

The Effect of Jigsaw Type Cooperative Learning Model Assisted By Mind Mapping Media and Environmental Vocabulary Mastery on Narrative Text Writing Skills of Class IX SMP Negeri 2 Batang Anai Students

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Abstract

The purpose of this study was to describe the effect of the jigsaw type cooperative learning model assisted by mind mapping media on short story writing skills, the effect of the Jigsaw type cooperative learning model on short story writing skills of students who have high and low environmental vocabulary mastery. This type of research is quantitative research with experimental method. The research design used is nonequivalent control group design. The population of this study were ninth grade students of SMP Negeri 2 Batang Anai in the 2024/2025 school year. The instruments of this research are objective tests of environmental vocabulary mastery and performance tests of short story text writing skills. Based on the data analysis and discussion above, it can be concluded as follows. First, there is a difference in the results of the performance test of short story writing skills of grade IX students of SMP Negeri 2 Batang Anai using the jigsaw model assisted by mind mapping media with an average of 80.24 and the results of the performance test of short story writing skills using the conventional model with an average of 64.05. Second, there is a difference in the results of the short story writing skills performance test of grade IX students of SMP Negeri 2 Batang Anai with high environmental vocabulary mastery using the jigsaw model assisted by mind mapping media which obtained an average of 88.89 very good qualification (BS) with the results of the short story writing skills performance test of students with high environmental vocabulary mastery using the conventional model which obtained an average of 69.63 more than sufficient qualification (LdC) Third, there is a difference in the results of the short story writing skills performance test of grade IX students of SMP Negeri 2 Batang Anai with low environmental vocabulary mastery using the jigsaw model assisted by mind mapping media which obtained an average of 79.26 good qualification (B) with the results of the short story writing skills performance test of students with low environmental vocabulary mastery using the conventional model which obtained an average of 57.04.

Keywords : *jigsaw, mind mapping, vocabulary acquisition, writing skills, narrative*

Introduction

Learning Indonesian language is one of the mandatory learning activities at the level of education, especially in Indonesia, because learning Indonesian language is a subject that is basic and plays an important role in achieving general educational goals. Learning Indonesian language emphasizes the importance of mastering language skills (Insani, 2024).

Indonesian language learning in the independent curriculum has six aspects of language skills, namely listening, speaking, reading, writing, presenting, and viewing

skills. These six language skills are needed by students to support students' success in learning. This is in line with the opinion of Mulyadi & Wikanengsih (2022) that as technology develops, language or communication skills continue to grow. Receptive skills are listening (oral), reading (written), and viewing (visual). Meanwhile, productive skills are speaking (oral), presenting (visual) and writing (written). But in reality, not all language skills can be mastered by students, one of which is writing skills (Marlisa et al., 2020).

At this time students still have difficulty in expressing their ideas and feelings in the form of a writing and have difficulty in arranging words into well-structured sentences (Yulianingsih & Koeswanti, 2023). The quality of the process and results of student writing learning is still low (Ihsani et al., 2024). In addition, students' writing skills are less honed due to the frequent translation of writing on the platform that has been provided, causing students to have difficulty in developing their ideas in writing (Firdaus et al., 2024).

Many factors cause students to have difficulty in writing, including motor disorders, behavior, memory, perception, use of the dominant hand, ability to understand instructions and motivation (Indawati et al., 2024). In addition, low student writing skills can be caused by low student interest and motivation, lack of student habituation in writing, limited time for students to practice writing, and students' inability to develop language (Ihsani et al., 2024).

One of the texts taught in Indonesian language subjects in grade IX Junior High School (SMP) is narrative text. Narrative text in grade IX Indonesian language learning is divided into two, namely short story text and inspirational story text. In addition, this research also focuses on environmental vocabulary. Environment is very close to narrative text. The environment is one of the key elements in sustainability, and special attention and protective measures are needed (Arwien et al., 2024). The role of the younger generation is also needed to protect the environment because their participation in environmental protection is needed to ensure a sustainable future (Ramdani et al., 2024). However, based on the results of the researcher's interview with the Indonesian language teacher, it was found that 9th grade students of SMP Negeri 2 Batang Anai still had difficulties in writing short story texts. Students still have difficulty in compiling text based on a good structure. In addition, students also have difficulty in starting a writing because of confusion in determining the theme that will be told. Students also still have difficulty in composing sentences in a text. Therefore, researchers focus on the skill of writing short story texts. This is in line with research conducted by Bakara et al (2024) that one of the obstacles often experienced by students is the difficulty in finding story ideas that will be poured into the content of short stories. Students are less able to write short story texts in accordance with good structure and language so that student writing scores are below the KKM.

