



## THE EFFECTIVENESS OF MIND MAPPING TECHNIQUE IN ENHANCING STUDENTS' READING ACHIEVEMENT

### KEEFEKTIFAN TEKNIK PETA PIKIRAN DALAM MENINGKATKAN PENCAPAIAN MEMBACA SISWA

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#### Abstract

Reading is considered challenging for high students in which students are not massively exposed to English input. Despite the challenge, the students are required to have good reading ability. One of the most proposing techniques is mind mapping. This research aims to reveal to what extent the mind mapping technique enhances students' reading achievement. Moreover, the research was quasi-experimental research which involved one experimental groups and one control group. The samples were tenth grade students at SMAN 2 Kuala Kapuas, Central Kalimantan. Moreover, mind mapping technique served as the independent variable; while, students' achievement in reading served as dependent variable. The findings revealed that the mind mapping technique enhances students' reading achievement. In other words, it signifies the effectual mind mapping technique in enhancing students' reading achievement

**Keywords:** *rhetorical structure, linguistic features, introduction of research journal articles*

#### Abstrak

Membaca dianggap menantang bagi siswa sekolah menengah di mana siswa tidak terpapar input bahasa Inggris. Meskipun menghadapi tantangan, para siswa dituntut memiliki kemampuan membaca yang baik. Salah satu teknik yang paling diusulkan adalah peta pikiran. Penelitian ini bertujuan mengungkapkan sejauh mana teknik peta pikiran meningkatkan pencapaian membaca siswa. Penelitian ini adalah penelitian eksperimen semu yang melibatkan satu kelas eksperimental dan satu kelas kontrol. Sampel penelitian adalah tiga kelas dari kelas X SMAN 2 Kuala Kapuas, Kalimantan Tengah. Dalam penelitian ini, teknik peta pikiran adalah variabel independen, sedangkan kemampuan membaca siswa adalah variabel dependen. Hasil penelitian ini menunjukkan bahwa teknik peta pikiran efektif dalam meningkatkan pencapaian membaca siswa. Dengan kata lain, teknik menekankan keefektivitasan teknik ini dalam meningkatkan kemampuan baca siswa.

**Kata kunci:** Teknik peta pikiran, pencapaian membaca

## A. INTRODUCTION

Reading is what people do every time and everywhere starting from reading the small piece of instruction until longer information presented in books, newspaper and other printed media. Moreover, reading short piece of instruction is considered easy; meanwhile, reading longer text is relatively challenging since it involves active process and complex process in which the readers need to decipher the meaning from the written words and relate it to the background knowledge of the readers to make sense of the text.

Pang (2003: 12) says, “in order to understand a text, readers need to know the meanings of individual words.” The more word meanings knowledge, the easier the students understand the text. Similarly, Brown (2010) states that in order to get effective comprehension of the text, the students need the knowledge of the words classification; verb, noun, etc. It will provide them with greater assistance even though they lack of syntactic knowledge.

Reading English text for high school students, especially for countries where English is a foreign language such as Indonesia, is undoubtedly highly challenging. The only time they are exposed to the reading materials is in the classroom. In other words, they lack of exposure which makes reading even more difficult. It is experienced by most of high school students when they are faced with long written text. On the other hand, they are unquestionably required to have a good ability in reading comprehension. Good reading ability eases them to get knowledge and information from texts and do the assigned tasks. Besides, another obstacle faced in reading comprehension is sociocultural aspect. Most of the time, the culture portrayed in the text is not something they are familiar with. Despite all the hardness that students are going through in reading, reading is undeniably is very vital skill in language learning. Due to its importance, several techniques have been proposed to enhance students’ reading comprehension. One of them is mind mapping.

The mind map was originated by Buzan as the founder in 1970. It is based on the theory of radiant thinking. The theory refers to “associative thought processes that proceed from or connect to a central point” (Buzan and Buzan, 2005:54). Buzan as the inventor of mind map technique says in his book that a mind mapping technique is “a technique which can be applied to every aspect of life where improved learning and clearer thinking will enhance human performance” (Buzan and Buzan, 2005: 55). It is using a diagram to represent words, ideas, tasks, or other information connected to and arranged radially around a central key word or idea. Using mind map means functioning the brain naturally in receiving, processing information, and enhancing memory, concentration, and creativity. It optimizes the function of the right brain and left brain because the enrichment of colors, pictures, and codes stimulate the brain to work creatively.

