**CHAPTER III**

**RESEARCH METODHOLOGY**

1. **Research Design**

It is a correlation research. Correlation research is a research which tries to see relationships among two or more variables without any attempt to influence them.[[1]](#footnote-1) Correlation research is also sometimes referred to as a form of descriptive research because it describes an existing relationship between two variables. According to Sugiyono correlation research is part of quantitative research. Quantitative research is explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistic).[[2]](#footnote-2) In this correlation research a researcher should give a test to know both vocabulary and listening ability. Then, data (scores) gain from the tests are analyzed to see whether vocabulary is related to listening comprehension.

1. **Variables of the Research**

The research consists of two variables:

1. Students’ vocabulary mastery as the independent variable (X)
2. Students’ listening comprehension as the dependent variable (Y)
3. **Operational Definition of Variable**

The operational definition of variable is used to explain the variables which are used in this research to avoid misconception of variables presented in this research.

The operational definitions of variable are follows:

1. The students’ vocabulary mastery is their ability to use the words that they have learned in certain situations which they really have experienced in their lives, including word meaning and word use with the theme of daily activities in the form of noun, verb, adjective, and adverb.
2. The students’ listening comprehension is the ability of the students to recognize grammatical word classes in listening. Good listening including recognizing word classes in the form of noun, verb adjective, and adverb.
3. **Population, Sample, and Sampling Technique**
4. **Population**

A population is defined as all members of class of people, events, or objects. The population of this research is all students at the first semester of the seventh grade students of MTs Diniyyah Putri Lampung in the academic year of 2017/2018.

**Table 4**

**The Number of Students at the Seventh Grade of**

**MTs Diniyyah Putri Lampung in the academic Year of 2017/2018**

|  |  |  |  |
| --- | --- | --- | --- |
| **No**  | **Class**  | **Gender** | **Total**  |
| **Female** |  |
| 1 | 1B 1 | 29 | 29 |
| 2 | 1B 2 | 30 | 25 |
| 3 | 1B 3 | 30 | 22 |
| 4 | 1B 4 | 32 | 25 |
| 5 | 1B 5 | 32 | 27 |
|  | **Total**  | 153 | 153 |

Source: *Documentation from English teacher of MTs Diniyyah Putri Lampung in the academic year of 2017/2018*

1. **Sampling Technique**

In this research, the researcher used cluster random sampling because the students in MTs Diniyyah Putri Lampung have the same chance to be selected as a sample.[[3]](#footnote-3) The name of the classes were written on a piece of paper and were rolled up, mixed them, and the researcher chose one of them.

1. **Sample**

The sample of this research was student of the seventh grade of MTs Diniyyah Putri Lampung in the academic year of 2017/2018. The researcher took 1B1 as a sample class.

1. **Data Collecting Technique**

The data of this research was collected by presenting the test to the students. The tests consist of two kinds: (1) vocabulary mastery test and (2) listening comprehension test. Later, after requested the students to finish the tests, the researcher collected all of the answer sheets and scored them. The test was conducted to see the students’ achievement in both variables.

1. **Research Instrument**

The instrument is a tool that used by the researcher in the research. The research instrument in this research was test. In this research, the researcher used two instruments: vocabulary test and listening comprehension test. The first instrument was vocabulary mastery test. Vocabulary test is a way to know students’ ability in vocabulary mastery. Thornbury said most of vocabulary tests target only one or two aspects of word knowledge. In this research, the researcher got the data by assessing meaning and use (part of speech) as described by Thornbury.[[4]](#footnote-4) The second instrument was listening comprehension test. Listening comprehension test is the test to know students’ ability in listening comprehension. In this research, the researcher assessed word classes such as verb, noun, adjective and adverb for listening test.[[5]](#footnote-5) The tests were to obtain the score vocabulary mastery and listening comprehension.

The test is describes as follows:

1. **Vocabulary Mastery Test**

The vocabulary mastery test is in form of multiple choices test with four options a, b, c, and d. Before the researcher gives try out test to students out of sample, the instrument consist of 40 items and each true answer is give score 1 and each false answer is give score 0.

