THE EFFECTIVENESS OF MINDLY APPLIED IN TEACHING READING COMPREHENSION

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Abstract

Coronavirus has forced schools to teach online, where learning uses a variety of applications, one of which is Mindly. Therefore, the writer is interested in conducting research to find out the effectiveness of Mindly in teaching reading comprehension. Grounded in quasi-experiment method with the design pre-test and post-test, this research is conducted on the 26 students from 2 classes at SMPN 1 Lohbener. The result of the pre-test students score in control class showed that the average was 42,77 and the pre-test students score in experiment class showed the average was 47,08. The post-test total scores in control class showed the average was 60,62. And the result of post-test the total scores in experiment class showed the average was 59,08. Then, the statistical analysis showed that the value tobs was 0,9999 while the value of ttable 0,6 which means that the value of tob higher than ttable 0,9999 > 0,6 (tobs > ttable). From the result of statistical analysis, it can be concluded that tobs was higher than ttable (tobs > ttable) it means that Alternative Hypothesis (Ha) was accepted while Null Hypothesis (Ho) was rejected. It means that using Mindly does not give positive effect to students’ reading comprehension.

Keywords: Mindly, Effectiveness, Reading Comprehension

INTRODUCTION

Reading is one of the language skills that should be studied and mastered by students to get information from the texts (Haerazi & Irawan, 2020). Unfortunately, there is a new problem in reading, especially now the learning process has changed drastically which was previously offline and is rarely forced to learn online. The problem of reading comprehension is still very difficult for students to understand in offline classes, especially now that students learn in online classes. And in previous research there were several researchers researching in reading strategy in offline class.

In teaching reading comprehension there are some strategy, one of them is Mind Mapping. According to Kotcherlakota, Zimmerman, & Berger (2013), “mind maps help students clarify their thinking and lay the foundation for in-depth expertise related to their research focus, review of the literature, and conceptual framework”. In the implementation of Mind Mapping Strategy can use online or technology accordance with in this modern era. Using paper mind maps seem to be time-consuming because students need to erase many times and rewrite again and again (Erdogan, 2008). With the development of technology, mind mapping strategy developed into Mindly.

Mindly is one of the most beautiful mind-mapping apps enables you to create several different mind maps for planning a project, though structuring idea. With a situation where learning is required online, so learning using applications is mostly
done in schools. This application called Mindly which can be downloaded through the Playstore.

Many previous studies have said that using digital mind mapping improves productivity by helping to build and analyze ideas, and facilitates information structuring and retrieval. Relate to the research from Dipak and Ramakanta (2020) argued that “digital mind mapping gives learners the ability to engage directly in the learning process by developing digital mind maps. The paper also indicates that digital mind mapping software can be used as brainstorming tool to construct visual diagrams of ideas. The paper would be great use for educators as well as students for teaching, learning and assessment at different levels of education. With this background, the writer wants to conduct a research with the aim of knowing the effectiveness of mindly in teaching reading comprehension.

LITERATURE REVIEW

Reading Comprehension

Rubin in Westwood (2010) defines that reading comprehension has been described as 'a complex intellectual process involving a number of abilities'. Readers must use information, already acquired to filter, interpret, organize, reflect upon and establish relationships with the new incoming information on the page. In order to understand text, a reader must be able to identify words rapidly, know the meaning of almost all of the words and be able to combine units of meaning into a coherent message. According to Catherine Snow and Chair (2011) Reading comprehension is a "construction process" because it involves all of the elements of the reading process working together as a text, read to create a representation of the text in the reader's mind. She mentioned that comprehension entails three elements:

a. The reader who is doing the comprehension is ability to process text and understanding meaning.

b. The text is to be comprehend occurs when readers derive meaning as a result of intentionally interacting with the text. Such comprehension is enhanced when readers actively relate the ideas represented in print to their own knowledge and experiences and can construct mental representations in their memory.

c. The activity in which comprehension is a part

Finally, it can be concluded that reading comprehension is the process of making meaning from a written text.

Zhang (2009) states that reading comprehension is a state that is achieved through the integration and application of many strategies and skills. Then, reading comprehension is the act of combining information in a passage with prior knowledge to construct meaning. Besides, reading comprehension can be defined as a thought process in which the reader becomes aware of an idea, understands it in terms of the background of their experience, and interprets it to their own needs and goals (Khoiriyah, 2010). Clarke (2014) states five factors that influence students in reading comprehension:

1. Language skill is a ability to use language. A system of symbols that permit people to communicate or interact. Another way to describe language is term of the four basic language skill: listening, speaking, reading and writing.

