CHAPTER IV
RESEARCH FINDING AND DISCUSSION

This chapter is going to present the data description of research. Those
description are used to answer the problem that stated before, namely “can the
Frayer Model technique enrich the students’ English vocabulary?”

4.1 Research Findings

4.1.1 The Description of Finding

The data of this research was collected by using the test instrument. The
test had 30 items. The test was consist of the multiple choice form and matching
test. In the testing the validity of the test, from the total of 40 items given to the
students, I found 8 invalid items; they are 8, 11, 18, 20, 26, 33, 36 and 38. It
means that, there were 32 items were valid. They are 1, 2, 3, 4, 5, 6, 7, 9, 10, 12,
13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 34, 35, 37, 39 and
40. But, in the instrument test there are only 30 items which is given to the
students. It is because I just focused on 30 items. In addition, the calculation of the
validity testing showed in appendix 5 and appendix 6.

Then, after I applied the formula of reliability testing, I found that the
value of reliability testing or $r_{ll} = 0.98$ (shown in appendix 7). Therefore, I
compare the value of $r_{list}$ in product moment for the respondent (n) = 30. In fact,
it was found that $t_{list}$ value was 263.87 (shown in appendix 7). Based on the
criteria above, it is clear that the instrument is reliable and could be categorized
into very high category.
4.2 The Description of the Data

4.2.1 The Description of Pre-Test Data

Before the treatment is applied, I gave pre-test for the students. The number of sample in the pre-test is 30 students. After calculating the students’ result in the pre-test, I found that the students’ highest score is 22 and the students’ lowest score is 5. I also found the range of class interval (R) is 17, the amount of class interval (K) is 6, and the wide of class interval (P) is 2.8 (= 3). Moreover, the mean of score ($\bar{X}$) is 14.9, and the standard deviation ($S_1$) is 2.88 (see appendix 12).

The description was clear by providing the students’ score in pre-test vocabulary in the following table.

Table 1. The Students’ Score in Pre-Test

<table>
<thead>
<tr>
<th>The Score of Pre-Test</th>
<th>F. Absolute</th>
<th>F. Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 - 7</td>
<td>1</td>
<td>3.33%</td>
</tr>
<tr>
<td>8 - 10</td>
<td>2</td>
<td>6.67%</td>
</tr>
<tr>
<td>11 - 13</td>
<td>10</td>
<td>33.33%</td>
</tr>
<tr>
<td>14 - 16</td>
<td>7</td>
<td>23.33%</td>
</tr>
<tr>
<td>17 - 19</td>
<td>5</td>
<td>16.67%</td>
</tr>
<tr>
<td>20 - 22</td>
<td>5</td>
<td>16.67%</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100%</td>
</tr>
</tbody>
</table>

Based on the table 1. above can conclude that the students’ score in pre-test can be described into six interval classes, namely the students who obtained score from 5-7 are 1 student or 3.33%, score from 8-10 are 2 students or 6.76%, score from 11-13 are 10 students or 33.33%, score from 14-16 are 7 students or 23.33%, score from 17-19 and score from 20-22 are 5 students or 16.67%.
Based on the interval, it can be concluded that the most of students’ score in pre-test is score between 11-13 with frequency 10 students or 33.33% and score between 14-16 with frequency 7 students or 23.33%. To make the explanation more clearly, I present the graphic of students’ score in the pre test as shown below:

**Figure 1**

**The Graphic of Students’ Score in the Pre-Test**

**The Percentage of Interval Frequency in the Pre-Test**

The figure 1. shown that the students score in pre-test is divided into six interval classes and interval score 11-13 present the highest frequency by the number of student are 10 students. The frequency of the interval classes of pre-test 14-16 is indicate on the first middle frequency with the frequency absolute is 7. Futhermore, the second middle frequency of the interval classes of pre-test above is 17-19 and 20-22 with the number of students are 5 students. Then, the lowest frequency is interval 5-7 and 8-10 with the number of student is 1 and 2 students.
4.2.2 The Description of Post-Test Data

Post-test data was given after the treatment. The number of sample in the post-test is 30 students. After calculating the students’ result in the post-test, I found that the students’ highest score is 27 and the students’ lowest score is 12. I also found the range of class interval \((R)\) is 15, the amount of class interval \((K)\) is 6, and the wide of class interval \((P)\) is 2.5 \((= 3)\). Moreover, the mean of score \((\bar{X})\) is 20.6, and the standard deviation \((S_1)\) is 3.13 (see appendix 16).

