**CHAPTER III**

**RESEARCH AND PROCEDURE**

This chapter presents (a) research method, (b) techniques for collecting data, (c) research instrument analysis.

1. **Research Method**

 The method in doing this study was the experimental method. In this study, the writer applied quasi-experimental design and specifically choose nonequivalent-group pretest-posttest design. Fraenkel and Wallen (2012:275) states that Quasi-experimental designsdo not include the use of random assignment. Researchers who employ these designs rely instead on other techniques to control (or at least reduce) threats to internal validity. The study was conducted through experimental and control group. In the experimental group, the students were given pre-test, treatment of *scavenger hunts* and post-test, while in the control group the students were given only pre-test and post- test without having treatment of *scavenger hunts* at all.

In this study, the writer divided the sample into two groups; experimental and control groups. The experimental consisted as the “group C”, while the control considered as the “group A”. Group C took the pre-test (01), received treatment (X) that was *scavenger hunts* and was given the post-test (02); while group A was also given the pre-test, without having any treatment of *scavenger hunts* at all, but it had the post-test. The two Groups of subject (C and A) consisted of 64 students. The writer implemented the study in the form of actual teaching and learning activities to the experimental group, but not to the control group. The research design used was shown in the following diagram. Furthermore, Quasi-experimental designs in educational research can be represented as Mc Millan (1992: 176):

**O₁ X O₃**

**O3 O4**

Where:

 : Dashed line indicates non-random assignment to comparison groups

O1 : pretest of experimental groups

X : treatment that used *scavenger hunts*

O2 : posttest of experimental groups

O3 : pretest of control groups

O4 : posttest of control groups

1. **Research Variables**

According to Hatch and Farhady (1982: 68), a variable can be defined as an attribute of a person or of an object which “varies’ from person to person or from object to object. In addition, 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 (Frankle and Wallen, 1990:76).

There were two kinds of variable in this research: the independent variable and the dependent variable. The dependent variable is an attribute or characteristic that is dependent on or influenced by the independent variable Creswell (2012: 115). In this study, the dependent variable is the third grade students in teaching vocabulary at SD Negeri 4 Palembang. The independent variable is an attribute or characteristic that influences or affects an outcome or dependent variable Creswell (2012: 116). In this study, independent variables is teaching vocabulary using *scavenger hunts* to the third grade students at SD Negeri 4 Palembang for experiment group.

1. **Operational Definitions**

The title of this study is “Using *Scavenger Hunts* in Teaching Vocabulary to the Third Grade Students of SD Negeri 4 Palembang”. To avoid misunderstanding and misinterpretation, the terms that need to be explained were teaching, vocabulary, and *scavenger hunts*.

Teaching is the classroom instructional activity by using conventional strategies in an attempt to transfer and share knowledge and skill to the students. In this study, teaching means helping the third grade students of SD Negeri 4 Palembang to build their English vocabulary.

Vocabulary is concrete nouns that is related to the topics in Erlangga book three for the third grade students of elementary. The topics are food and drink, occupation, family, part of body and clothing.

*Scavenger hunts* is a simple group activity that helps students to build their vocabulary as well as helping them learn the function, features and adjective items. The game can be played with one or more students playing together as a team or individually. In this study, scavenger hunts means one way to build vocabulary in a fun, interesting, and motivating in building vocabulary to the third grade students.

1. **Population and Sample**
	1. **Population**

Frankle and Wallen (1990:140) states that population is a group of interest to the researcher, the group to whom the researcher would like to generalize the results of the study. In this study of research, the population was all of the third grade students of SD Negeri 4 Palembang in the academic year of 20013/2014 with a total number of 101 students. Table 1 shows the population of the study.

**Table 1**

**The Population of Study**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Class** | **Number of Students** | **Total of Students** |
| **Male** | **Female** |
| 1 | III.A | 16 | 16 | 32 |
| 2 | III.B | 20 | 17 | 37 |
| 3 | III.C | 14 | 18 | 32 |
| **Total** | **101** |

 **Source: SD Negeri 4 Palembang in academic year 2013/2014**

* 1. **Sample**

McMillan (1992:69), states that sample is the group of elements, or a single element, from which data are obtained. To get the accurate and correct data, the writer of the research chooses the sample by using convenience non random sampling. Convenience sample is a group of individuals who (conveniently) are available for study (Frankle and Wallen, 2012: 99). The reason of choosing this sampling method were because the writer had difficulty to select the sample randomly and more selecting the sample by using convenience sampling method was supposed that the samples who were willing to be observed, they would study seriously. The writer got two classes that were chosen by the headmaster of the school, those are IIIC which was treated as experimental group and IIIA which was treated as control group. The sample of the study was consisted of 32 students for experimental group and 32 students for control group so the total of sample was 64 students. Table 2 shows the sample of the study.