2. Understanding the meaning of words is defined as the process of comprehending or the knowledge of a specific thing or practice.
3. Working memory is the retention of a small amount of information in readily accessible form. The use of working memory is fairly common in human thinking, but the best way to improve education using what we know about working memory is controversial.

4. Working with text is the original words and form of a written or printed work.

5. Environmental influences to have on influence on people or situations means to affect what they do or what happens.

   Reading comprehension needs to be done effectively and efficiently, it requires certain strategies that must be mastered by the reader so that reading activities run efficiently and effectively

Mindly

In teaching reading comprehension there are some strategy, especially Mind Mapping as a old strategy and Mindly as a new strategy used a technology. The implementation of Mind Mapping Strategy can use online or technology accordance with in this modern era. Using paper mind maps seem to be time-consuming because students need to erase many times and rewrite again and again (Erdogan, 2008). After studying the literature on mental maps, how to prepare them, analyzing the content of the lessons, and setting the objectives of each lesson, the concepts were specified, arranged sequentially, and then an electronic mental map was designed for each text. Nathanael Montgomery says “Mindly is a beautiful crafted app that elegantly captures the essence of the thought process and stays out of your way letting your ideas flow”.

These Mind maps were developed using the Mindly application as follows:

![Figure 1. Steps Using Mindly Application](image)

1) Open the Playstore application, search for a keyword “Mindly” then install.
2) At the first use will display a short tutor, please click “Done”
3) The main layer of the app, it will arise like this
4) The circle that “Welcome” is a mapping example of idea using Mindly
5) Tap that circle, Mindly will open topics are on a “welcome” such as the picture
6) Tap “welcome” to back a larger topic
The Relationship of Mind Mapping to Reading Comprehension

Mind mapping is popularized by Buzan (2005) who claims that it is an enormous superior note-taking method. By mind mapping one can develop their ability in memorizing, brainstorming, learning, as well as creativity (Ingemann, 2008). Kaufman (2017) argued that "mind mapping is a useful technique to use while reading, since the non-linear format allows you to view the entirety of your notes at a glance, then easily place new information in the appropriate branch or make connections between ideas." This is in line with the theory of top-down process proposed by Nuttall (1996, cited in Brown, 2001:299). Top down is a process where the reader draws their own intelligence and experience to understand a text. This means through mind mapping the students are guided to develop their background knowledge of the text they are to read. They recall the existing knowledge and relate it with the text. By doing this they practice to brainstorming.

METHOD

In order to find out the effectiveness of using Mindly Strategy in developing students’ reading comprehension, the design used in this research is quasi-experiment. Abraham & MacDonald (2011) stated that Quasi-experimental research is similar to experimental research in that there is manipulation of an independent variable. It differs from experimental research because either there is no control group, no random selection, no random assignment, and/or no active manipulation.

In the design the quasi-experiment two group are selected. Both groups take a pre-test and post-test helped to find out the effectiveness of teaching reading comprehension. And then, the researcher compares the pre-test and post-test score of students, or the writer would like to analyse the data before and after treatment.

The design of quasi-experiment with no-equivalent pre-test, post-test groups design is describe as follows:

<table>
<thead>
<tr>
<th>Control Class</th>
<th>O₁ O₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment Class</td>
<td>O₃ O₄</td>
</tr>
</tbody>
</table>

Where: O₁ : Pre-test of Control Class
O₂ : Post-test of Control Class
O₃ : Pre-test of Experiment Class
O₄ : Post-test of Experiment Class

"The students of SMPN 1 Lohbener as the population. The samples of the study were only two class of second grade students. They were VIII G AND VIII H in SMPN 1 Lohbener. The writer chooses the sample that took in first class is VIII G as control class and second class VIII H as experiment class. The class of VIII G consist of 13 students and the class VIII H consist of 13 Students. The writer chooses the class VIII G and VIII H because the writer found some problem in reading comprehension.

The instrumentation used in this study included pre-test and post-test. In pre-test and post test the form of the test are 20 multiple choices and 5 true false.

RESULT

In this research, the writer analyzed and calculated the data to find out the results of research in teaching reading comprehension using the Mindly application for
junior high school students. The writer observes two variables, namely the first variable is "students reading comprehension" in this case narrative text as the dependent variable and the second variable is "The effectiveness Mindly in teaching reading comprehension" as the independent variable.

