A. The Result of Study

1. The Result of Experiment Class

Before the students got treatments, they were given test namely pre-test. By doing pre-test, the students would get score. The score that was got by the students was analyzed to get the percentages score. After getting score from pre-test, the students were taught about the material that was appropriate with the lesson plan. It was done three meeting before the post-test. After getting treatment, the students had to do post-test. It aimed to measure their achievement after getting treatment by using *Circle Game* in learning English vocabulary. For further information, the percentage score of pre-test and post-test in experimental class could be seen in appendix.

After getting score of pre-test and post-test of experimental class, it can be concluded that there was difference of pre-test and post-test score of experimental class. For further information, the comparison of pre-test and post-test result in experimental class could be seen in figure 1.4.
Based on the figure 1.4, it could be seen that all students got different score in pre-test and post-test of experimental class. The range score between 0 until 21 that was got by the students was about 4 students in pre-test and there was no one getting score in post-test in this range score. The students who got the score between 21 until 40 were about 3 students in pre-test and 1 student in post-test. The range score between 41 until 60 that was got by the students was about 9 students in pre-test and 1 student in post-test. The students who got the score between 61 until 80 were about 7 students in pre-test and 6 student in post-test. The range score between 81 until 100 that was got by the students was about 7 students in pre-test and 22 students in post-test.
2. The Result of Control Class

Initially, control class had the same activity with experimental class. This class was given a pre-test before they got treatments but the treatment in the control class was different with experimental class. By doing the pre-test, the student would get score.

After getting score from pre-test, the students were taught about the material that was appropriate with the lesson plan. After the students got the learning material and treatment that different with the experimental class, they were given post-test to measure about their achievement since they joined in teaching and learning process. The result of pre-test and post-test can be seen completely in appendix.

After getting score of pre-test and post-test of control class, it can be concluded that there was difference of pre-test and post-test score of control class. For further information, the comparison of pre-test and post-test result in control class could be seen in figure 2.4.
Based on the figure 2.4, it could be seen that all students got different score in pre-test and post-test in control class. The range score between 0 until 21, there was no student both in pre-test and post-test class getting score in this range score. The students who got the score between 21 until 40 were about 1 students in pre-test and there was no one getting score in post-test. The range score between 41 until 60 that was got by the students was about 15 students in pre-test and 3 student in post-test. The students who got the score between 61 until 80 were about 13 students in pre-test and 24 student in post-test. The range score between 81 until 100 that was got by the students was about 1 student in pre-test and 3 students in post-test.
3. The Comparison of Test Result

Actually, this comparison is used for comparing the pre-test result between experimental and control class. Besides that, this comparison is also used for comparing post-test result of both classes. For further information, the comparison of pre-test result both experimental and control class could be seen in figure 3.4.

Figure 3.4

The Comparison of Pre-test Result (Experimental and Control class)

![The Comparison of Pre-test Result](image)

Figure 3.4 described that the percentage score of control class was higher than experimental class. There were about 13.33 % of the students in experimental class belonged to the range score from 0 until 20, while the control class were about 0 %. In the range score 21 until 40, there were 10 % of the students in experimental class, while in control class there
were about 3.33%. There were 30% of the students in experimental class belonged to the range score between 41 until 60, while the control class was 50%. In the range score 61 until 80, there were 23.33% of the students in experimental class, while in control class there were about 43.33%. There were 23.33% of the students in experimental class belonged to the range score between 81 until 100, while the control class was 3.33%.

From the description, it could be concluded that the highest score of pre-test was gotten by the control class students. The percentage of pre-test score of control class in the range score between 41 until 60 was higher than that of in experimental class (50% > 30%).

Furthermore, treatment was given in both experimental and control class after the students were given pre-test. Both classes had different treatment which made the result of post-test will also different. For further information, the comparison of post-test results between experimental and control class could be seen in figure 4.4.
Based on figure 4.4 showed that the percentage score in experimental class had better result in post-test than control class. There were 73.33 % of students in experimental class belonged to the range score from 81 until 100, while in the control class there were only 10 %. Besides that, there were about 20 % of students in experimental class belonged to the range score from 61 until 80, while in the control class there were about 80 % students. In the range score from 41 until 60, there were 3.33 % of the students in experimental class, while in control class there were about 10 %. There were about 3.33 % of students in experimental class got the score between 21 until 60, while in the control class were about 0 %. In the range score from 21 until 40 both classes get the same percentages that were 0 %.
From the description, it could be concluded that the highest score of post-test was gotten by the experimental class students. The percentage of post-test score of experimental class in the range score 81 until 100 was higher than that of in control class (73.33% > 10%). It meant that there was improvement of post test score from control class to experimental class. The improvement was caused by the implementation of treatment; that was Circle game. Therefore, it could be concluded Circle game to teach English vocabulary gave positive effect to the students.