**Table 2**

**The Sample of the Study**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Class** | **Group**  | **Number of Students** |
| 1 | III.C | Experimental | 32 |
| 2 | III.A | Control | 32 |
| **Total** | **64** |

1. **Techniques for Collecting Data**
2. **Test**

 According to Arikunto (2010:193), a test is arrangement of questions or examine used to measure the student’s ability, science, intelligence, and aptitude.

* 1. **Pretest**

 Pretest was done before treatments were given. The pretest was administered to know students’ vocabulary achievement before treatments. Both control and experiment group answered fourty questions of vocabularies questions.

* 1. **Posttest**

 At the end of the experiment, the two groups, one experimental group and one control group, were given a post-test. The items for the pre-test and post-test covered the whole material given in the treatment.

1. **Research instrument analysis**
2. **Validity Test**

Validity refers to appropriateness, meaningfulness, correctness and usefulness of the inferences that researcher made (Fraenkel & Wallen, 1990: 147). The purpose of conducting validity test is to see whether the instruments are valid or not to be used in pre-test and post-test.

1. **Constructs Validity**

According to Wallace (1998:36), validity means testing what you are supposed to test, and not something else. In addition, Frankle and Wallen (1990:138) state that the term ‘validity” refers to the appropriateness, meaningfulness, and usefulness of any inferences of researcher draws based on the data obtained through the use of an instrument. Moreover, McMillan and Schumacher (2010:265) state that the term “construct validity” describe how well measured variables and interventions represent the theoretical constructs that have been hypothesized (i.e., construct validity of the effects and causes, respectively), that is how well is the theory supported by the particular measures and treatments.

There were three validators to validate this research instrument. The three validators were Drs. Herizal, MA as validator 1, M. Holandyah, M.Pd as validator II and Annisa Astrid, M.Pd as validator III.

From the result of the three validators of her test instrument and lesson plans, it can be stated that her test instrument and lesson plans were appropriate for her research study.

1. **Validity test of each question item**

In this study, to know the validity of the test the writer did try out of 60 multiple choice questions to the students of SD Negeri 2 Palembang on monday, 27 th of March 2014 at 01.00-02.30 p.m, the instruments of the test were tested to 30 students (III A) of the third grade students of SD Negeri 2 Palembang. From students’ answer, the correct answer was labelled 1, and the wrong answer was labelled 0.

From the result analysis of validity of each question item, it was found that there were 20 question items considered invalid. They were question item number 1, 2, 3, 6, 8, 15, 17, 18, 22, 27, 30, 33, 37, 41, 45, 46, 47, 54, 56 and number 59. Then, there were 40 question items were considered valid since the scores of significance are higher than 0.361. They are question item number 4, 5, 7, 9, 10, 11, 12, 13, 14, 16, 19, 20, 21, 23, 24, 25, 26, 28, 29, 31, 32, 34, 36, 38, 39, 40, 42, 43, 44, 48, 49, 50, 51, 52, 53, 55, 57, 58 and number 60. The result analysis of each question item was shown in the following table 3.