To improve students' writing skills, teachers have a very important role. Teachers as facilitators are required to be able to give a different impression from the way they teach. Teachers must provide innovations in every learning activity so that students are not bored and able to understand learning well. Teachers are required to be able to educate, teach, guide, and train so that students can achieve learning objectives (Agustina et al., 2022). However, at this time the teacher still provides learning materials using conventional models. This is in line with the findings of Cahyaningrum et al (2018) that teachers still use conventional methods. Teachers provide material and information to students directly which is traditional.

The lack of student motivation in learning Indonesian can also be caused by the fact that teachers have not used media and learning models that make it easier for students to write. The learning process carried out by teachers tends to lecture in delivering material so that students' ability to write has not reached the KKM (Hutasoit et al., 2019). Writing learning methods in the classroom tend to be less varied, more teacher centered. The teaching module prepared by the teacher uses the Problem Based Learning (PBL) model but is not implemented by the teacher. Therefore, a more effective learning model is needed that can be applied in learning to write (Tarigan et al., 2024). Based on the problems that have been described, one of the teacher's efforts is to change the learning model that is more interesting and able to improve students' writing skills. One of the learning models that teachers can use is the jigsaw type cooperative learning model.

Jigsaw type cooperative learning model is one of the learning models that can make students easier to practice writing. This model can make students understand the material evenly because in addition to the teacher, other friends will explain the material taught. In addition, students can also share their understanding and solve the problems they face by discussing with their group mates either in the original group or expert group (Tarigan et al., 2024).

This Jigsaw cooperative model is designed to increase students' sense of responsibility for their own learning and also the learning of others (Hutasoit et al., 2019). This Jigsaw type cooperative learning model has several advantages. First, it creates a dependency relationship during students' learning. Second, students can work together on group tasks. Third, it increases students' participation in the form of opinions and questions. Fourth, it trains students to be responsible for teaching material to group members. Fifth, it guarantees students' mastery of the material evenly in a short time. Sixth, improve student achievement in learning (Sari & Ahmad, 2024).

In order for the implementation of the Jigsaw model to run well, a learning media is needed. Learning media that is interesting and in accordance with the subject matter can improve student learning outcomes. One of the media that can be used is mind mapping media (Fauzia & Afrita, 2020). The selection of the Jigsaw model assisted by mind mapping media in this study is based on the idea that with the selection of this model students can improve students' writing skills. Mind mapping media can improve students' memory in the learning process and be creative to record the lessons learned. Mind mapping is the most effective medium for storing and retrieving information in and from the brain and helps the brain think in a structured and simple way (Nurdiana et al., 2024).

So, through the use of the jigsaw type cooperative learning model assisted by mind mapping media, it is expected to have a good influence on students' writing learning, especially in writing short story texts. By applying this learning model and media, teachers are expected to be able to design learning so that students are able to play an active role in the implementation of learning.

In this study, the author also chose environmental vocabulary to be studied. Environmental vocabulary is all words related to the environment (Ikhlāsani, 2021). The environment is one of the important things to pay attention to, because the environment reflects and describes the conditions or conditions in an area, so that it can reflect the activities, behavior of the people in the area. Therefore, good care and supervision are needed so that the benefits can be felt (Prathama et al., 2020). Mastery of environmental vocabulary is mastery of vocabulary that consists of a combination of physical conditions that include the state of natural resources such as land, water, solar energy,

and flora and fauna that grow on land and in the ocean (Kusumawardani, 2023). Vocabulary mastery can help students develop their ideas into texts, especially short story texts. Students with adequate mastery of environmental vocabulary will find it easy to write short story texts because vocabulary mastery can affect students' thinking and creativity.

Based on the problems that have been described, the skill of writing short story texts is very important to be studied. The researcher focused on the short story writing skills of ninth grade students of SMP Negeri 2 Batang Anai using the Jigsaw type cooperative learning model assisted by mind mapping media and vocabulary mastery. The researcher wants to know whether there is an effect of using the Jigsaw type cooperative learning model assisted by mind mapping media and vocabulary mastery on the short story text writing skills of ninth grade students of SMP Negeri 2 Batang Anai

Method

This type of research is quantitative research with experimental methods. The type of experiment to be used is quasi-experimental. The research design used is nonequivalent control group design. The population in this study were ninth grade students of SMP Negeri 2 Batang Anai who were enrolled in the 2024/2025 school year. Students are spread over five classes, namely IX.1-IX.5. with a total of 144 people. The samples in this study were class IX. 4 as the experimental class and class IX. 2 as the control class. This study consists of three variables. As the independent variable in this study is the Jigsaw type cooperative learning model assisted by mind mapping media, the dependent variable is the short story text writing skill, and the moderator variable is the mastery of environmental vocabulary. The instruments of this study were an objective test of environmental vocabulary mastery and a performance test of short story text writing skills.