4. The Result of T-test

After getting the data from experimental and control class, it would be analyzed the data to find out the effectiveness of Circle game in teaching English vocabulary, the steps were as follows:

a. Finding the mean of deviation of experimental class (Mx)

The post-test score of each student was subtracted by the pre-test score. Then, the total of deviation (X) was counted. The total of the students’ deviation in experimental class was divided by the number of the students (Nx) in the class.

The formula of Mx was as follows:

\[ Mx = \frac{\sum x}{N} \]

The calculation was as follows:

\[ Mx = \frac{\sum x}{N} \]
Thus, the mean of deviation of experimental class (Mx) was 29.

b. Finding the mean of deviation of control class (My)

The post-test score of each student was subtracted by the pre-test score. Then, the total of deviation (Y) was counted. The total of the students’ deviation in control class was divided by the number of the students (Ny) in the class.

The formula of My was as follows:

\[ My = \frac{\sum y}{N} \]

The calculation of My was as follows:

\[ My = \frac{\sum y}{N} \]

\[ My = \frac{359.9}{30} \]

\[ My = 12 \]

Thus, the mean of deviation of control class (My) was 12.

c. Finding \( \Sigma x^2 \)

The deviation score of each student of experimental class was squared. Then, \( \Sigma X^2 \) was counted. The result was subtracted by the total
of squared deviation \((\sum X)^2\) that had been divided by the number of the students.

The formula of \(\sum x^2\) was as follows:

\[
\sum x^2 = \sum x^2 - \frac{\sum x^2}{N}
\]

The calculation of \(\sum x^2\) was as follows:

\[
\sum x^2 = 35136 - \frac{870.2^2}{30}
\]

\[
\sum x^2 = 35136 - \frac{757248.04}{30}
\]

\[
\sum x^2 = 35136 - 25241.60
\]

\[
\sum x^2 = 9894.4
\]

Thus, the result of \(\sum x^2\) was 9894.4

d. Finding \(\sum y^2\)

The deviation score of each student of control class was squared. Then, \(\sum Y^2\) was counted. The result was subtracted by the total of squared deviation \((\sum Y)^2\) that had been divided by the number of the students.

The formula of \(\sum y^2\) was as follows:

\[
\sum y^2 = \sum Y^2 - \frac{\sum Y^2}{N}
\]

The calculation of \(\sum y^2\) was as follows:
Thus, the result of $\sum y^2$ was 783.4

e. The last step of the analysis was the application of the t-test formula.

The data above was applied into t-test formula.

$$t - \text{test} = \frac{Mx - My}{\frac{\Sigma x^2 + \Sigma y^2}{N_x + N_y - 2} \frac{1}{N_x} + \frac{1}{N_y}}$$

$$t - \text{test} = \frac{29 - 12}{\frac{9894.4 + 783.4}{30 + 30 - 2} \frac{1}{30} + \frac{1}{30}}$$

$$t - \text{test} = \frac{17}{184.1} \frac{0.067}{0.067}$$

$$t - \text{test} = \frac{17}{12.3347}$$

$$t - \text{test} = \frac{17}{3.512}$$

$$t - \text{test} = 4.8405$$
After getting the result of t-test, $df$ was computed.

$$df = Nx + Ny - 2$$

$$df = 30 + 30 - 2$$

$$df = 58$$

After getting the result of t-test computation, the result was compared with t-table using one tail with significant level 0.05. If the t-test result was higher than t-table, the hypothesis was accepted (Arikunto, 2010: 354). Based on the computation, the t-test result was 4.8405 and the value of the t-table was 1.6715. Thus, ($4.8405 > 1.6715$) and it showed that the hypothesis was accepted or using Circle game gave positive effects to the students in learning English vocabulary.