**Table 3**

**Result Validity of Each Question Items**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Validity Test** | **Sig. (2-tailed) of Pearson Correlation** | **r - table score** | **Result** |
| **1** | Item no 1 | 0 | 0.361 | Invalid |
| **2** | Item no 2 | 0.043 | 0.361 | Invalid |
| **3** | Item no 3 | 0.129 | 0.361 | Invalid |
| **4** | Item no 4 | 0.626 | 0.361 | **Valid** |
| **5** | Item no 5 | 0.663 | 0.361 | **Valid** |
| **6** | Item no 6 | 0.098 | 0.361 | Invalid |
| **7** | Item no 7 | 0.391 | 0.361 | **Valid** |
| **8** | Item no 8 | 0.161 | 0.361 | Invalid |
| **9** | Item no 9 | 0.795 | 0.361 | **Valid** |
| **10** | Item no 10 | 0.556 | 0.361 | **Valid** |
| **11** | Item no 11 | 0.745 | 0.361 | **Valid** |
| **12** | Item no 12 | 0.795  | 0.361 | **Valid** |
| **13** | Item no 13 | 0.795  | 0.361 | **Valid** |
| **14** | Item no 14 | 0.702 | 0.361 | **Valid** |
| **15** | Item no 15 | 0.260 | 0.361 | Invalid |
| **16** | Item no 16 | 0.556 | 0.361 | **Valid** |
| **17** | Item no 17 | 0.001  | 0.361 | Invalid |
| **18** | Item no 18 | 0.194 | 0.361 | Invalid |
| **19** | Item no 19 | 0.663 | 0.361 | **Valid** |
| **20** | Item no 20 | 0.663 | 0.361 | **Valid** |
| **21** | Item no 21 | 0.590 | 0.361 | **Valid** |
| **22** | Item no 22 | 0.129 | 0.361 | Invalid |
| **23** | Item no 23 | 0.626 | 0.361 | **Valid** |
| **24** | Item no 24 | 0.745 | 0.361 | **Valid** |
| **25** | Item no 25 | 0.745 | 0.361 | **Valid** |
| **26** | Item no 26 | 0.663 | 0.361 | **Valid** |
| **27** | Item no 27 | 0.293 | 0.361 | Invalid |
| **28** | Item no 28 | 0.702 | 0.361 | **Valid** |
| **29** | Item no 29 | 0.626 | 0.361 | **Valid** |
| **30** | Item no 30 | 0.098 | 0.361 | Invalid |
| **31** | Item no 31 | 0.745 | 0.361 | **Valid** |
| **32** | Item no 32 | 0.745 | 0.361 | **Valid** |
| **33** | Item no 33 | 0.043 | 0.361 | Invalid |
| **34** | Item no 34 | 0.663 | 0.361 | **Valid** |
| **35** | Item no 35 | 0.556 | 0.361 | **Valid** |
| **36** | Item no 36 | 0.702 | 0.361 | **Valid** |
| **37** | Item no 37 | 0.023 | 0.361 | Invalid |
| **38** | Item no 38 | 0.856 | 0.361 | **Valid** |
| **39** | Item no 39 | 0.626 | 0.361 | **Valid** |
| **40** | Item no 40 | 0.424 | 0.361 | **Valid** |
| **41** | Item no 41 | 0.161 | 0.361 | Invalid |
| **42** | Item no 42 | 0.663 | 0.361 | **Valid** |
| **43** | Item no 43 | 0.522 | 0.361 | **Valid** |
| **44** | Item no 44 | 0.745 | 0.361 | **Valid** |
| **45** | Item no 45 | 0.227 | 0.361 | Invalid |
| **46** | Item no 46 | 0.194 | 0.361 | Invalid |
| **47** | Item no 47 | 0.260 | 0.361 | Invalid |
| **48** | Item no 48 | 0.663 | 0.361 | **Valid** |
| **49** | Item no 49 | 0.702 | 0.361 | **Valid** |
| **50** | Item no 50 | 0.590 | 0.361 | **Valid** |
| **51** | Item no 51 | 0.590 | 0.361 | **Valid** |
| **52** | Item no 52 | 0.795 | 0.361 | **Valid** |
| **53** | Item no 53 | 0.856 | 0.361 | **Valid** |
| **54** | Item no 54 | 0.227 | 0.361 | Invalid |
| **55** | Item no 55 | 0.522 | 0.361 | **Valid** |
| **56** | Item no 56 | 0.194 | 0.361 | Invalid |
| **57** | Item no 57 | 0.626 | 0.361 | **Valid** |
| **58** | Item no 58 | 0.552 | 0.361 | **Valid** |
| **59** | Item no 59 | 0.001 | 0.361 | Invalid |
| **60** | Item no 60 | 0.745 | 0.361 | **Valid** |

1. **Content Validity**

Hughes (1989: 22) states that a test is said to have content validity if its content constitutes a representative sample of the language skills, structures, etc with which it is meant to be concerned. A content validity is very important since it is an accurate measure of what it is suppose to measure.