The result data that has been collected from the pre-test and post-test are interpreted at the beginning and continued with statistical analysis including calculations until a hypothesis test is found that will prove whether the method that has been applied is accepted or rejected.

In collecting the data, there are three steps which are conducted by the researcher, i.e., pre-test, performing treatment, and posttest;

1. Pre-test
   Creswell (2008) states that pre-test makes a specific measurement that evaluates the participant in before having a treatment (p. 301). The writer was giving the pre test to both classes; experimental class (VIII H) and control class (VIII G). The writer distributed a pre-test consisting of 20 multiple choice questions and 5 true or false questions for both of classes.

2. Giving Treatment
   After the pre-test was carried out, the writer carried out teaching and learning activities to read and explain the material in both of classes. Students participate in all learning activities which are stated very well. In control class, the writer teaches the students' used a conventional but in experiment class the writer teach the students used the Mindly Strategy.

3. Post test
   The post-test is a specific measurement that evaluates the participant in after having a treatment (Creswell, 2008, p. 301). Finally, after the teaching and learning activities are finished, the writer distributed the post-test which is summarized on multiple choice and true or false questions. This test is to know the reading comprehension ability after getting treatment.

<table>
<thead>
<tr>
<th>Class</th>
<th>Test</th>
<th>Criteria</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Class</td>
<td>Pre-Test</td>
<td>High score</td>
<td>76</td>
</tr>
<tr>
<td>(VIII G)</td>
<td></td>
<td>Lowest score</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>avarege</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>High score</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lowest score</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>avarege</td>
<td>50</td>
</tr>
<tr>
<td>Experiment Class</td>
<td>Pre-Test</td>
<td>High score</td>
<td>92</td>
</tr>
<tr>
<td>(VIII H)</td>
<td></td>
<td>Lowest score</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>avarege</td>
<td>47,08</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>High score</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lowest score</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>avarege</td>
<td>59,88</td>
</tr>
</tbody>
</table>

The average pre-test score of control class was 42.77 while the average pre-test of experimental class was 47.08. The average post-test score of control class was 60,62 while the average post-test of experimental class was 59,08. From the table, it is clearly seen the
experimental group scored higher than control group; this is because the experimental group had been treated with content based instruction approach while control group had been treated with problem based learning.

**Hypothesis Test**

**CONTROL CLASS**

1. Finding table of differences

*Table 2. Finding table of differences (Control class)*

<table>
<thead>
<tr>
<th>Result</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>D (T2-T1)</th>
<th>D²</th>
</tr>
</thead>
<tbody>
<tr>
<td>∑</td>
<td>612</td>
<td>768</td>
<td>156</td>
<td>24336</td>
</tr>
<tr>
<td>Mean</td>
<td>42</td>
<td>50</td>
<td>15</td>
<td>225</td>
</tr>
</tbody>
</table>

2. Counting t-count (t-observation)

\[ t_{obs} = \frac{\bar{x}_2 - \bar{x}_1}{\frac{SD}{\sqrt{n}}} = \frac{50 - 42}{15.38} = \frac{8}{15.38} = 0.52 \]

3. Finding out degrees of freedom (Df)

\[ Df = (n-1) = (13-1) = 12 \]

4. Determining the rank of significance \( \alpha = 5\% \)

\[ \alpha = \frac{5}{100} = 0.05 \]

So, \( t_{table} \) is a \( t(0.05.12) = 0.6 \)

**EXPERIMENT CLASS**

1. Finding table of differences

*Table 3. Finding table of differences (Experiment class)*

<table>
<thead>
<tr>
<th>Result</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>D (T2-T1)</th>
<th>D²</th>
</tr>
</thead>
<tbody>
<tr>
<td>∑</td>
<td>612</td>
<td>768</td>
<td>156</td>
<td>24336</td>
</tr>
<tr>
<td>Mean</td>
<td>47</td>
<td>59</td>
<td>12</td>
<td>144</td>
</tr>
</tbody>
</table>

2. Counting t-count (t-observation)

\[ t_{obs} = \frac{\bar{x}_2 - \bar{x}_1}{\frac{SD}{\sqrt{n}}} = \frac{59.08 - 47.08}{12.01} \]
3. Finding out degrees of freedom (Df)

\[ Df = (n-1) \]
\[ = (13-1) \]
\[ = 12 \]

4. Determining the rank of significance \( \alpha = 5\% \)

\[ \alpha = \frac{5}{100} \]
\[ = 0.05 \]