Data collection techniques in this study were carried out through the following stages. First, students were asked to do an objective test related to the mastery of environmental vocabulary. Second, students were given a performance test to measure their short story writing skills in class IX SMP Negeri 2 Batang Anai. Data collection techniques in this study were carried out twice a meeting.

There were nine stages of data analysis in this study. First, scoring the performance test of students' short story writing skills. The scoring is absolute and assessed based on the scoring rubric. Second, converting scores into grades. To convert scores into values, the percentage formula is used. Third, determining the calculated average value of short story text writing skills. Fourth, classify the calculation results into a table using a scale of 10. Fifth, present the data in the form of bar charts per indicator assessed. Sixth, testing the meaning of the hypothesis.

Results

This research was conducted at SMP Negeri 2 Batang Anai. The data of this study are the results of the short story text writing skills performance test and the results of the vocabulary mastery test. The data were obtained from the research results of two classes, namely the control class and the experimental class. The control class was taught using the conventional model, while the experimental class was taught using the Jigsaw model assisted by Mind Mapping media. This research was conducted in January 2025. The samples in this study were students of class IX 2 as the control class and students of class IX 4 as the experimental class.

The steps in this research are three stages, namely the preparation stage, the implementation stage, and the completion stage. In the preparation stage, the researcher prepared the things needed in the research as follows. (1) determining the research schedule; (2) determining the learning materials; (3) preparing lesson plans with the jigsaw model and conventional model; (4) preparing tests to determine students' vocabulary mastery.

In the implementation stage, the learning process in the control class was different from the experimental class. In the control class, students are given learning using conventional models. While in the experimental class, students were given learning using the Jigsaw model assisted by Mind Mapping media, which previously in both classes had been given a pretest to see the initial value of students. Furthermore, researchers gave a test to see students' mastery of environmental vocabulary.

At the completion stage, the researcher gave the final test (posttest) to the control class and the experimental class. The researcher then processed the results of the short story writing skills performance test from the two samples and concluded the results of the study. The results of the study were processed based on the specified data analysis technique. The results of this study can be described as follows.

Short Story Text Writing Skills of Grade IX Students of SMP Negeri 2 Batang Anai Using Conventional Model

The scores of short story writing skills of students in class IX SMP Negeri 2 Batang Anai during the pretest are described in the following table. The highest score obtained by students was 66.67 and the lowest score was 26.67 and the average (M) was 47.62. Therefore, it can be concluded that the results of the performance test of short story writing skills of class IX students of SMP Negeri 2 Batang Anai control class during the pretest based on the three indicators are categorized in the almost sufficient qualification (HC) because it is at the mastery level of 46%-55%.

The scores of short story writing skills of ninth grade students of SMP Negeri 2 Batang Anai during the posttest using the conventional model are described in the following table. The highest score obtained by students was 80 and the lowest score was 33.33 and the average (M) was 64.05. Therefore, it can be concluded that the results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai control class during the posttest using the conventional model based on the three indicators are categorized in the sufficient qualification (C) because it is at the mastery level of 56%-65%.

The results of the performance test of short story text writing skills of students in class IX SMP Negeri 2 Batang Anai control class during the pretest are described as follows. First, there were 1 student (3.57%) who obtained a score of more than enough (LdC). Second, there were 11 students (39.29%) who obtained the score of short story writing skill with sufficient qualification (C). Third, there are 7 students (25%) who score almost enough (HC). Fourth, there are 6 students (21.43%) who get the score of short story text writing skills with less qualifications (K). Fifth, there were 3 students (10.71%) who scored very poorly on the short story writing skill.

The results of the performance test of short story writing skills of class IX students of SMP Negeri 2 Batang Anai control class during the posttest using the conventional model are described as follows. First, there were 1 student (3.57%) who scored good (B) on the short story writing skill. Second, there were 14 students (50%) who scored more than enough (LdC). Third, there are 8 students (28.57%) who get the score of short story text writing skills with sufficient qualifications (C). Fourth, students who scored almost

enough (HC) amounted to 5 students (17.86%). Based on the results above, it can be seen that the students' short story writing skills scores during the posttest were better than during the pretest. The results of the performance test of argumentation text writing skills of class IX students of SMP Negeri 2 Batang Anai control class can be depicted in the form of the following bar chart.