The result of the students’ score in the post–test can be seen in the following table below:

**Table 2. The Students’ Score in the Post-Test**

<table>
<thead>
<tr>
<th>The Score of Pre-Test</th>
<th>F. Absolute</th>
<th>F. Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 – 14</td>
<td>1</td>
<td>3.33%</td>
</tr>
<tr>
<td>15 – 17</td>
<td>2</td>
<td>6.67%</td>
</tr>
<tr>
<td>18 – 20</td>
<td>14</td>
<td>46.67%</td>
</tr>
<tr>
<td>21 – 23</td>
<td>8</td>
<td>26.67%</td>
</tr>
<tr>
<td>24 – 26</td>
<td>4</td>
<td>13.33%</td>
</tr>
<tr>
<td>27 – 29</td>
<td>1</td>
<td>3.33%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

The table 2. above shown that the students score in post-test can be distributed into six interval classes, namely the students who obtained score from 12-14 and score from 27-29 are 1 student or 3.33%. Then, score from 15-17 is 2 students or 6.67%, score from 18-20 is 14 students or 46.67%, score from 21-23 is 8 students or 26.67% and score from 24-26 is 4 students or 13.33%.

Based on the interval, it can be concluded that the most of students’ score in post-test is score between 18-20 with frequency 14 students or 46.67% and
score between 21-23 with frequency 8 students or 26.67%. To make clear about the data it is also explained in graphic of post-test data below.

**Figure 2**

The Graphic of Students’ Score in the Post-Test

The Percentage of Interval Frequency in the Post-Test

The figure 2. shown that the students score in post-test is divided into six interval classes and interval score 18-20 present the highest frequency and interval score from 12-14 and 27-29 present the lowest frequency. In this figure also shown that there are 14 students or 46.67% who get the score 18-20, 8 students or 26.67% who get the score 21-23, 4 students or 13.33% who get the score 24-26, 2 students or 6.67% who get the score 15-17 and only 1 student or 3.33% who get the score 12-14 and score 27-29.

Furthermore, based on explanation above, the result of the students’ score in pre-test data and post-test data are different. In this case, the students’ score in
post-test is higher than the students’ score in pre-test. In other words, there was
increase the students’ mastering of vocabulary after applying Frayer Model
technique. So, it can be conclude that by giving Frayer Model technique in
treatment, it can be enrich students’ English vocabulary.

4.3 The Analysis of the Data

In analyzing the normality of the data, I used Liliefors method. In this part,
I analyzed the normality of pre-test data and normality of post-test data. The
calculation of analysis can be seen below:

4.3.1 Normality Analysis Pre-Test

The criteria analysis accepted if \( L_0 \) is smallest \( L_{list} \) (\( L_0 \leq L_{list} \)). After I
analyzed and calculating the data, I found that the mean of score (\( \bar{X}_1 \)) is 14.9 and
the standar deviation (\( S_2 \)) is 2.88 (see appendix 13). By calculating the data I
found that \( L_0 \) was 0.1247 (see appendix 14) and the \( L_{list} \) for \( n = 30 \) with the level
significance \( \alpha = 0.05 \) is 0.161 (see appendix 22). Based on the result, it can be
concluded that the pre-test data is in normal distribution because 0.1247 \( \leq \) 0.161.

4.3.2 Normality Analysis Post-Test

The criteria analysis accepted if \( L_0 \) is smaller \( L_{list} \) (\( L_0 \leq L_{list} \)). After I
analyzed and calculating the data, I found that the mean of score (\( \bar{X}_1 \)) is 20.6 and
the standar deviation (\( S_2 \)) is 3.13 (see appendix 16). By calculating the data I
found that \( L_{0t} \) was 0.0251 (see appendix 17) and the \( L_{list} \) for \( n = 30 \) with the level
significance \( \alpha = 0.05 \) is 0.161 (see appendix 22). Based on the result, it can be
concluded that the pre-test data is in normal distribution because 0.0251 \( \leq \) 0.161.
After calculating the normality analysis in the pre test and post test, it is found that the data both in the pre test and in the post test are in normal distribution. It is happened because after analyzing the data, it is found that the $L_0$ in the pre-test and in the post-test are smaller than the $L_{\text{dist}}$, while the criterion of the data which is in normal distribution is if $L_0 \leq L_{\text{dist}}$. So, it can be concluded that all the data are in normal distribution.

4.4 Hypothesis Verification

The hypothesis verification of this research is the student English vocabulary can enrich by using Frayer Model technique.

