

The Effect of Using Mind Mapping Technique towards Students' Ability at Eleventh Grade of Senior High School Number 11 Jambi City

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ABSTRACT

The aims of the research is to see whether using mind mapping techniques improves students' writing abilities. This research uses a quantitative approach with a quasi-experimental methodology. A pre-test and post-test are used to collect data in this design. This research took place at SMAN 11 Jambi City. The researcher used a simple random sampling strategy to select students for the sample. Students in XI MIPA 2 were taught using the mind mapping technique, while students in XI MIPA 1 were not. The data gathered for this research was analyzed using the SPSS application. To collect data, the researcher gave a writing exam, which consisted of writing an explanatory text. Students in the experimental class completed a writing test using a mind mapping technique, whereas students in the control class did not use a mind mapping technique. The data in this research is analyzed using normality, homogeneity, and t tests. The following are the research's findings: (1) Normality test results for the experimental class with sig. 0.752 > 0.05 and the control class with sig. 0.510 > 0.05 show that the research's normality test is normally distributed. (2) The homogeneity test findings of the experimental class with sig. 0.678 > 0.05 and the control class with sig. 0.457 > 0.05 in this research are homogeneous. (3) The t-test results for both classes with a sig. 0.000 0.05 indicate that using mind mapping techniques has an effect on students' writing results.

Keywords: *Mind Mapping Technique, Writing Ability*

INTRODUCTION

Education is a deliberate and organized endeavor to provide learning, a learning environment, and a learning process in order for students to actively develop their potential. This is stated in Article 3 of the SISDIKNAS Law No. 20 of 2003 regulating the national education system. An English lesson is one of the lessons that can fulfill the purpose of education under Law No. 20 of 2003 because English has become a highly important way of communicating in the world due to its status as an international language. This was explained by Abbot (2007), who stated that the ability to communicate using more than one language can actually improve the ability of the brain and monitor the brain system much better. As a result, learning English is a crucial lesson for students because it can increase their knowledge of language abilities.

According Field (2000) there are four

technical abilities that must be learned if students want to master English: Listening, Speaking, Reading, and Writing. And writing is considered one of the most important abilities in learning English. In the context of learning writing abilities, to master writing lessons optimally and accomplish the intended goals, learning techniques that teachers could use to help students understand writing lessons is required. Techniques must be diversified and not monotonous in order to meet the demands and difficulties of students. Based on the observations of researchers while implementing teaching practice for two months at SMAN 11 Jambi while teaching in class eleventh, based on the teacher's lesson plans using a scientific approach method with a question-answer technique. Unfortunately, using the question-answer technique is incompatible with learning to write. Students become passive in the question-answer

technique for fear of giving the wrong answer. As a result, the teacher still dominates the question-answer technique and students become less confident and innovative in their learning. Whereas in ideal writing learning, according to Jones (2005), students are challenged to explore more about the knowledge they have, learning to write requires students to learn to sort things logically and classify things to be written, and if it is repeated, it will make students smarter in understanding something, and learning to write trains students to make a diagnosis of the problem.

To overcome the problems above, the solution that can be used is to equip students with interesting learning techniques. Learning techniques is one way to improve their writing abilities. The mind map technique is one of the learning techniques that teachers can use because it has the potential to reduce student boredom when learning to write. Because students are no longer forced to write down books and then memorize them, this technique sharpens their analytical and logical abilities. Mind mapping techniques will also teach students how to record and compile key information from a concept or major idea they are studying.

REVIEW OF RELATED LITERATURE

Definition of Writing

Writing is one of the useful skills that must be learned when learning to use a language. Because writing skills are important for optimizing informative abilities when learning a language, students learn and acquire language through written and spoken aspects to improve their communicative competence. Based on Jozsef (2001) Writing is a complicated procedure that includes creating ideas, as well as capturing knowledge and expertise on the subject under discussion. In the communication process, students should ideally understand the rules for having

conversations with others, collecting information, and communicating about the language itself.

Hylad (2003) states the definition of writing as a product of grammar and vocabulary, and writing development results from imitation and manipulation of models provided by the teacher. Many people seem to believe that writing is an extension of grammatical tools for reinforcing language patterns and testing students' ability to form well-functioning sentences.

Based on Celce (1991) writing is defined as the ability to express one's perception in writing in a language that is not their mother tongue or native language. This indicates that creating words is a method when we represent ourselves in the form of words, because the process of writing reflects the things that are in our minds.

According to the definitions above, writing is the most difficult skill to master among others. Many factors determine good writing, including grammatical, vocabulary, punctuation, and spelling knowledge, all of which must be integrated to form a paragraph. Because of that, writing is not easy. It needs a hard work. In writing we have to produce words, phrase, sentences, and paragraph at the same time. It is a way of learning. None of us can write much of interest without first thinking, probing, observing, asking question, experimenting, and reading.