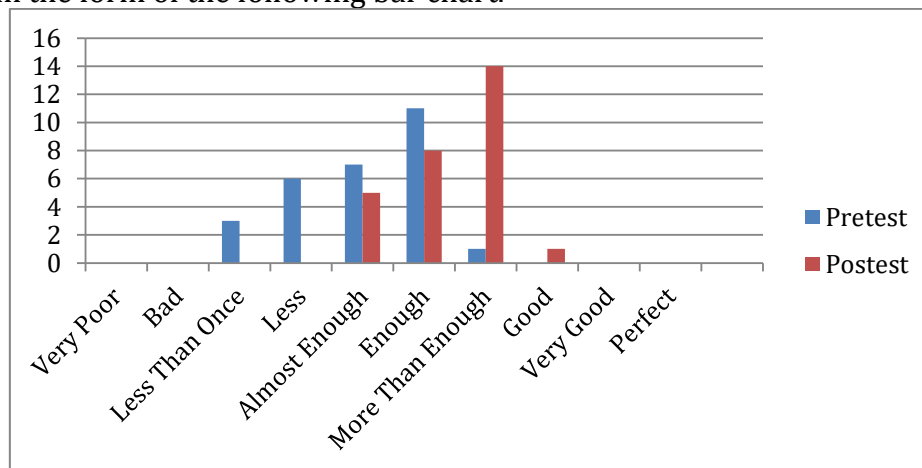


Figure 1. Bar Chart of Short Story Writing Skills Test Results Class IX Students of SMP Negeri 2 Batang Anai Control Class

Short Story Text Writing Skills of Grade IX Students of SMP Negeri 2 Batang Anai Using the Jigsaw Model Assisted with Mind Mapping Media

The scores of short story writing skills of students in class IX SMP Negeri 2 Batang Anai during the pretest are described in the following table. The highest score obtained by students was 86.67 and the lowest score was 53.33 and the average (M) was 70.24. Therefore, it can be concluded that the results of the performance test of short story writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class during the pretest based on the three indicators are categorized in the qualification of more than enough (LdC) because it is at the mastery level of 66%75%.

The value of short story text writing skills of ninth grade students of SMP Negeri 2 Batang Anai during the posttest using the jigsaw model assisted by mind mapping media is explained in the following table. The highest score obtained by students was 93.33 and the lowest score was 66.67 and the average (M) was 80.24. Therefore, it can be concluded that the results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class during the posttest using the jigsaw model assisted by mind mapping media based on the three indicators are categorized in good qualifications (B) because they are at the mastery level of 76%-85%.

The results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class during the pretest are described as follows. First, there were 3 students (10.71%) who scored very good (BS). Second, there were 3 students (10.71%) who scored good (B). Third, there are 16 students (57.14%) who score more than enough (LdC). Fourth, there are 4 students (14.29%) who get the score of short story text writing skills with sufficient qualifications (C). Fifth, students who scored almost enough (HC) amounted to 2 students (7.14%).

The results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai control class during the posttest using the jigsaw model assisted by mind mapping media are described as follows. First, there were 10

students (35.71%) who scored very good (BS). Second, there were 8 students (28.57%) who scored good (B). Third, students who scored more than enough (LdC) were 10 students (35.71%). Based on the results above, it can be seen that the students' short story writing skills scores during the posttest were better than during the pretest.

The results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class can be depicted in the form of the following bar chart.