In order to know if the contents of the test items given were appropriate, the researchers suited them to content of the syllabus. Here, the writer used syllabus of Elementary School and the table specification which contained the items which were necessary to test in vocabulary selecting the appropriate text and items were used based on the syllabus that used in the school. The specification of vocabulary test is figured out in Table 4.

**Table 4**

**Test Specification**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Objective | Test Material | Indicator | Number of Items | Total | Type of Test | Answer Key |
| The students are able to respond the written meaning of vocabulary | Food and Drink | Students are able to:1. Choose the correct word to complete the sentence
2. Choose the appropriate word to show the meaning of picture.
 | 4,5,6,7,9,10,11,12,13,14 | 10 | Multiple choices | b, a,d,a, c,b,a,b,a, b |
| Occupation | 16,19,20,21,23 | 5 | a, b,a,d, b |
| Family | 24,25,26,28,29 | 5 | d,a,a,c,d |
| Part of the Body | 31,32,34,35,36,38,39,40,42,43 | 10 | a,b,d,c,a,d, b,a, b, d |
| Clothing | 44,49,50,51,52,53,55,57,58,60 | 10 | a,b,b,c,a,b,a,c, c, a |
| **Total** | **40** |  |

1. **Reliability Test**

According to Fraenkel and Wallen (1990:136), reliability refers to the consistency of the scores obtained how consistent they are for each individual from one administration of an instrument to another and from one set of items to another. It is measure whether research instruments used for pre-test and post-test activity is reliable or not. In order to get the reliability of test material, the writer used test-retest method in the third grade students of SD Negeri 2 Palembang. The tried out was conducted on April and tried out was once with the same instrument.

To test reliability of vocabulary test, the writer used test-retest method. Test-retest method measure the stability of test scores over time involves administering the same instrument twice to the same group of individuals after certain time has elapsed. The result of the Tryout was displayed in table 5.

**Table 5**

**The Result of Reliability Test**

|  |  |  |
| --- | --- | --- |
| **No** | **Students’ Name** | **Number of test** |
| **Test 1** | **Test 2** |
| 1. | Faiz | 65 | 60 |
| 2. | Shendy | 55 | 52 |
| 3. | Aprilia | 70 | 75 |
| 4. | Prayoga | 75 | 67 |
| 5. | Fadhillah | 55 | 55 |
| 6. | Rosihan  | 72 | 70 |
| 7. | Jauhari | 82 | 82 |
| 8. | Bambang  | 75 | 72 |
| 9. | Sinta  | 62 | 55 |
| 10. | Asyam | 75 | 77 |
| 11. | Aulia | 80 | 72 |
| 12. | Patri  | 62 | 65 |
| 13. | Sabrina | 80 | 82 |
| 14. | Marzuki | 47 | 52 |
| 15. | Khairan  | 67 | 70 |
| 16. | Aisyah | 62 | 65 |
| 17. | Violeta | 55 | 60 |
| 18. | Rangga | 82 | 85 |
| 19. | Zaki | 80 | 85 |
| 20. | Usen | 70 | 62 |
| 21. | Asimaliki | 77 | 72 |
| 22. | Dinda  | 55 | 60 |
| 23. | Fathi | 72 | 75 |
| 24. | echa | 65 | 70 |
| 25. | M. Rizki | 75 | 77 |
| 26. | Haikal | 75 | 80 |
| 27. | Nabilah | 72 | 75 |
| 28. | Fajri | 65 | 60 |
| 29. | Nurul  | 65 | 67 |
| 30. | Adelia | 80 | 85 |

Fraenkel and Wallen (1990:136), the score is considered reliable if the score of significance is at least or preferably higher than 0.70. To analyze the reliability of the test (instrument), the writer used Pearson Correlation program in SPSS 17.0 program. The distribution is shown in the following table 6:

**Table 6**

**The Result of Test-retest Method**

| Correlations |
| --- |
|  |  | test1 | test2 |
| test1 | Pearson Correlation | 1 | .891\*\* |
| Sig. (2-tailed) |  | .000 |
| N | 30 | 30 |
| test2 | Pearson Correlation | .891\*\* | 1 |
| Sig. (2-tailed) | .000 |  |
| N | 30 | 30 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

