answers** | **Mean (**$\overline{X})$ | $$X- \overline{X}$$ | $$( X-X )^{2}$$ |
| 29 | 30 | 29 | 1 | 1 |
| 30 | 34 | 29 | 5 | 25 |
| 31 | 21 | 29 | -8 | 64 |
| 32 | 20 | 29 | -9 | 81 |
| 33 | 37 | 29 | 8 | 64 |
| 34 | 36 | 29 | 7 | 49 |
| 35 | 12 | 29 | -17 | 289 |
| 36 | 23 | 29 | -6 | 36 |
| $$\sum\_{}^{}n=36$$ | $$\sum\_{}^{}x=1055$$ | **M = 29** |  | $$\sum\_{}^{}( X-X )^{\begin{array}{c}2 \\ \end{array}}=1391$$ |

M = $\frac{ \sum\_{}^{}x}{\sum\_{}^{}n} $
M = $\frac{ 1055}{36} =29.31 =29$
where :

M = mean

∑ x = students’ correct answer

∑ n = samples

SD =$ \frac{\sqrt{\sum\_{}^{}(X-X)^{2}}}{n}$

SD =$\frac{ \sqrt{1391 }}{40}$

SD =$ \sqrt{34.78 }$

SD = 5.9

$KR21= \frac{K}{K-1} $ $\left[1- \frac{M (K-M)}{K (SD)^{2}}\right]$

$KR21= \frac{40}{40-1} $$\left[1- \frac{29 (40-29)}{40 (5.9)^{2}}\right]$


$KR21= \frac{40}{39} $ $\left[1- \frac{29 (11)}{40 (34.81)}\right]$****


$KR21= 1.02 $ $\left[1- \frac{319}{1392.4}\right]$****


$KR21= 1.02$ $\left[1- 0.23\right]$****


$KR21= 1.02 $ $\left[ 0.77 \right]$****


$KR21= 0.79 (reliable) $ ****

 Based on the result above, the reliability coefficient is 0.79 and it is higher than 0.70, it means the test material is “reliable”.

**3.8 Technique for Analyzing the Data**

The techniques analyzing the data in the study were done through, (1) the conversation of the percentage ranges, and (2) the T-test.

1. Conversation of the percentage ranges

To interpret the quantitative scores, the score ranges written in student’s report book as presented below:

**TABLE 5**

**Conversation of the Percentage Ranges**

|  |
| --- |
| 86 – 100 : excellent76 – 85 : good66 – 75 : fair to poor56 – 65 : poor 00 – 55 : very poor |

**(Buku Pedoman IAIN RADEN FATAH)**

2) The formula of t-test was to know significant different between the students achievement in the post-test of the experiment group and post-test of the control group (Sudijono, 2010: 314), the formula was:

t-obt = $\frac{M\_{1}-M\_{2}}{SE\_{M1-M2}}$$\frac{M\_{1}-M\_{2}}{SE\_{M1-M2}}$

Where:

$t \_{obt =}$ The obtained

$M\_{1}$ = Mean of the students’ scores in post-test of the experiment group

$M\_{2 }$= Mean of the students’ scores in post-test of the control group

$SE\_{M1-M2}$ = The standard error of difference between two means