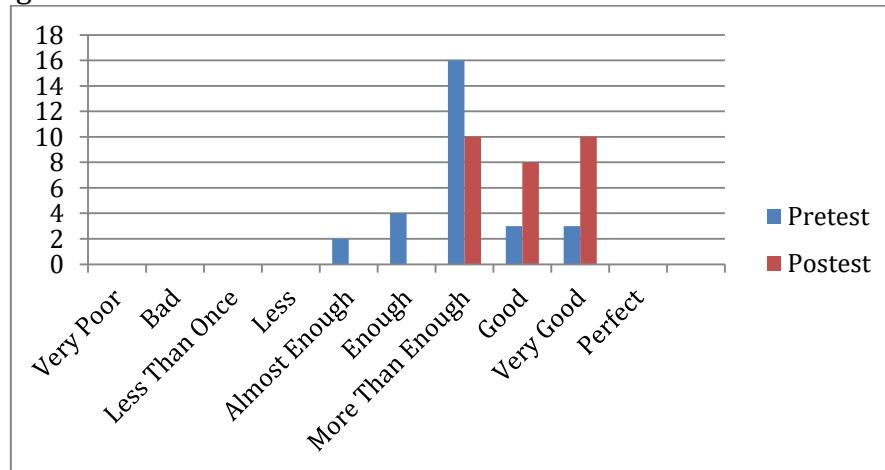


Figure 2. Bar Chart of Story Writing Skills Test Results Class IX Students of SMP Negeri 2 Batang Anai Experiment Class

Short Story Writing Skills of Ninth Grade Students of SMP Negeri 2 Batang Anai with High Vocabulary Mastery in the Control Class

Data from the performance test results of short story writing skills of class IX students of SMP Negeri 2 Batang Anai control class with high vocabulary mastery using the conventional model based on the three assessment indicators showed that the highest score obtained by students was 80 and the lowest was 60.

Average (M) of 69.63. Therefore, it can be concluded that the results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai in the control class with high vocabulary mastery using the conventional model based on the five indicators are categorized in the qualification of more than enough (LdC) because it is at the mastery level of 66%-75%.

The results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai in the control class with high vocabulary mastery using the conventional model are described as follows. First, there were 1 student (11.11%) who scored good (B) on the short story writing skill. Second, there were 5 students (55.56%) who scored more than enough (LdC). Third, there are 3 students (33.33%) who get the score of short story text writing skills with sufficient qualifications (C).

The results of the performance test of argumentation text writing skills of class IX students of SMP Negeri 2 Batang Anai control class with high vocabulary mastery can be depicted in the form of the following bar chart.

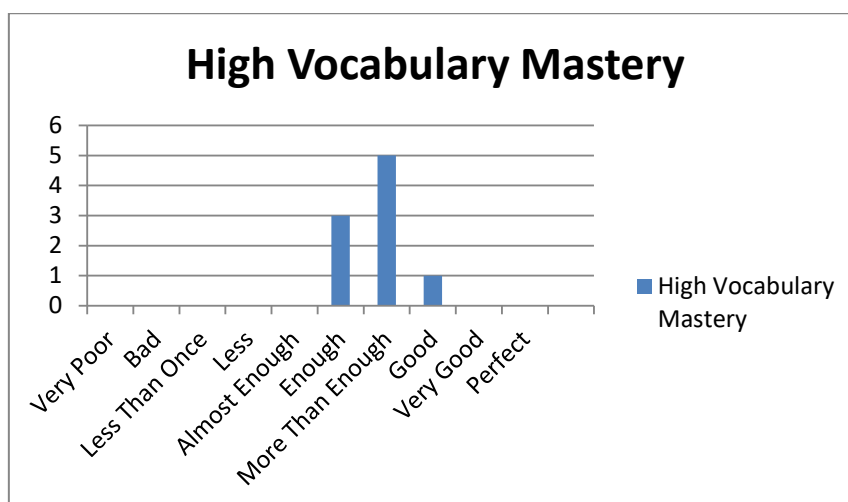


Figure 3. Bar Chart of Story Writing Skills Test Results Class IX Students of SMP Negeri 2 Batang Anai Control Class with High Vocabulary Mastery

Short Story Text Writing Skills of Grade IX Students of SMP Negeri 2 Batang Anai with High Vocabulary Mastery in the Experimental Class

The data from the performance test results of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class with high vocabulary mastery using the jigsaw model assisted by mind mapping media based on the three assessment indicators shows that the highest score obtained by students is 93.33 and the lowest is 80.

Average (M) of 88.89. Therefore, it can be concluded that the results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class with high vocabulary mastery using the jigsaw model assisted by mind mapping media based on the three indicators are categorized in excellent qualifications (BS) because they are at the mastery level of 86%-95%. The results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class with high vocabulary mastery using the jigsaw model assisted by mind mapping media are described as follows. First, there were 8 students (88.88%) who scored very good (BS) in their short story writing skills. Second, there were 1 student (11.11%) who scored good (B).

The results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class with high vocabulary mastery can be depicted in the form of the following bar chart.