So, \( t_{table} \) is \( \alpha \cdot t(0.05.12) = 0.6 \)

Statistical Analysis

Table 2. Statistical Analysis of Pre Test and Post Test

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Mean</th>
<th>Mode</th>
<th>Median</th>
<th>Interval</th>
<th>Length of Class</th>
<th>SD</th>
<th>Sd</th>
<th>Error</th>
<th>( t_{table} )</th>
<th>( t_{obs} )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control Class</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre test</td>
<td>42</td>
<td>32,40,44</td>
<td>40</td>
<td>5</td>
<td>8</td>
<td>55,4</td>
<td>15,38</td>
<td>0,6</td>
<td>0,52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post test</td>
<td>50</td>
<td>52</td>
<td>52</td>
<td>5</td>
<td>11,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Experiment Class</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre test</td>
<td>47</td>
<td>32,52</td>
<td>48</td>
<td>4,61</td>
<td>13,70</td>
<td>43,26</td>
<td>12,01</td>
<td>0,6</td>
<td>0,99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post test</td>
<td>59</td>
<td>48</td>
<td>52</td>
<td>4,67</td>
<td>11,99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The result of statistic calculation from control class indicates that value of \( t_{obs} \) is 0,52. Then, the value of \( t_{table} \) with df=12 on significant level \( \alpha = 5\% \) is 6. Comparing the calculation of \( t_{obs} \) with \( t_{table} \), and the result is 0,52 < 0,6. Since \( t_{obs} \) which obtains from the result of calculation is lower than \( t_{table} \), so the null hypothesis (Ho) was accepted and alternative hypothesis (Ha) was rejected. While the result from experimental class indicates that value of \( t_{obs} \) is 0,99 and the value of \( t_{table} \) with df=12 on significant level \( \alpha = 5\% \) is 6 comparing the calculation of \( t_{obs} \) with \( t_{table} \), the result is 0,99 > 0,6. Since \( t_{obs} \) which obtained from the result of calculating is lower than \( t_{table} \), so the null hypothesis (Ho) was accepted and alternative hypothesis (Ha) was rejected. It means that there is significant differences between students’ achievement in reading comprehension using Mindly.

The writer states the hypothesis as follows:

Ho : Mindly Strategy does not give positive effect on students reading comprehension

Ha : Mindly Strategy gives positive effect on students reading comprehension

Finally, those are showing teaching reading by using that Mind Mapping Strategy gives effective in teaching students' reading comprehension at the eighth grade students. Based on the result of the data, it is proven that students’ score in reading comprehension thought by Mindly is increase. It means that the use Mindly in teaching reading comprehension is effective.
CONCLUSION

The research findings indicated that Mindly strategy gives positive effect toward students reading comprehension. It was showed by the data of students’ pre-test and post-test result.

Firstly, as determined by the result of the pre-test, students’ reading comprehension before using Mindly strategy is poor. Based on the data of result pre-test control class (VIII G) and experiment class (VIII H), the data showed that there were many students who got score less than 50. The students of control class who got score more than 50 only 10 students. And the pre-test result showed that the students of experiment class who got score more than 50 were only 7 students. So, the result of pre-test students in both class based on the criteria of mastery by Brown belongs to grade of poor. The maximum score of pre-test for control class was 76 and the minimum score for control class was 24. And the maximum score of pre-test for experiment class was 96 and the minimum score for experiment class was 40.

Secondly, as determined by the result of the post-test, students’ reading comprehension after teaching by Mindly (Mind Mapping) strategy is gained, which differs from the pre-test result. Apparently, the mean of post-test result is higher than pre-test result. The mean score of post-test for control class was 57 and the mean score for experimental class was 59,88 so that the mean score of post test in experimental class is higher the the control class. After teaching that given in experiment class using Mindly (Mind Mapping) strategy the students’ reading comprehension is gained. It is clear that Mindly strategy is gives positive effect to teach reading comprehension to solve students’ reading comprehension.

Thirdly, the writer assumed that using Mindly strategy is effective to teach students’ reading comprehension. The result of students’ pre-test and post-test showed that tobs > ttable that is 0,9999 > 0,6 the value of tobs is higher than ttable. The alternative hypothesis (Ha) is accepted which means using Mindly (Mind Mapping) strategy is gives positive effect to teach students’ reading comprehension.

References


Clarke, Paula J., Emma Truelove, Charles Hulme, and Margaret j. Snowling. 2014. Developing reading comprehension. USA: John Wiley & Sons, Ltd