**Table 5**

**The Specification of Test for Vocabulary Mastery before Validity**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Aspect** | **Material** | **Specification** | **Odd** | **Even** | **Total** |  **Item** | **number** |
|  |  |  |  |  |  |  | **Odd** | **Even** |  |
| 1 | Word use | Noun | Concrete | 3 | 2 | 5 | 3, 7, 35 | 6, 8 |
|  |  | Verb | Predicating | 1 | 3 | 4 | 27 | 12, 20, 24 |
|  |  |  | Linking | 1 | 0 | 1 | 13 | - |
|  |  | Adverb | Frequency | 1 | 1 | 2 | 25 | 36 |
|  |  |  | Time | 1 | 0 | 1 | 39 | - |
|  |  |  | Manner | 0 | 1 | 1 | - | 40 |
|  |  | Adjective |  | 3 | 3 | 6 | 19,23,33 | 28, 30, 34 |
| 2 | Meaning | Noun | Common | 1 | 1 | 2 | 1 | 38 |
|  |  |  | Concrete | 3 | 2 | 5 | 11,15,31 | 2, 10 |
|  |  |  | Countable | 3 | 0 | 3 | 5, 9, 37 | - |
|  |  |  | Abstract | 0 | 1 | 1 | - | 22 |
|  |  | Verb | Auxiliary | 0 | 2 | 2 | - | 4, 32 |
|  |  |  | Intransitive | 1 | 2 | 3 | 17 |  14, 26 |
|  |  |  | Transitive | 0 | 1 | 1 | - | 16 |
|  |  |  | Predicating | 2 | 1 | 3 | 21, 29 | 18 |
|  | **Total** |  |  | **10** | **10** |  |  |  |

Based on the table, it can be concluded that there were 40 questions for tryout vocabulary mastery test. In word use noun, verb, adjective, and adverb, there were 10 odd questions and 10 even questions. The total was 20 questions. In odd question, they were 3, 7, 13, 19, 23, 25, 27, 33, 35, and 39, while in even question, they were 6, 8, 12, 20, 24, 28, 30, 34, 36, and 40. Then in meaning there were 10 odd questions and 10 even questions. The total was 20 questions. In odd question, they were 1, 5, 9, 11, 15, 17, 21, 29, 37, and 31, while in even question, they were 2, 4, 10, 14, 16, 18, 22, 26, 32, and 38.

Furthermore, the test items for test after try out were specification as follows:

**Table 6**

**The Specification of Test for Vocabulary Mastery after Validity**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Aspect** | **Material** | **Specification** | **Odd** | **Even** | **Total** |  **Item** | **Number**  |
|  |  |  |  |  |  |  | **Odd** | **Even** |
| 1 | Word use | Noun | Concrete | 1 | 1 | 2 | 5 | 2 |
|  |  | Verb | Predicating | 1 | 1 | 2 | 11 | 8 |
|  |  | Adverb | Frequency | 1 | 0 | 1 | 17 | - |
|  |  |  | Manner | 0 | 1 | 1 | - | 18 |
|  |  | Adjective |  | 1 | 2 | 3 | 15 | 14, 20 |
| 2 | Meaning | Noun | Concrete | 2 | 1 | 3 | 1, 7 | 4 |
|  |  |  | Countable | 1 | 1 | 2 | 19 | 6 |
|  |  |  | Abstract | 0 | 1 | 1 | - | 12 |
|  |  | Verb | Auxiliary | 1 | 0 | 1 | 3 | - |
|  |  |  | Predicating | 1 | 2 | 3 | 9 | 10, 16 |
|  |  |  | Intransitive | 1 | 0 | 1 | 13 | - |
|  | **Total** |  |  | **10** | **10** |  |  |  |

Based on the table, it can be concluded that there were 20 questions for vocabulary mastery test. In word use noun, verb, adjective, and adverb, there were 4 odd questions and 4 even questions. The total was 8 questions. In odd question, they were 5, 11, 15, and 17, while in even question, they were 2, 8, 14, and 18. Then in meaning there were 6 odd questions and 6 even questions. The total was 12 questions. In odd question, they were 1, 3, 7, 9, 13, and 19, while in even question, they were 4, 6, 10, 12, 16 and 20

1. **Listening Comprehension Test**

The listening comprehension test is in form of multiple choices test with four options a, b, c, and d. Before the researcher gives try out test to students out of sample, the instrument consist of 40 items and each true answer is give score 1 and each false answer give score 0.

**Table 7**

**The Specification of Test for Listening Comprehension before Validity**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Aspect** | **Material**  | **Odd** | **Even** | **Total** | **Item Number** |
| **Odd** | **Even** |
| 1 | Recognizing grammatical word classes | Noun | 5 | 5 | 10 | 3, 7, 23, 33, 35 | 12, 20, 22, 26, 34 |
|  |  | Verb | 6 | 4 | 10 | 1, 5, 15, 17, 19, 21 | 4, 24, 30, 32 |
|  |  | Adverb  | 5 | 5 | 10 | 9, 11, 25, 37, 39 | 18, 28, 36, 38, 40 |
|  |  | Adjective  | 4 | 6 | 10 | 13, 27, 29, 31 | 2, 6, 8, 10, 14, 16 |
|  | **Total**  |  | **20** | **20** | **40** |  |  |

Based on the table, it can be concluded that there were 40 questions for tryout listening comprehension test. In word classes noun, verb, adjective, and adverb, there were 20 odd questions and 20 even questions. The total was 40 questions. In odd question, they were 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, and 39, while in even question, they were 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, and 40.