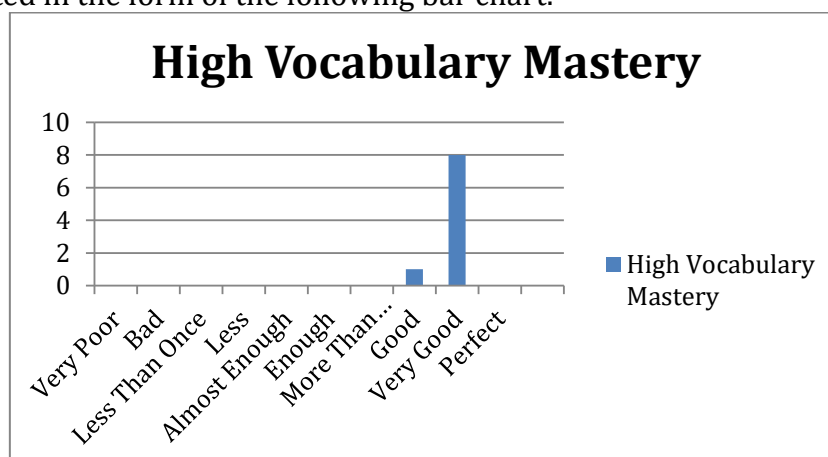


Figure 4. Bar Chart of Story Writing Skills Test Results Class IX Students of SMP Negeri 2 Batang Anai Experimental Class with High Vocabulary Mastery

Short Story Text Writing Skills of Ninth Grade Students of SMP Negeri 2 Batang Anai with Low Vocabulary Mastery in the Control Class

Data from the performance test results of short story writing skills of class IX students of SMP Negeri 2 Batang Anai control class with low vocabulary mastery using the conventional model based on the three assessment indicators showed that the highest score obtained by students was 66.67 and the lowest was 46.67.

Obtained an average (M) of 57.04. Therefore, it can be concluded that the results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai in the control class with low vocabulary mastery using the conventional model based on the three indicators are categorized in sufficient qualifications (C) because they are at the mastery level of 56%-65%.

The results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai in the control class with low vocabulary mastery using the conventional model are described as follows. First, there were 2 students (22.22%) who scored more than enough (LdC). Second, there are 3 students (33.33%) who get the score of short story writing skill with sufficient qualification (C). Third, students who scored almost enough (HC) amounted to 4 students (44.44%).

Based on table 4.45, the results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai control class with low vocabulary mastery can be depicted in the form of the following bar chart.

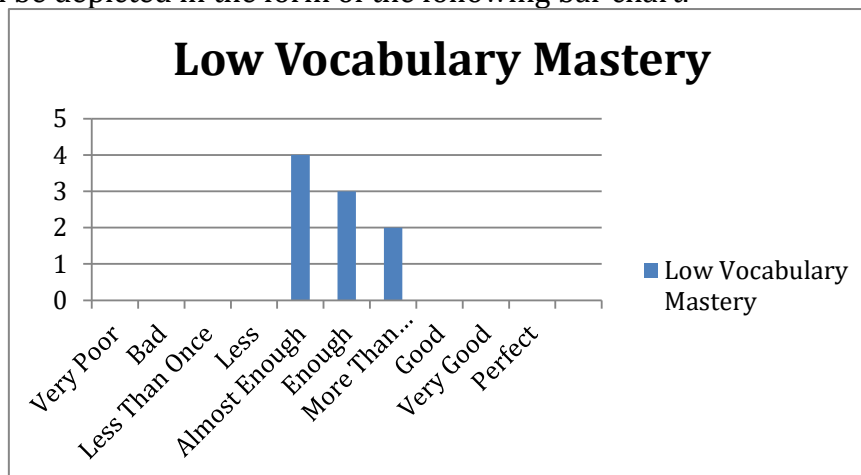


Figure 5. Bar Chart of Story Writing Skills Test Results Class IX Students of SMP Negeri 2 Batang Anai Control Class with Low Vocabulary Mastery

Short Story Text Writing Skills of Grade IX Students of SMP Negeri 2 Batang Anai with Low Vocabulary Mastery in the Experimental Class

Data from the performance test results of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai, experimental class with low vocabulary mastery using the jigsaw model assisted by mind mapping media based on the three assessment indicators, it is known that the highest score obtained by students is 86.67 and the lowest is 73.33.

Average (M) of 79.26. Therefore, it can be concluded that the results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class with low vocabulary mastery using the jigsaw model

assisted by mind mapping media based on the three indicators are categorized in good qualifications (B) because they are at the mastery level of 76%-85%.

