THE INFLUENCE OF MIND-MAPPING STRATEGY ON STUDENTS’ VOCABULARY MASTERY

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Abstract
This paper is a quasi-experimental research. It was aimed to investigate the significant difference on vocabulary achievement between two groups who were taught by using Mind Mapping strategy and those who were taught by using Making Notes strategy. The subjects of this study were the students in class 5B and 5D of An-Nissa Islamic Bilingual Elementary School of Semarang. 5B was the experimental group and 5D was the control group. In this research, I gave them a pre-test, treatments, and a post-test. I used the same instrument in the pre-test for both groups. They were asked to answer some questions of vocabulary test. The treatments were given in three meetings. The treatment used in the experimental group was Mind Mapping strategy, while the treatment in the control group was Making Notes strategy. The post-test in both groups were conducted after the treatments by using the same instrument as the pre-test but the position of question numbers were reshuffled. The result of the test was analyzed by using t-test formula to know the difference of the students’ achievement in vocabulary between two groups. The analysis of the test result showed that the experimental group got better score than the control group. That calculation revealed that the hypothesis 1 (Ha) was accepted and the hypothesis 2 (Ho) was rejected. Based on the proven hypotheses, I concluded that Mind Mapping strategy is more effective to be implemented in teaching vocabulary than Making Notes strategy.

Keywords: Mind Mapping Strategy, Making Notes Strategy, Students’ Vocabulary Mastery

Introduction
Vocabulary is an interesting topic to be discussed. It is the most important aspect which has to be learnt continually by students in learning English. It is important because it becomes a basic weapon in written and verbal communication for students. If they have an adequate amount of vocabulary, they can follow an English learning process easily. Considering the importance of vocabulary in English learning process, students are recommended to learn vocabulary from Elementary level. As stated by Cameron (2001:72) that ‘building up a useful vocabulary is central to the learning of a foreign language at primary level.’ However, there are some problems in teaching and learning vocabulary especially at Elementary School. One of the problems is the strategy used by teacher in teaching vocabulary. Then, some times ago before conducting this research, I had read a book. The book was entitled “The Ultimate Book of Mind Maps” written by Tony Buzan. In that book, Buzan (2005: 5) stated that ‘Mind Mapping strategy is more effective and reliable to remember and recall information than by using traditional note-taking.’ Therefore, I was interested in proving that theory by implementing Mind Mapping as a strategy in teaching vocabulary for the fifth grade students in Elementary School. I wanted to compare the result of the students’ achievement in learning vocabulary that was taught by using Mind Mapping and using Making Notes strategy. Considering that background, I wanted to find out the answer of this question: “is there any significant difference between vocabulary achievement of the students taught by using Mind Mapping strategy and that of the students taught by using Making Notes strategy?”. The study was expected to be able to give some advantages for students, teachers, lecturers, and other researchers. First, hopefully students get a solution as how to organize and memorize vocabulary in an interesting way. Mind Mapping
strategy actually can be applied either in the classroom or in the students’ respective home. It also can be used to help students in learning other subjects. Second, for teachers and lecturers, this study is expected will be useful for them to improve their teaching strategy especially in teaching English vocabulary. The last, I hope this study can give an inspiration for other researchers to do a further research about Mind Mapping strategy.

Methodology
This study is a quasi-experimental research since I used non-equivalent control group design since I did not break up the classes to get the subjects of the study. I only took two classes randomly. The design can be described as follows:

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<tbody>
<tr>
<td>R</td>
<td>01</td>
<td>X</td>
<td>02: The experimental group</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>03</td>
<td>04: The control group</td>
<td></td>
</tr>
</tbody>
</table>

in which,

R : respondents,
01: pre-test for the experimental group,
02: post-test for the experimental group,
03: pre-test for the control group,
04: post-test for control group, and
X : treatment by using Mind Mapping