Furthermore, the test items for test after try out were specification as follows:

**Table 8**

**The Specification of Test for Listening Comprehension after Validity**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Aspect** | **Material**  | **Odd** | **Even** | **Total** | **Item Number** |
| **Odd** | **Even** |
| 1 |  Recognizing grammatical word classes | Noun | 3 | 2 | 5 | 9, 11, 17 | 4, 16 |
|  |  | Verb | 3 | 3 | 6 | 1, 7, 15 | 8, 10, 12 |
|  |  | Adjective  | 2 | 3 | 5 | 5, 13 | 2, 6, 14 |
|  |  | Adverb  | 2 | 2 | 4 | 3, 19 | 18, 20 |
|  | **Total**  |  | **10** | **10** | **20** |  |  |

Based on the table, it can be concluded that there were 20 questions for listening comprehension test. In word classes noun, verb, adjective, and adverb, there were 10 odd questions and 10 even questions. In odd question, they were 1, 3, 5, 7, 9, 11, 13, 15, 17, and 19, while in even question, they were 2, 4, 6, 8, 10, 12, 14, 16, 18, and 20.

1. **Procedure of the Research**

In conducting the research, the researcher will do the following steps:

1. Determining the population

The researcher determined the population. In this research, the researcher chose the first semester of the seventh grade students of MTs Diniyyah Putri Lampung in the academic year of 2017/2018 as the population of the research.

1. Finding the sample

Population of the research was all of the students of the first semester of seventh grade of MTs Diniyyah Putri Lampung, and the researcher chose one class as the sample of the research.

1. Determining the instrument

The researcher determined the instruments of the research in the form of multiple choice tests.

1. Trying out the instrument

The researcher gave try out to the students out of sample of the research, it is to know the level of the validity and reliability of the instrument. After having the validity and reliability of the instrument, next the researcher was distributed the instrument to collect the data for the sample of the research.

1. Distributing the instrument

After having valid and reliable instruments of the test, the researcher distributed the test to the students.

1. Analyzing the data

The data were analyzed by using the formula to investigate whether there is positive correlation between students’ vocabulary mastery and listening comprehension.

1. **Scoring Procedure**

In scoring the vocabulary mastery and listening comprehension test, the researcher uses a multiple choice test consist of 20. The formula is:

Score: $\frac{\sum\_{}^{}B}{N} ×100$

Notes:

$\sum\_{}^{}B$ : total of the test which is correct

N : total of the test[[6]](#footnote-6)

1. **Validity and Reliability**
2. **Validity of the Test**

Validity is the most important idea to consider where preparing or selection an instrument for use.[[7]](#footnote-7) An instrument can be said valid when it can measure what it wants to measure. In other words, an instrument can be said valid if it can show the data of variables that are being research correctly. To know the validity of test, it was provided content, construct, and internal validity. In this case, the validity of the test was calculated by using anates. Anates is application program capable of calculating the analysis for multiple choice and essay quickly, easily and accurately.[[8]](#footnote-8)

1. Content Validity

Best and Kahn say that content validity refers to the degree to which the test actually measures, or is specifically related to, the traits for which it was design, content validity is based upon the careful examination of course textbook, syllabus, objectives, and the judgments of subject matter specialists.[[9]](#footnote-9) It means that the content validity is based on the material, and the material is agreement with the objectives of learning. To get the content validity test, it was tried to arrange the material based on the objectives of teaching in the school based on curriculum for seventh grade of MTs Diniyyah Putri Lampung. The syllabus can be seen in Appendix 6.

1. Construct Validity

Construct validity is the clear relatedness of a test item to its proposed construct/unobservable quality or trait, demonstrated by both empirical data and logical analysis and debate, i.e. the extent to which particular constructs or concepts can give an account for performance on the test.

The validity of vocabulary mastery sheet and listening comprehension sheet were given to the English teacher as a validator. Validity was conducted in order to see clarity of the aspect, direction of the test and to see clarity of the items. It can be seen in appendix.

1. Internal Validity

Internal validity is observed differences on the dependent variable are directly related to the independent variable, and not due to some other unintended variable.[[10]](#footnote-10) It means that internal validity is used to evaluated whether variables affects each other. To determine whether variables affect, the researcher needs to do a treatment try out.[[11]](#footnote-11) In this research, try out the test was conducted on December 7th, 2017. The try out test was prepared in form of multiple choice questions in 40 items for each test. The result validity analysis shows that there were 20 items from 40 items for each test.

Based on the result obtained in the anates, the result of validity test for vocabulary mastery test showed that there were 20 items considered valid they were 2, 4, 5, 8, 9, 10, 18, 19, 20, 21, 22, 23, 26, 27, 28, 29, 35, 36, 37, 40. And the result of validity test for listening comprehension test also show there were 20 items considered valid they were 1, 2, 9, 12, 13, 14, 17, 19, 21, 22, 23, 24, 29, 30, 31, 34, 35, 36, 39, 40.