The results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class with low vocabulary mastery using the jigsaw model assisted by mind mapping media are described as follows. First, there were 2 students (22.22%) who scored very good (BS) in their short story writing skills. Second, there were 4 students (44.44%) who scored good (B). Third, students who scored more than enough (LdC) were 3 students (33.33%).

Based on table 4.48, the results of the performance test of short story text writing skills of class IX students of SMP Negeri 2 Batang Anai experimental class with low vocabulary mastery can be depicted in the form of the following bar chart.

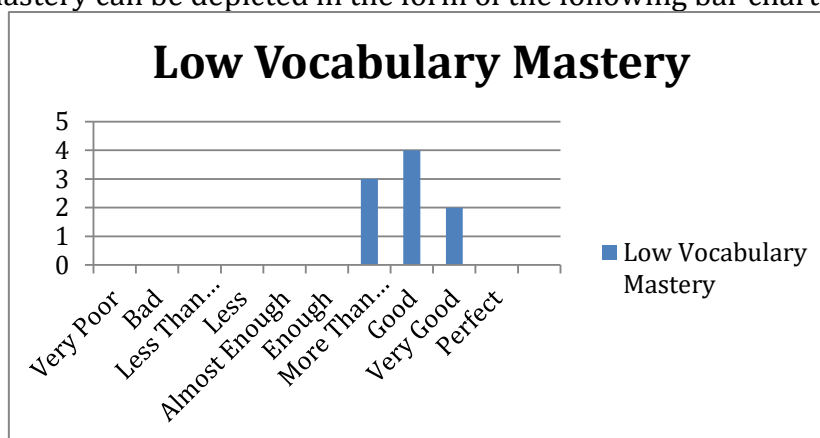


Figure 6. Bar Chart of Story Writing Skills Test Results Class IX Students of SMP Negeri 2 Batang Anai Experimental Class with Low Vocabulary Mastery

Discussion

Short Story Writing Skills of Ninth Grade Students of SMP Negeri 2 Batang Anai Using Jigsaw Model Assisted with Mind Mapping Media and Conventional Model

Based on the hypothesis testing that has been done, it can be seen that the sig value is $0.000 < 0.05$. This indicates that there is a difference between the performance test results of students' short story text writing skills using the jigsaw model assisted by mind mapping media and the performance test results of students' short story text writing skills using the conventional model. This can also be seen from the average value of short story text writing skills of the experimental class using the jigsaw model assisted by mind mapping media is higher than the average value of short story text writing skills of the control class using the conventional model. This is in line with research conducted by Hendrisman (2020) that the jigsaw learning model affects students' writing skills and is more effective than conventional models. In addition, Riyanti & Wahyuni (2023) also found that the learning outcomes of the ability to write exposition text using the jigsaw model had a higher average value than the learning outcomes of the ability to write exposition using the conventional model. Students are more enthusiastic in participating in learning and can understand well. In a study conducted by Sihombing et al (2024) it was found that the use of the jigsaw model had an effect on the skills of writing explanatory texts. This can be seen from the average value of skills in writing explanatory text after using the jigsaw model is higher than the average value of skills in writing explanatory text before using the jigsaw model.

The jigsaw model is one of the cooperative learning models where students carry out a learning activity by working together with other students to achieve a common

goal. This model serves as a means in the learning process to improve student learning activities and outcomes (Buamona et al., 2024). The jigsaw cooperative learning model is one type of cooperative learning that encourages students to be proactive and actively participate in selecting subject matter to obtain maximum performance. This jigsaw type cooperative model is designed to increase students' confidence in their own learning and the learning of others. Students not only have to learn the material provided, they also have to share and explain the material to fellow group members (Fransisca & Ummul, 2024). The application of the jigsaw model can encourage students to be able to work together with the group and master the material well. The results of observations when learning using the jigsaw model took place showed that students were skilled in writing short story texts. Students are able to understand the short story text material well and can produce short story text according to the structure and building blocks of short story text.

In addition, the use of mind mapping media in assisting the implementation of the jigsaw learning model also has a significant effect on short story text writing skills. Mind mapping is used as a medium for expert groups to explain the material to the home group so that the material explained can be understood well.

Meanwhile, the application of learning short story text writing skills using conventional models tends to be passive. Conventional learning is a model commonly applied by teachers in general which consists of lecture, question and answer, and assignment methods (Peranginangin, 2020). This model makes students have no opportunity to contribute to knowledge, skills and attitudes in the learning process. Information and explanations from the teacher are done thoroughly and classically. Students tend to lack confidence and interest in learning because they only wait for information from the teacher so that students are not accustomed to working hard, learning independently, and discovering their own knowledge.