Mind mapping technique is relatively easily conducted. The students are able to make it simply in the words or drawings. In the beginning stage, the students take a sheet of paper. Next, they put it horizontal and draw a big circle in the center of the paper. The students then may write down the main idea of the text in the circle. Using colored pen, the students create colorful and attractive mind map. After that, students connect main branches to the main idea. They may do it for the sub branches. The students then make a warp line for each branch in order to avoid conventional way. Moreover, they write one word or simple drawing for representing the idea on the branches.

Considerable number of studies have been undertaken to find out the effect of mind mapping on many areas. Farrand, Hussain, Hennessy (2002) conducted

experimental study which aimed at maximizing the factual recall from written text. The samples were undergraduate medical students. Moreover, experimental group was taught using mind mapping technique; while, control group was taught using self-selected study. The findings of the study showed that students in experimental group outdid the students in control group about 10% which proved that mind mapping is effective to maximize the factual recall from the texts.

Additionally, mind mapping technique is proven to be useful to organize complex information. A study was conducted by Kotcherlakota, Zimmerman, & Berger (2013) aiming to clarify students' thinking and help them to organize complex information. The samples of this study were the graduate nurse students. Instead of using mind mapping alone, they decided to combine it with fishbowl technique. The result amazingly showed that mind mapping combined with fishbowl is able to demystify the students' thinking related to research focus, review literature and conceptual framework.

In Indonesia context, there were some studies undertaken to find out the effect of mind mapping on students' comprehension. Wirda, Sulaiman, and Wahyudin (2014) conducted pre-experimental research on the effect of mind mapping. The samples were eight-grade students in one of Junior high school at Kasimbar. The result of pre-test and post-test unveiled that the post-test score of students were significantly higher than their pre-test score. Another experimental study was conducted by Indrayani (2014). This mind mapping technique was applied in teaching narrative text. Similar to the previous study, this study also showed positive result.

Given the evidence of the effect of mind mapping on the previous study, this technique may be a particularly effective to those students who have relatively similar ability and similar background. However, its efficacy as the effective technique to enhance reading achievement of students who come from different regions with noticeable differences needs to be established. The samples of this study were tenth grade students at SMA 2 Kapuas who have noticeable differences in English competence. Students from urban areas have higher English competence than students from rural areas. Therefore, the study intends to find out the effectiveness of mind mapping technique to enhance students' reading achievement.

## B. RESEARCH METHOD

The research was a quasi-experimental research aiming to investigate the use of mind mapping technique to students' reading achievement. There were two variables in this study. Mind mapping technique served as independent variable, and students' reading achievement served as dependent variable. The samples of this study came from different areas, both urban and rural areas. They also had noticeable differences in terms of English skills.

The table of the research design is shown below.

**Table 1.** Design of the Research

| <b>Group</b>      | <b>Pre-test</b>       | <b>Treatment</b> | <b>Post-test</b>      |
|-------------------|-----------------------|------------------|-----------------------|
| <b>Experiment</b> | <i>O</i> <sub>1</sub> | X                | <i>O</i> <sub>2</sub> |
| <b>Control</b>    | <i>O</i> <sub>1</sub> | -                | <i>O</i> <sub>2</sub> |

The treatments were done for six meetings in which the experimental group was taught using mind mapping technique. Before the treatment was given, both groups

were required to pre-test. After the treatments were given, post-test were administered to measure students' reading comprehension. The tests were in the form of the text passage. The data analysis technique was in form of descriptive statistics. The descriptive analysis was aimed at providing answer to the research question about the mind mapping technique and students' ability in reading comprehension. The statistic used in computation was the mean, which was the average score of the subject of this research, and standard deviation which was the average variability of all the scores around mean.