The summary of the t-test data could be seen in the table below:

Table 1.4

<table>
<thead>
<tr>
<th>Mean of Post-test</th>
<th>Experimental class</th>
<th>Control class</th>
<th>N</th>
<th>t-test</th>
<th>t-table</th>
<th>$df$</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>87.3</td>
<td>72</td>
<td>60</td>
<td>4.8405</td>
<td>1.6715</td>
<td>58</td>
<td>0.05</td>
</tr>
</tbody>
</table>

5. The Result of Questionnaire

There were ten questions included in the questionnaire. The questioners were related to the students’ response in teaching and learning
vocabulary by using circle game. The questioner’s questions were written in Indonesia to make respondent easier in understanding the question and choosing the answer.

The purpose of giving questioner to the participant is to strengthen the data about the effectiveness of Circle Game in teaching and learning vocabulary. It could be done by choosing one the alternative answer. The result of the questionnaire showed positive response towards the implementation of Circle Game in teaching and learning vocabulary. It was a satisfying result. The result of the questionnaire could be seen in the appendix.

The percentage for all of the indicators were above 75% and the average was 83.82%. There were one statement which belonged to interval percentage 75% - 80%; six statements belonged to interval percentage 80% - 85%; and three statements belonged to interval percentage 85% - 90%. The highest percentage was 89.16% and the lowest was 78.33%. It clearly indicated that almost of the students felt satisfied with the use of Circle game in teaching English vocabulary.

B. Discussion

After doing the study and giving treatment for experimental class in teaching English vocabulary using Circle Game, the result showed that the Circle Game were effective to teach English vocabulary and made the students to be more active and interactive in joining learning activity.
There was difference in teaching and learning process between experimental and control class. The experimental class received the treatment by using Circle Game in teaching English vocabulary, while the control class was taught with conventional teaching method which was usually done by the teacher.

The students in control class seemed not interested and demotivated in teaching and learning process. They were reluctant in giving their attention to the lesson because they were taught with conventional teaching method which was usually done by the teacher. Most of them still found difficulties in recalling and understanding the new words and it influenced their post-test results which less showed significant progress from their pre-test results.

Meanwhile, the situation was different with the experimental class. During the implementation of Circle Game as the treatment for experimental class, the students were interested in playing Circle Game. Most of them enjoy the lesson and they had pleasure time while playing Circle Game. Budden (2006) states that circle game is game that it can be used to make teaching and learning process more fun and giving motivation to the students.

Unconsciously, through this game the students memorize new vocabulary without any filling of pressure, and this made them easier in understanding the meaning and spelling the word. The students also became more active and interactive in joining learning activity. They were enthusiastic in doing exercises that given. Therefore, they could easily recall the word in doing post-test and the impact was the post-test got best result.
Based on the pre-test’s means scores of the experimental class and the control class, it could be seen that the students’ competence of experimental class was 58.30 and the students’ competence of control class was 60.33. It means that both of them had almost the same competence in pre-test and it was categorized into “fair” competence.

The deviation of the experimental class which was taught by using Circle Game was 29 and the post-test’s means score of experimental class was 87.30, while the deviation of control class which was taught by using conventional way was 12 and post-test’s means score of control class was 72. Based on the result, it could be concluded that the students’ vocabulary score of experimental class got better result than the students’ vocabulary score of control class.

After the data were calculated by using t-test computation, then the outcome were known. The t-test result was 4.4805 and t-table in degree of freedom (df) = 58 at the level of significance 0.05 was 1.6715. It was shown that t-test was higher than t-table (4.4805 > 1.6715).

Based on the computation result of questionnaire, it was found that the percentage for all of the indicators in result of questionnaire was above 75% and the average was 83.82%. There were one statement which belonged to interval percentage 75% - 80%; six statements belonged to interval percentage 80% - 85%; and three statements belonged to interval percentage 85% - 90%. The highest percentage was 89.16% and the lowest was 78.33%. It clearly
indicated that almost of the students felt satisfied with the use of Circle game in teaching English vocabulary.

Based on the previous discussion, it can be concluded that teaching and learning process which was done in the experimental class was better than control class. Using *Circle Game* in teaching English vocabulary was effective to increase the students’ vocabulary mastery. It could be seen from the post-test’s result of the experimental class who got better result than control class. The result of this study had proven that *Circle Game* was effective in teaching English vocabulary for the seventh grade students of SMP Negeri 4 Purbalingga in academic year 2012/2013.