Explanation Text

An Explanatory text is written to explain how and why something in the world occurs. According to Kemendikbud (2017) explanation text is a non-fiction text that describes how or why something happens. Which can be interpreted as meaning that explanation text is about a phenomenon that occurs in our environment.

Generic Structure of explanation text:
(1) General statement is general explanation that provides readers with background

information necessary to comprehend the text. (2) Sequence explanation is a paragraph that explains why the phenomenon can occur and explains the stages of the phenomenon. Sequence explanation can be several paragraphs. (3) Concluding statement contains a concluding paragraph that summarizes all of the information provided in the previous paragraphs.

Mind Mapping Technique

Backwell (2009) emphasizes that mind mapping is a brainstorming technique that relates to the pre-writing classification of the writing process and is a note-taking technique where the main topics are subdivided into sub-topics and then written in the branch structure. When creating a mind map, free-form, spontaneous thinking is required, and the primary objective of mind mapping is to find creative associations between ideas.

Buzan (2006) went on to explain that mind mapping is a storage system, with draw all data, and exceptional access to a giant library, which actually exists in the amazing brain, because mind mapping helps collate and store as much information as desired, and group in a natural way. Mind mapping has been used as a teaching technique for various language skills, especially writing abilities, because mind mapping allows the brain to use all the images and engage in directed design, which can make students write paragraphs or essays in an orderly and more structured manner.

The Advantage of Using Mind Mapping Technique.

Chik, Plimmer and Hosking (2007) stated. There are several benefits of using of Mind Mapping for self-development: (1) saves time by only recording relevant. (2) While passively developing an idea of organizational structure, associations between significant points of knowledge are

formed. (3) Because mind maps are effective at displaying relevant keywords linked to a specific topic, evaluating mind maps takes less time than reviewing written notes. (4) The processing of information by the brain is helped by providing a visually appealing background.

METHODOLOGY

This research chooses a quantitative research methodology with quasi-experimental as design of this research. This design involves group consist two class: control class and experiment class that has both pretest and posttest and experimental and control groups. A pre-test is given before treatment, and a post-test is given after that to assess the effectiveness of the treatment.

The students in the experimental class was taught using mind mapping technique during the writing process as the research's treatment it aims to know whether there is significant development before and after using mind mapping technique and to know whether by using mind mapping technique can improve writing skill. For the students in control class was taught using question and answer technique, the application of question and answer technique in the control group was intended to determine whether there are differences in writing learning between mind mapping techniques and question and answer technique.

This research has two variables, the mind mapping technique as dependent variables and students writing ability as independent variable. According to Creswell (2012), a researcher who intends to generalize to a subset of the target population is the sample. The sample is selected is random sampling by the researcher. Random sampling is performed by gathering each class representative and drawing lots for the class, resulting in two classes that use as a sample for this research. The sample consists of 36 students from XI Mipa 1 as the control

group and 36 students from XI Mipa 2 as the experiment group.

In collecting data, the researcher uses some procedures as follows: (1) A pre-test, the researcher conducted explanation text tests for experiment class and control class. (2) Treatment, researcher used the mind map technique in the experimental class and question and answer technique in control class. (3) A post-test, for experiment class the explanation text using mind mapping technique used as a test and for control class using question and answer technique in this post-test.

This research used SPSS application for analyzed the data of the effect of using Mind Mapping Technique toward students' ability in writing obtain from the test.

1. Descriptive Statistic

To summarize the student's responses on writing skills through mind mapping technique. (1) Analyze the mean score. (2) Analyze the median score. (3) Analyze standard deviation.

2. Normality Test

The Kolmogorov-Smirnov test was used to evaluate normality in this research.

3. Homogeneity Test

The homogeneity test was evaluated by the researcher using the Levene test.

4. T-test

The T-test formula was used to compare the post test scores of both groups

FINDINGS AND DISCUSSION

The findings are based on research question which was to determine how mind mapping technique affected students' writing abilities. This research took place at SMAN 11 Jambi city from the end of February to the early of March 2023. A written test with explanation text material was used to collect data for this research.

This research determined that the level of significance in this research was 5% (0,05). The experimental class and the

control class were taught with same materials but different techniques in teaching writing. The experimental class was taught explanation text material with using mind mapping technique, whereas the control class was taught explanation text without mind mapping technique

Descriptive Statistic

To summarize the student's responses on writing skills through mind mapping technique. The researcher used descriptive statistics to analyze the data of students' writing scores.