1. **Research treatments**

 Treatment was given after doing the pretest. In this study, the writer did the treatment by using *scavenger hunts* for experimental group. Experimental groups were taught for twelve meeting that took 70 minutes (2 x 35 minutes) for every meeting. Since the experiment group were done in twelve teaching periods, it took about 1 month altogether. The writer gave the treatments to the experimental group for five weeks with five materials. The writer used the Erlangga English text book to the third grade students. There were five topics, they were food and drink, occupation, part of body, and clothing. The treatments were given once a week based on the English lesson schedule. The experimental group was taught using *scavenger hunts*. The titles of the texts are described in Table 7:

**Table 7**

**Research Treatment for Experimental Group**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Research Treatment** | **Teaching****Materials** | **Meeting** | **Time** **Allocation** |
| **Experimental**  |
| **Date / Time** |
| 1. | April 29,201403.30-04.30 p.m | Food and Drink | 1st | 2 X 35” |
| 2. | April 30,201403.30-04.30 p.m | Food and Drink | 2nd | 2 X 35” |
| 3. | May6,201403.30-04.30 p.m | Occupation | 3rd | 2 X 35” |
| 4. | May 7,201403.30-04.30 p.m | Occupation | 4th | 2 X 35” |
| 5. | May 13,201403.30-04.30 p.m | Family | 5th | 2 X 35” |
| 6. | May 14,201303.30-05.00 p.m | Family | 6th | 2 X 35” |
| 7. | May 20,201403.30-05.00 p.m | Part of Body | 7th | 2 X 35” |
| 8. | May 21,201403.30-05.00 p.m | Part of Body | 8th | 2 X 35” |
| 9. | May 27, 201403.30-05.00 p.m | Part of Body | 9th | 2 X 35” |
| 10. | May 28, 201403.30-05.00 p.m | Clothing | 10th | 2 X 35” |
| 11. | June3, 201403.30-05.00 p.m | Clothing | 11th | 2 X 35” |
| 12. | July4, 201403.30-05.00 p.m | Clothing | 12th | 2 X 35” |

1. **Techniques for Analyzing Data**

The data obtained through the tests were computed and analyzed by using SPSS version 19.0. The technique for analyzing the data was described as follows.

1. **Data Descriptions**

In analyzing data, it presents data descriptions, prerequisite analysis, and result of testing hypothesis.

* 1. **Distributions of Frequency Data**

In distributions of frequency data, the students’ score interval, frequency, percentages were achieved. The distributions of frequency data are got from students’ pretest score in control group, students’ posttest score in control group, the students’ pretest score in experimental group, and students’ posttest score in experimental group.

* 1. **Descriptive Statistics**

In descriptive Statistics, number of sample, the score of minimal, maximal, mean, standard deviation, and standard error of mean are obtained. Descriptive statistics are got from students’ pretest score in control group, students’ posttest score in control group, students’ pretest score in experimental group, and students’ posttest in control group.

1. **Prerequisite Analysis**

Before analyzing the obtained data, pre-requisite analysis was done to see whether or not the data is normal and homogeny.

1. **Normality Test**

The analysis of normality test was conducted to find out whether the data of students’ pretest and posttest score in experimental and control groups are normal or not. *One Sample Kolmogronov-Smrinov* in SPSS 19.0 was used to analyze it. Normality test is used to measure the students’ pretest score in control and experimental group, and students’ posttest score in control and experimental group. The score data was normal if *p-output* is higher than 0.05 (Holandyah, 2013: 76).

1. **Homogeneity Test**

Homogeneity test was used to measure the scores obtained whether it was homogeny or not. The scores were categorized homogeny when the *p-output* was higher than 0.05 (Basrowi, 2007: 106). In measuring homogeneity test, Levene Statistics found in SPSS was used. The homogeneity test was used to measure students’ pretest score in control and experimental group, and students’ posttest score in control and experimental group.

1. **Hypothesis Testing**

 In hypothesis testing, measuring a significant difference on students’ vocabulary scores taught using *Scavenger Hunts*. Independent sample t-test was used. The significant difference was found from testing students’ posttest scores in control and experimental groups whenever the p-output is lower than mean significant difference at 0.05 levels.