III. METHOD

This chapter discusses some aspects. They are classified like the following: research design, population and sample, data collecting technique, validity and reliability, scoring criteria, procedure of data collecting technique, data analysis and hypothesis test.

3.1. Design

In this research, the researcher would find out the correlation between vocabulary learning strategy and vocabulary size. This research would take the vocabulary size as the dependent variable and vocabulary learning strategy used by learners as the independent variable. According to Setiyadi (2006), the design of the research was as follows:

\[ T1 \rightarrow T2 \]

Where:

T1 = Vocabulary learning strategy

T2 = Vocabulary size

3.2. The Variables

This research consisted of the following variables:
1. The students’ vocabulary size (Y), and

2. Students’ vocabulary learning strategy (X)

3.3. Population and Sample

In this research, the students of the second grade at MAN 1 Bandar Lampung would be taken by the researcher as the population. There are eleven classes of the second grade. The number of the students of each class is approximately 40 students. Three classes namely XI IIS 2, XI MIA 2, and XI MIA 4 of second grade at the MAN 1 Bandar Lampung would be used by the researcher as the subject to collect the data.

3.4. Data Collecting Techniques

In collecting the data, the researcher used:

1. Questionnaire

After deciding the subject, the researcher would give the questioner to the subject. To find out what type of vocabulary learning strategies they use. There were several questions and the students had to checklist the optional honestly.

2. Vocabulary Size Test

This step was done after the researcher had given the questioner to the subject. The researcher would give vocabulary test to find out their vocabulary size.
3.5. Instruments

This current study would use two instruments, that was, vocabulary learning strategy questionnaire and vocabulary size test.

3.5.1. Vocabulary Learning Strategy Questionnaire

This questionnaire required 30 minutes to be answered. The questionnaire items were intended to measure the VLS preferences under five categories of strategies, i.e, determination, social, memory, cognitive, and metacognitive strategies. The questionnaire instruments consisted of 30 items, there would be 6 questions for each strategy. It was designed specifically based on Schmitt’s (1997) taxonomy of L2 vocabulary learning and used by the previous research by Kallayanasute (2011). The questionnaire test given to the students had been translated into Indonesian in order to facilitate the students in understanding the questionnaire.

After deciding the subject, the researcher gave the questionnaire to the sample. In addition, the result of the questionnaire was scored based on Likert Scale. The scores ranged from 1-5. There are five options to answer the question in one item of questionnaire. They are 1 (never use it), 2 (seldom use it), 3 (sometimes use it), 4 (often use it), and 5 (always use it). The following scales were used to indicate the frequency of the usage of each strategy:

Directions:

- This of vocabulary learning strategies is designed for students who learn English as a foreign language. You will find about vocabulary learning strategies. Please read each statement.
• Put (✓) in the box (4, 3, 2, 1, or 0) that tells the degree of opinion on the
strategies you use to learn English vocabulary. Please mark the statement that
most describe you.

0 = never use it
1 = seldom use it
2 = sometimes use it
3 = often use it
4 = always use it

3.5.2. Vocabulary Size Tests

*Receptive Vocabulary Level Test (RVLT)* which was originally created by Nation
(1983; 1990), revised and expanded by Schmitt, and Clapham (2001) would be
used by the researcher. It is considered that RVLT is as a ‘nearly’ standard test
since there is no truly standard test for vocabulary. This test categorizes the
knowledge of vocabulary based on the word frequency: 2,000 word level, 3,000
word level, 5,000 word level, and 10,000 word level.

Normally, in curriculum, there is a core, basic competence and goal that define
that in second grade of senior high school students, the students must achieve
3000 words of vocabulary. It is in line with Senior High School English
Curriculum Guidelines (1996) that senior high school students are expected to
learn 2,800 words.
The test would be given to the subject of in order to measure their vocabulary size. The receptive version of VLT named RVLT was created to measure a controlled receptive vocabulary. The test is a mixed version of the original new version of Vocabulary Size Test designed by Schmitt and Clapham (2000). The format of the test is like the following example (with the expected answers):

1. birth
2. dust  5. game
3. operation  6. winning
4. row  1. being born
5. sport
6. victory

The test aimed to measure receptive vocabulary size through word recognition. Basically, to measure word knowledge, it includes spelling, word associations, grammatical information and multiple meanings of the target words. This test does not measure deep lexical knowledge because according to Nation (1990), word recognition measures only taps into a small part of the complexity of the vocabulary knowledge of any given language learners, a word recognition count can be a useful indication of the outer limits of the learner’s vocabulary knowledge.