The values that have been found to verify the hypothesis are as follows:

\[
\begin{align*}
\bar{X}_1 &= 14.9 \\
\bar{X}_2 &= 20.6 \\
S_1 &= 2.88 \\
S_2 &= 3.13 \\
n_1 &= 30 \\
n_2 &= 30
\end{align*}
\]

All the values were applied in the formula $t_{\text{test}}$ (see appendix 20). Before applying all the values in the formula $t_{\text{test}}$, it must be calculated the standar deviation in both pre-test and post-test data. The result of standar deviation that is 3.00 (see appendix 19). After found the result of standar deviation, then the last steps in counting the $t_{\text{test}}$ (see appendix 20).
While that result is presented in the table below:

<table>
<thead>
<tr>
<th>n</th>
<th>df</th>
<th>( t_{\text{count}} )</th>
<th>( t_{\text{list}} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>58</td>
<td>-7.8</td>
<td>2.02</td>
</tr>
</tbody>
</table>

Table 3
The Result of t-test Counting

Notes:
- \( n \) = the number of sample
- \( df \) = degree of freedom = \((n_1 + n_2 - 2) = (30 + 30 - 2) = 58\)
- \( t_{\text{count}} \) = the value found in the t-test analysis
- \( t_{\text{list}} \) = the value found by looking at the table t-distribution at the level significance \( \alpha = 0.05 \).

The table above shown that is \( t_{\text{count}} = -7.8 \) (shown in appendix 20) with degree freedom \((n_1 + n_2 - 2) = 58\), at the level of significance \( \alpha = 0.05 \). I found the value of \( t_{\text{list}} = 2.02 \). The criteria of statistical hypothesis is that \( H_0 \) will be received if \(- t \left(1-1/2\alpha\right) \leq t \leq (1-1/2\alpha)\). It can be concluded that hypothesis is acceptable because based on criteria, \( t_{\text{count}} \) smaller than \( t_{\text{list}} \) that is \( t_{\text{count}} (-7.8) \leq t_{\text{list}} (2.02) \). So, the conclusion is the Frayer Model technique significantly enriches the students’ English vocabulary.

4.5 Discussion

Vocabulary is the important component of classroom instruction, especially learning English. Students must learn the vocabulary before they can master the skills (listening, speaking, reading and writing). Teaching English vocabulary can be challenging because English as a foreign language, and where the students merely memorize definition which is often not effective. So, in
teaching English vocabulary, the teacher has to use some ways, method, strategies or technique to enrich the students’ vocabulary. Then, students can be enjoy and have motivation learning English vocabulary in the class. In this research, I choose the Frayer Model as a technique in enriching students’ vocabulary. This technique is adopted from Kinberg (2007:26) who states that Frayer Model technique is best useful for teaching vocabulary.

Frayer Model is a technique in teaching vocabulary that use a graphic and a word as the key word will be written in the middle of the graphic and then students are asked to find out or to complete the definition, characteristic/ fact, example and non-example, or synonym and antonym which is related with the key word. Frayer Model also can be used with the small groups or for individual work. As explained in the previous chapter, I use this technique in treatment in order to enrich the students’ English vocabulary. I applied Frayer Model technique in teaching some material related with vocabulary. I taught the students for six meetings.

At the first time in treatment, I introduced about Frayer Model to the students as my technique in teaching them about vocabulary. I explained them about Frayer Model’ graphic and how to use it. To more clearly, I gave them an example in using the graphic. In this meeting, most of them still seemed getting confused about how to use this technique. It was happened because they did not have the dictionary, so they felt difficulty in finding the meaning of the words and completing the Frayer Model’s graphic. So, I asked them to bring their dictionary on the next meeting.
At the second meeting in treatment, I taught the students about invitation topic. I choose some words related with the topic and I put the words itself in the Frayer’s graphic as the key word. In this meeting, I divided them into 5 groups. Every group got 2 graphics and they had to complete the graphics or they had to find out the definition, characteristic/ fact, example and non-example, or synonym and antonym which was related with the key word in the graphic. So, they could help each other if they have any difficulties. In this case, they felt happy and the students worked together to find the meaning of the word and to fill up their graphic. Sometimes, some of them asked me about the graphic. I explained again to them, and finally, the treatment goes well. After that, I ask them to presentation the result of their job or their graphic, and then we are discussed about students’ answer in the graphic.

At the third meeting, I taught the students about announcement topic. Here, the students still work together in a group as the previous meeting. The students felt more enjoyable and they can complete their graphic well. They also practiced to arrange the word in English, because in Frayer’s graphic asked the student to find the definition of the word.

At the fourth meeting, the material that given was Recoun text with the topic “Experience”. As the previous meetings, in applied this technique, I choose some important words and asked them to complete their graphic. In this meeting, I found the students more attractive in working their job. They also can complete their graphic easily. It can be seen, the students ability improvement than previous meetings.
At the fifth meeting, I taught them descriptive text, and here I divided them in pairs. It is because I thought they could do their job well. In this meeting, students more focused, felt more enjoyable, and more attractive to complete their graphic. They also seemed busy with their job, one students looked for the meaning of the word and then they shared each other to complete the graphic. As the first to fourth meeting, after completing the graphic, students would present and then we had a discussion.