### C. RESULT AND DISCUSSION

#### Result

The data of the post-test scores from those groups were compared to find out the difference after the treatments were conducted. The comparison can be observed as follow.

**Table 2.** Comparison Data of Students' Reading Comprehension among Three Classes in the Post-test

| Data    | Experimental Class | Control Class |
|---------|--------------------|---------------|
| Number  | 65                 | 27            |
| Mean    | 64.43              | 54.30         |
| Minimum | 36.67              | 20.00         |
| Maximum | 90.00              | 83.33         |

The mean scores of experimental class were 64.43. In the control class, the mean score was 54.30. For the lowest score, it was on the control class. For the highest score, it was still on experimental class 1. The gained mean score in the post-test reflected the different level of ability in reading comprehension for experimental classes and control class after the treatments were conducted. The result of hypothesis testing is presented in following table.

**Table 3.** The Result of the Hypothesis Testing

| Source          | F      | Sig. |
|-----------------|--------|------|
| Corrected Model | 28.957 | .000 |
| Intercept       | 87.602 | .000 |
| Gender          | 1.158  | .285 |
| School          | 4.385  | .040 |
| Pretest         | 44.076 | .000 |
| Treatment       | 45.917 | .000 |

Based on Table above, F-score and significance for reading achievement were 28.957 and 0.000. For the first hypothesis, null hypothesis ( $H_0$ ) was rejected because  $p < 0.05$ . Besides, the alternative hypothesis ( $H_a$ ) was accepted. It was also supported by F-score and significance of pre-test as covariate. In addition, significance of treatment shows  $p < 0.05$ . Moreover, it is also shown that the F-score for pre-test was 44.076 and the significance was 0.000. Therefore, there is a significant difference in

reading achievement between students taught using the mind map technique and those who are not.

### **Discussion**

Theoretically, mind mapping technique enhances students' reading achievement, because it makes students easier to remember the idea, comprehend the whole text, and show their creativity. This is related to the theory from Buzan and Buzan (2005: 54) that using mind map functioning the brain naturally in receiving, processing information, and enhancing memory, concentration, and creativity. Based on the result, it is reported that there was significant difference between students taught using mind mapping and students taught using conventional ways. This result is in line with the previous study conducted by Indrayani (2014) and Wirda, Sulaiman, and Wahyudin (2014). The samples of these previous studies were also high students. The reason is merely because they get excited using mind mapping technique since they can elucidate the idea in a creative way like drawing. They like to comprehend the text while pour the idea on a map. It can be analyzed by students' map, which showed that they are good in drawing and making a good mind map.

As it is mentioned by Guerrero and Ramos (2015), using mind mapping technique in teaching offers many advantages which ease students to understand the text. First and foremost one is the relation of the parts is clearly and visibly seen. In other words, using mind mapping the plot of the text is easily identified and the students are able to identify the core part and the supporting details. Besides, all information provided in the text is presented in only one map. It is relatively easy to relate to information needed. Last but not least, mind mapping is hugely attractive in which the students can draw the map using color and images that they want.

This study also showed similar finding to studies conducted by Farrand, Hussain, Hennessy (2002), Kotcherlakota, Zimmerman, & Berger (2013), Guerrero & Ramos (2015). Unlike this study, these three previous studies involved undergraduate and graduate medical students as the participants. These studies aim at helping the students to organize complex information on particular subject. Mind mapping technique works perfectly in arranging more complex information which resulting on higher reading comprehension. To conclude, the effectual impacts of mind mapping technique on both high school students and higher educational students are undeniable. It strongly enhances students' reading achievement as it is visually attractive and convincingly effective.

### **D. CONCLUSION**

The result of mind mapping technique on the students' map showed that the students can comprehend the text easier by using mind map. Thus, the mind mapping technique can be taught to the other students to make them simply in comprehending the reading text. These findings imply that the teacher can use the mind mapping technique to teach all students in the classroom. Next, the teacher should teach more of reading using this technique for students from the rural areas, in order to help them acquire the same reading achievement as students from the urban do.

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