3.6. Validity of the Instrument

Generally, the validity of a test shows how far the test measures what is supposed to be measured (Setiyadi, 2006). Validity can be defined as the degree to which a test actually test what it is intended to test.
3.6.1 The Validity of Questionnaire

The composition of the questionnaire items was presented in the table of specification below.

Table 3. Specification of VLS Questionnaire

<table>
<thead>
<tr>
<th>Strategy Measured</th>
<th>Number of Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determination</td>
<td>1-6</td>
</tr>
<tr>
<td>Social</td>
<td>7-12</td>
</tr>
<tr>
<td>Memory</td>
<td>13-18</td>
</tr>
<tr>
<td>Cognitive</td>
<td>19-24</td>
</tr>
<tr>
<td>Metacognitive</td>
<td>25-30</td>
</tr>
</tbody>
</table>

Table 3. showed that all of aspects of vocabulary learning strategies had been included in the questionnaire. Thus, it was considered that the construct validity of the questionnaire had been standardized.

3.6.2 The Validity of Vocabulary Test

Validity is a matter of relevance. It can be said that validity is the test measures what is claimed to measure. To measure whether or not, the test is good. It can be analyzed from its content validity and construct validity. The construct validity of VLT was analyzed by Schmitt, and Clapham’s (RVLT) Laufer and Nation’s (PVLT).

The analysis of validity by using Pearson Product Moment formula showed that all items in the questionnaire of vocabulary learning strategies were valid (Appendix 2). The $r$ values of the 30 statements were above the $r$ table (2.048).
Therefore, the questionnaire was used completely as what had originally been conducted from the previous research (Kallayanasute, 2011).

3.7. The Reliability of the Instruments

Reliability is the overall consistency of a measure. A measure is said to have a high reliability if it produces similar results under consistent conditions.

3.7.1 The Reliability of the Questionnaire

The questionnaire was scored according to Likert scale and the reliability of the questionnaire was measured by using Cronbach Alpha Coefficient, since it is the most common scoring to assess the consistency of the indicators in the questionnaire. Having analyzed the items, the computation showed the reliability coefficient of the questionnaire was 0.809.

Table 4. The Reliability of Questionnaire

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
</tr>
<tr>
<td>Cronbach's Alpha Based on Standardized Items</td>
</tr>
<tr>
<td>N of Items</td>
</tr>
<tr>
<td>0.809</td>
</tr>
<tr>
<td>0.800</td>
</tr>
<tr>
<td>30</td>
</tr>
</tbody>
</table>

The Cronbach’s Alpha score was 0.809 meaning that all items were reliable and that the questionnaire could be used to investigate the students’ vocabulary learning strategies see (Appendix 6). As Nunally (1978) offered a rule of thumb for Cronbach’s Alpha Score minimum for reliable items was 0.7.
3.7.2 The Reliability of Vocabulary Test

The split-half method was used to estimate the reliability. The test was classified into two similar parts (the odd-numbered items and the even-numbered items). By splitting the test into two similar parts, it was supposed as if the whole tests had been taken twice. The calculation showed that the reliability coefficient of the test was $= 0.847$ (Appendix 7). This instrument was regarded as a very high reliable test to be used in the research since the range of very high criteria in the criteria of reliability was $0.80 – 1.00$ (Arikunto, 1998: 260).

3.8. The Difficulty level of the Test Items

Difficulty level relates to how easy or difficult the item is from the point of view of the students who take the test. It is important since the items, which are too easy (that students get right) can tell us nothing about differences within the test population. To see the level difficulty, the research used the formula as follow:

\[
LD = \frac{R}{N}
\]

in which:

LD : Level of Difficulty

R : the number of students who answer correctly

N : the total of students following the test

The criteria are:
• Less than 0.30 = difficult
• 0.30-0.70 = middle (good item)
• More than 0.70-1.00 = easy

(Shohamy, 1985)

Based on the statements above, it is clear that all the test item should base on the criteria above and the items which do not fulfill the requirements should be omitted or revised.

The result of difficulty level of the vocabulary size try-out test showed that there were 9 easy items, 48 average items, and 3 difficult items in this instrument. Below is the table displaying the difficulty level of the vocabulary size try-out test.