Furthermore, on the last meeting of treatment, I asked the students to review all the previous material. It was done to know whether the students’ mastering of vocabulary was enriched or not. In this session, I gave them a Frayer Model’s graphic and I asked them to complete the graphic. I did not divide them into small group or pairs like previous meeting, because I wanted to see the students’ ability individually. Here, every students seemed busy with their job and they felt relax and enjoyed. In fact, every students could complete their graphic efficiently. Students could identify and arrange the words based on the Frayer Model’s graphic. They also were not bored any more in learning process.

Finally, in the post-test most of students could answer given the question. I found the students’ knowledge about vocabulary was higher than before the treatment. The result of post-test was different with the pre-test. In the post-test, the students’ highest score is 27 and the students’ lowest score is 12 (see appendix 12). It indicated the total of score got by students was 619. From this score I found that the mean score of the students was 20.6 (see appendix 16). Meanwhile, in the pre-test, the students’ highest score is 22 and lowest score is 5 (see appendix 11).
The total of score got by the students only 449 and the mean score of the students was 14.9 (see appendix 13). It means that the students’ mastering in vocabulary is enriched by applying the Frayer Model technique.

In addition, by looking the result of the pre-test and post-test data, I found some questions were easiest questions among the questions given. For example:

Question number 4 and 21.

4. When the party begin, the ... will come
   a. Guest
   b. Parents
   c. Teacher
   d. Police

21. The antonym of sad is…
   a. Angry
   b. Hungry
   c. Cry
   d. Happy

The correct answer of this questions were number 4 is “A”, “Guest” the question about noun and number 21 is “D”, “Happy” the question about antonym.

This question is very easy to be answered because 27% students easy to understand the point of the sentence (it is shown in appendix 9,11 and 15).

The following example was difficult question to answer by the students.

Question number 13 and 28.

13. Bellow is the kinds of mammal, except…
   a. Cat
   b. Cow
   c. Horse
   d. Bird
28. Matching test

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. Having, expressing, or showing low spirits or sorrow; unhappy; mournful; sorrowful</td>
<td>a. Disaster</td>
</tr>
<tr>
<td>27. Feeling or showing anger; incensed or enraged</td>
<td>b. Polite</td>
</tr>
<tr>
<td><strong>28. Showing regard for others, in manners, speech, behavior</strong></td>
<td>c. Angry</td>
</tr>
<tr>
<td>29. Refreshment in body or mind after work, by some form of play, amusement of relaxation</td>
<td>d. Sad</td>
</tr>
<tr>
<td>30. The terrible that is happened and makes the people scare.</td>
<td>e. Recreation</td>
</tr>
<tr>
<td></td>
<td>f. Announcement</td>
</tr>
<tr>
<td></td>
<td>g. Brave</td>
</tr>
</tbody>
</table>

The correct answer of this questions were number 13 is “D”, “Bird” which is noun question and number 28 is “Polite” which is adjective question. This is difficult question because the students who can answered correctly only 17% students.

Furthermore, another example of question that indicated students’ answer improved is question number 16 and 20.

16. What is bird’s part of body for flying?
   a. Feathers
   b. Wings
   c. Foot
   d. Beaks

20. The synonym of smooth is…
   a. Crude
   b. Hard
   c. Lazy
   d. Soft

The correct answer for number 16 is “B” or “Wings” which is noun question and correct answer for number 20 is “D” or “Soft”, which is adjective question. In pre-
test students who answered correctly number 16 is 11 students and number 20 only 9 students. But in the post-test, the students score was improve where students who could answered correctly for number 16 is 24 students and number 20 is 22 students. It was indicated that after the treatment, students’s vocabulary was improve.

Based on the description above, in teaching English, especially teaching vocabulary, teacher was expected to use a method, a strategy or a technique to help students enrich their knowledge of vocabulary. Frayer Model is one of technique that can used in teaching vocabulary. After applying this technique in treatment, it was indicated students vocabulary can enriched. This technique helps students to make them easy to remember the vocabulary that teacher give and they can understand in reading and use the vocabulary in spoken or written form.

In adition, in the treatment I also found the challenge in applying this technique to enrich the students’ vocabulary. In the first time when I introduced about Frayer Model as my technique in teaching vocabulary, the students seemed not interested. It is because most of them thought that this technique is difficult, where they were asked to arrange the words in making the definition and looked for the characteristic of the word. Meanwhile, some of students were still difficult in making the sentence in English, although they used the dictionary. So, in this case the teacher is expected to always try to practice the students’ ability in thinking. But, if the students have been accustomed to the technique their vocabulary can be enriched.