In the experimental class, there are 36 students' scores taken for the pre-test and post-test data. The pre-test result showed that the mean score of data was 63.39. From the pre-test result, it could be seen the highest score pre-test was 78. Meanwhile, the lowest score was 45. Those scores were obtained before the students got the treatment, while in the post-test, the mean post-test was 85.64. The highest score was 95 and the lowest score was 80 obtained. Those scores were obtained after the students got the treatment using mind mapping technique.

In the control class, there are 36 students' scores taken for the pre-test and post-test data. The pre-test result showed that the mean score of data was 68.33. From the pre-test result, it could be seen the highest score pre-test was 76. Meanwhile, the lowest score was 55. Those scores were obtained before the students got the treatment, while in the post-test, the mean post-test was 78.78. The highest score was 89 and the lowest score was 7. Those scores were obtained after the students got the treatment without using mind mapping technique.

Normality Test

To find out whether the data in this research are regularly normally distributed, a normality test is used. The Kolmogorov-Smirnov test was used to evaluate normality

in this research. The SPSS application was used for the calculations for this research.

The significance values of the experimental class are 0.752 and the significance value of the control class are 0.510. The data is normally distributed because it meets the criteria determined by the normality test rules, namely, "if the Asymp. Sig. (2-tailed) is higher than the Alpha level of 5% (Asymp. Sig. (2-tailed) > 0.05), it can be concluded that the data derived from the population distribution is normal."

Homogeneity Test

The aim of a homogeneity test is to determine whether or not the variances of all unrelated population groups different. The homogeneity test was evaluated by the researcher using the Levene test.

The significance values of homogeneity of experiment class test are 0.678 and the significant value of homogeneity test is 0.457. It shows that the experiment class has a value of $0.678 > 0.05$, while the control class has a value of $0.457 > 0.05$. If the Asymp. Sig. (2-tailed) is higher than the Alpha level of 5% (Asymp. Sig. (2-tailed) > 0.05), It can be concluded that the homogeneity test of the both of classes is homogeneous.

T-test

The t-test formula was used to compare the post test scores of both groups, to determine whether the differences between pre-test and post-test values are significant.

The pre-test and post-test of the experimental class were sig. $0.000 < 0.05$, while the pre-test and post-test of the control class were sig. $0.000 < 0.05$. This means that H_0 is rejected and H_a is accepted because the significance value of both classes is less than 0.05. As a result, it is conclude that the use of mind mapping techniques has an

effect on the students' writing abilities in the eleventh grade at Senior High School Number 11 Jambi City.

Based on the findings of this research, it can be determined that students who apply mind mapping techniques achieve higher writing scores than students who do not apply mind mapping techniques. The experimental class received treatment with mind mapping techniques, compared to the control group, which received question and answer technique. Following that, the researcher conducted a posttest in both classes. Researchers could notice distinctions between the two classes based on the student behavior. For example, after the treatment, students in the experimental class, students gain confidence in writing because they have organized their main ideas in their mind maps. Paragraphs that were jumbled at first become neat because they have structured their ideas in their mind maps. Mind maps also encourage students to think creatively and support their creativity in forming paragraphs. Meanwhile, the control group received no treatment while the explanatory paragraphs were being written. They received treatment without applying the mind-map technique. As a result, students cannot enjoy learning to write because researchers apply question and answer technique, such as using English textbooks. They are less creative in developing their writing skills because they are limited by English textbooks.

Another difference between the experimental and control classes can be found in the data from hypothesis analysis using SPSS. The experimental class's pre-test and post-test scores were sig. $0.000 < 0.05$, while the control class's pre-test and post-test scores were sig. $0.000 < 0.05$. This indicates that H_0 is rejected and H_a is accepted since the significant value of the two classes is less than 0.05. The findings showed significant differences between teaching writing explanatory texts with the mind map

technique and teaching writing explanatory texts without the mind map technique, it is possible to conclude that using mind mapping techniques has a significant effect on students' writing ability.

CONCLUSIONS

After the researcher analyze the data on the chapter IV. The researcher concludes based on the chapter IV of this research, that:

- 1) The effect of using mind mapping can be seen in the average value of the experimental class. The pre-test mean score was 63.39, while the post-test mean score was 85.64, indicating an increase of 22.25 in the pre-test and post-test scores.
- 2) The difference in the mean value post-test scores of the experimental and control classes demonstrates the effect of using mind mapping techniques. The experimental class's mean value post-test score was 85.64, while the control class's mean value post-test score was 78.78.
- 3) Another effect can be seen in the data analysis hypothesis test, where the value $\text{sig } 0.000 < 0.05$ indicates that the sig value is less than the significant degree (0.05). The hypothesis test decision criteria demonstrate that H_0 is rejected while H_a is approved. That suggests that mind mapping techniques have an effect on students' writing abilities.

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