Table 5. Difficulty Level of the Vocabulary Size Try-out Test

<table>
<thead>
<tr>
<th>Classification</th>
<th>Items</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy</td>
<td>5, 8, 13, 25, 28, 49, 50, 53, 60</td>
<td>15%</td>
</tr>
<tr>
<td>Average</td>
<td>1, 2, 3, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 29, 30, 31, 32, 33, 34, 36, 37, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 51, 52, 54, 55, 56, 57, 58, 59</td>
<td>81.67%</td>
</tr>
<tr>
<td>Difficult</td>
<td>4, 27, 38</td>
<td>3.33%</td>
</tr>
<tr>
<td>Total</td>
<td>60 items</td>
<td>100%</td>
</tr>
</tbody>
</table>

3.9. Discrimination Power of the Test

Discrimination power refers to the extent to which the item differentiates between high and low level students on the test. A good item according to this criterion is one in which good students did well, and bad students failed (Shohamy, 1985). To
calculate the discrimination power (DP) of the test items, the following formula was used by the researcher:

\[ DP = \frac{U - L}{\frac{1}{2}N} \]

In which,

DP: Discrimination Power
U: the total of correct answer of the higher group
L: the total of correct answer of the lower group
N: total number of students

(Shohamy, 1985)

The criteria are:
0.00- 0.20 = Poor
0.21- 0.40 = Satisfactory
0.41- 0.70 = Good
0.70- 1.00 = Excellent (should be omitted)

The Discrimination Power of the vocabulary size try-out test showed that there were 33 good items, 14 satisfactory items, and 13 excellent items. The following table presents the distribution of discrimination power of this instrument.

Table 6. Discrimination Power of Vocabulary Size Try-out Test

<table>
<thead>
<tr>
<th>Classification</th>
<th>Items</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>1,2,6,7,8,12,13,14,16,17,18,19,20,22,23,24,25,26,28,27,30,36,37,39,40,41,45,46,49,52,57,58,60</td>
<td>55%</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>4, 5, 9, 15,38,42,43,44,50,51,53, 54,55,59</td>
<td>23.33 %</td>
</tr>
<tr>
<td>Excellent</td>
<td>3,10,11,21,27,31,32,33,34,35,36,47,48</td>
<td>21.67 %</td>
</tr>
<tr>
<td>Total</td>
<td>60 Items</td>
<td>100%</td>
</tr>
</tbody>
</table>
Due to the analysis result on the difficulty level and the discrimination power described above, the test would be administered by the researcher to measure the students’ vocabulary size.

3.10. Scoring System

In scoring students’ result of the test, Percentage Score was used. The ideal highest score was 100. The score of vocabulary size calculated by using as follow:

\[
S = \frac{r}{n} \times 100
\]

Where:

S = the score of the test
r = the total of the right answer
n = the total of test items

3.11. Research Procedures

To conduct the research, some procedures would be used by the researcher. It started from determining the research problem to making a report and discussion of findings. The procedures of the research were as follows:

1. Constructing the instruments for getting appropriate test items.
2. Selecting the population and sample for getting appropriate test items.
3. Trying of two kinds of the instruments (test of vocabulary size and vocabulary learning strategies questionnaire) in order to check its validity, reliability, difficulty level and discrimination power.
4. Identifying which test items that appropriate for getting the data (see from the difficulty level and discrimination power).
5. Giving those tests to the students in order to identify the vocabulary size and the use of vocabulary learning strategies.

6. Scoring the students’ test in order to find how far the students can answer all the test items.

7. After getting all the data, the researcher will analyze the data by using SPSS to know the result.

8. The last, making the conclusion of the research.

3.12. Data Analysis

Some steps had been made before the research was conducted by using tests, the Correlation in SPSS (Statistical Program for Social Science) would be used as the tool to analyze the data. The data would be taken by looking at the result of test of vocabulary size and questionnaire of vocabulary learning strategies. The result of the test would be in form of score or interval data. The correlation between students’ vocabulary learning strategies and their vocabulary size would be analyzed at last.

3.13. Hypothesis Testing

After finding the coefficient correlation between vocabulary learning strategy and vocabulary size, the researcher used the criterion of hypothesis acceptance. The hypotheses would be proposed by the researcher as follows:
H₀ = \text{value} < \text{table} \\
- There is no correlation between the use of vocabulary learning strategy and vocabulary size among English foreign language learners. We can accept this hypothesis if \text{value} is lower than \text{table}.

H₁ = \text{value} > \text{table} \\
- There is correlation between the use of vocabulary learning strategy and vocabulary size among English foreign language learners. We can accept this hypothesis if \text{value} is higher than \text{table}.

This chapter has explained the overview of research design, population and sample, instrument, criteria of good vocabulary learning strategies questionnaire and vocabulary size test, research procedure, data analysis, hypothesis testing that would be applied in this research. The next chapter discusses about result and discussion of this research.