1. **Reliability**

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.[[12]](#footnote-12) A good test must have high reliability besides having high validity. To get the reliability of the test the researcher used anates. The criteria of reliability as follows:

0.800 – 1.000 : very high reliability

0.600 – 0.800 : high reliability

0.400 – 0.600 : fair reliability

0.200 – 0.400 : low reliability

0.000 – 0.200 : very low reliability

Based on the result obtained in the anates of reliability that reliability test in vocabulary mastery was 0.83 and listening comprehension was 0.81. It can be conclude that reliability of vocabulary mastery and listening comprehension were very high and both of them were reliable.

1. **Data Analysis**
2. **Normality of Test**

The normality of test is use to measures whether the data normal distributes or not. In this research, the researcher used statistical computation by using SPSS (*Statistical Package for Social Science*) of version 16 was used for normality test. SPSS is a comprehensive system for analyzing data. SPSS can take data from almost any type of file and use them to generate tabulated reports, chart and plots of distributions and trends, descriptive statistics and complex statistical analysis.[[13]](#footnote-13) In this case, the criteria of normality test as follow:

The hypothesis formulas are:

H0 : The data are normally distributed.

Ha : The data are not normally distributed.

While the criteria acceptance or rejection of normality test are:

H0 is accepted if sig ˃ α = 0.05

Ha is accepted if sig ˂ α = 0.05

1. **Linearity Test**

Linearity test is used to know the size of the linear relationship between two variables x and y. Before analyzing the data by using Pearson product moment formula, the first checked out whether the data obtained were linear or not because this was one of requirements to be able to use the Pearson product moment formula. In this case, linearity test used SPSS (*Statistical Package for Social Science*) to check it in order to make the researcher easy. Then the result of linearity checked by comparing with significant level (α = 0.05). If the result was higher than α, it means that the data were linear.

1. **Hypothetical Test**

The hypothesis is very important to find out whether or not the alternative hypothesis (Ha) or null hypothesis (H0) is accepted in this research. In this case, statistical computation by using SPSS (*Statistical Package for Social Science*) of version 16 was used for hypothetical test. The criteria acceptance or rejection of normality test are:

Ha is accepted if sig ˂ α = 0.05

H0 is accepted if sig ˃ α = 0.05

The hypotheses are:

Ha : There is a correlation between students’ vocabulary mastery and listening comprehension.

H0 : There is no correlation between students’ vocabulary mastery and listening comprehension.

1. Jack R. Fraenkel, *How to Design and Evaluate Research and Education*, (New York: McGraw Hill Book Co, 2009) p. 328 [↑](#footnote-ref-1)
2. Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*, (Bandung: Alfa Beta, 2017) p. 7 [↑](#footnote-ref-2)
3. Margono, *Metode Penelitian Pendidikan*, (Jakarta: Renika Cipta, 2004) p. 127 [↑](#footnote-ref-3)
4. Scott Thornbury, *How to Teach Vocabulary*, (England: Longman, 2002) p. 130 [↑](#footnote-ref-4)
5. H. Douglas Brown, *Language Assessment*, (San Francisco: Longman, 2003) p. 126 [↑](#footnote-ref-5)
6. Sumarna Suraprana, *Panduan Penulisan Test Tertulis Implementasi Kurikulum*, (Jakarta: Rosda, 2004) p.176 [↑](#footnote-ref-6)
7. Jack R. Fraenkel and Norman E. Wellen*. How To Design and Evaluate Research in Education*, (New York: McGraw Hill Book Co, 1932) p. 147 [↑](#footnote-ref-7)
8. Muchammad Aruf, Penerapan Aplikasi Anates, *Jurnal Ilmiah Edutic*, Vol. 1, No.1, 2014, p. 5 [↑](#footnote-ref-8)
9. John W. Best and James V. Kahn. *Research in Education* (10th Ed.), (New York: Pearson Education Inc., 2006), p. 219 [↑](#footnote-ref-9)
10. *Ibid.* p. 166 [↑](#footnote-ref-10)
11. Ag. Bambang Setiyadi, *Metode Penelitian untuk Pengajaran Bahasa Asing Pendekatan Kuantitatif dan Kualitatif*, (Yogyakarta: Graha Ilmu, 2006), pp. 126-127 [↑](#footnote-ref-11)
12. Jack R. Fraenkel and Norman E. Wallen, *Op.Cit.*p. 154 [↑](#footnote-ref-12)
13. Marija Norusis, *SPSS Base 16.0 User’s Guide*, (Chicago: Prentice-Hall, 2007) p. 3 [↑](#footnote-ref-13)