In this study, the experimental group received a pre-test (01). Then it was given a treatment by using Mind Mapping (X). Finally, it was given a post-test (02) to measure group’s improvement after the treatment was given. In line with the experimental group, the control group also received a pre-test (03). However, this group did not get a new treatment. It was taught by using traditional strategy (Making Notes). Finally, it was given a post-test (04). The subjects of this study were the fifth grade students of An-Nisa Islamic Bilingual Elementary School of Semarang. They were the students of class 5B and 5D. The number of the students in each class was 18. In this study, the independent variable was the Mind Mapping strategy and the dependent variable was the students’ English vocabulary mastery. The instrument used in this study was a vocabulary test. The students would be given a pre-test and a post-test. Before that, the test instrument would be tried out to get its validity, reliability, item facility, and item discrimination. The try-out was held in another class beyond the classes under investigation. There were 40 test items which were used in the try-out test. Based on the analysis of validity, reliability, item discrimination, and difficulty level of the items in the test instrument, it was found that 32 items were applicable for this study. However, I only used 30 items either in the pre-test or post-test. I thought that it would be easy to give score if the test item was only 30. Therefore, the procedures of collecting the data were doing a try-out, giving a pre-test, and giving a post-test. The pre-test had the purpose to know the initial students’ vocabulary mastery. It was given at the first time before both the control and experimental groups were given a treatment. For the pre-test, I would give the students a vocabulary test in the form of writing words and sentences. The post-test which was held here had the purpose to know the students’ ability and their achievement after getting a treatment. In this research, the same questions as the pre-test were used but the positions of question numbers were reshuffled. After collecting the data, I processed them statistically. The first is computing the students’ score. Then, checking the normality and homogeneity. And the last is calculating the t-test.

Finding and Discussion
The following chart presented the mean scores of the vocabulary pre-test and post-test from the two groups:

Figure 4.3 the Average of Vocabulary Achievement of Pre-test and Post-test on the Experimental and Control Group
The chart above showed that the mean of the pre-test achieved by the students in the experimental group was 46.50. Meanwhile, the mean of the post-test was 79.89. The percentage of the students’ improvement of this group was 32.39%. In a rather simpler observation, this data concluded that there was a significant improvement between the pre-test and the post-test scores achieved by the students of the experimental group.

The mean scores of the control group also showed an improvement. It was 47.28 in the pre-test and 69.72 in the post-test. There was less improvement in this group than the experimental group. The improvement was 22.44%. The clear comparison of average scores between two groups can be seen in the following table:

Table 4.9 Average Scores Comparison

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>46.50</td>
<td>79.89</td>
<td>33.39%</td>
</tr>
<tr>
<td>Control</td>
<td>47.28</td>
<td>69.72</td>
<td>22.44%</td>
</tr>
</tbody>
</table>

The table above also demonstrated that there were improvements in both groups. However, the progress of the experimental group was greater than the control group. To prove the significant improvement of both groups, but the results need to be tested by using t-test.

T-Test Statistical Analysis
The result of the t-test became the quantitative proof whether the difference of the pre-test and post-test means of both groups was significant. However, the standard deviation was computed before counting the t-test. The computation is as follows:

\[ s = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}} \]

in which,
- \( s \): standard deviation,
- \( s^2 \): variance,
- \( n_1 \): the number of students/subject participating in the test in experimental group, and
- \( n_2 \): the number of students/subject participating in the test in control group.

Therefore,

\[ s = \sqrt{\frac{(18 - 1)251.3105 + (18 - 1)134.9673}{18 + 18 - 2}} = 13.8974. \]

Then, to find the t-value, I computed the data as follows:

\[ t = \frac{\bar{X}_1 - \bar{X}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \]

in which,
- \( s \): standard deviation of the experimental group,
- \( n_1 \): the number of students/ subject participating in the test in experimental group, and
- \( n_2 \): the number of students/ subject participating in the test in control group (Arikunto, 2006: 295).

Therefore,

\[ t = \frac{33.39 - 22.44}{13.8974 \sqrt{\frac{1}{18} + \frac{1}{18}}} = 2.363. \]

The value of the t-table with \( dk = 18 + 18 - 2 = 34 \) and significance level \((\alpha) = 5\%\) was 1.69. Based on the computation of t-value above, it can be seen that \( t-value > t-table \) (2.363 > 1.69). The result concluded that there is a significant difference between the experimental and control group.

Conclusions
This study can be eventually concluded that:

1) Mind Mapping strategy makes a significant difference in vocabulary achievement of the fifth grade students of SD Islam Bilingual An-Nissa Semarang in the academic year of 2012/2013.
2) Mind Mapping is effective as a strategy in teaching vocabulary to the fifth grade students of SD Islam Bilingual An-Nissa Semarang in the academic year of 2012/2013. Based on the research, this strategy is more effective than Making
Notes strategy to increase the students’ active vocabulary in the part of developing vocabulary. This strategy can be applied either in the classroom or in the students’ respective home. It can also be used to help the students in learning, organizing, or memorizing other subjects.

References
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