When viewed based on indicators, students better mastered the skills of writing short story texts on the indicator of developing the content of short story texts based on plot. This happened in both classes, namely the control class using the conventional model and the experimental class using the jigsaw model assisted by mind mapping media. However, the indicator that is less mastered by control class students is the indicator of developing short story text structure. Meanwhile, the indicator that is less mastered by experimental class students is the indicator of developing the building blocks of short story text. However, the average experimental class student has mastered all indicators of short story text writing skills well. This can be seen from the difference in student learning outcomes during the pretest and posttest. Even so, students must improve their writing skills in composing the plot based on the structure of the short story text and fulfill each element of the short story builder.

Short Story Text Writing Skills of Ninth Grade Students of SMP Negeri 2 Batang Anai with High Vocabulary Mastery Using Jigsaw Model Assisted with Mind Mapping Media and Conventional Model

Vocabulary is one of the components of language, and there is no language without words. Words are signs or symbols to express ideas or an idea. The more words a person uses, the more ideas or ideas they master, so they are able to communicate ideas well and effectively (Kusumawardani, 2023). Vocabulary is very important to master in order to be skilled in language. The quality of a person's language skills depends on the quantity and quality of their vocabulary. The richer the vocabulary we have, the more likely we are to be skilled in language (Sunariati et al, 2019).

Learning short story text writing skills using the jigsaw model assisted by mind mapping media shows better results than short story text writing skills using conventional models. Learning using the jigsaw model can make students with high vocabulary mastery produce good short story texts. In addition, the help of mind mapping media as a means for students to better understand the short story text material also makes the results of student writing better. This is because the jigsaw model applies components that make students participate more in learning. Based on hypothesis 2 testing, the sig value is $0.000 < 0.05$. This indicates that there is a difference between the performance test results of students' short story writing skills with high vocabulary mastery using the jigsaw model assisted by mind mapping media and the performance test results of students' short story writing skills with high vocabulary mastery using the conventional model. This is in line with research conducted by Kusumawardani (2023) that students who have high environmental vocabulary mastery using the Jigsaw model on the ability to write negotiation texts are better than the ability of students who use conventional methods. Juariah et al (2020) in their research also found that vocabulary mastery has a significant influence on exposition text writing skills.

Short Story Text Writing Skills of Ninth Grade Students of SMP Negeri 2 Batang Anai with Low Vocabulary Mastery Using Jigsaw Model Assisted with Mind Mapping Media and Conventional Model

After the research, there are several things that affect the vocabulary mastery of students in class IX of SMP Negeri 2 Batang Anai both internally and externally, one of which is interest and motivation to learn. Judging from the interest in the problem, students show less interest in learning. Students are not very interested in finding out things related to Indonesian language learning. In addition, the learning process that is not varied makes students bored quickly. Therefore, teachers play an important role in fostering student learning motivation. The thing that can be done is to use a varied learning model so that students are interested in participating in learning.

One can learn vocabulary since childhood because vocabulary cannot be limited and continues to grow with age. All vocabulary can be used when writing. Students who have adequate vocabulary tend to find it easy to develop their ideas and creativity. However, students who have a small vocabulary tend to have difficulties in developing their ideas and creativity (Nilawati & Ellya, 2019).

Based on hypothesis 3 testing, the sig value is $0.000 < 0.05$. This indicates that there is a difference between the performance test results of short story writing skills of students with low environmental vocabulary mastery using the jigsaw model assisted by mind mapping media and the performance test results of short story writing skills of students with low environmental vocabulary mastery using the conventional model. This proves that the jigsaw model assisted by mind mapping media can help students with low environmental vocabulary mastery become skilled in writing short story texts. This happens because the teacher has used a good model and is suitable for the characteristics of students. This is in line with research conducted by Kusumawardani (2022) that students who have low mastery of environmental vocabulary using the jigsaw model on short story text writing skills are better than the skills of students who use conventional methods.

From the research conducted and supported by expert opinions, it can be concluded that mastery of environmental vocabulary greatly affects students' short story text writing skills. The jigsaw model assisted by mind mapping media is very

suitable to be applied in the learning process to increase students' creativity and participation and make students skilled in writing short story texts.

Interaction Between Jigsaw Model Assisted with Mind Mapping Media and Vocabulary Mastery in Affecting Short Story Text Writing Skills of Grade IX Students of SMP Negeri 2 Batang Anai

Irianto (2004:225) states that an interaction can occur if the effect of one factor depends on other factors in influencing something. This means that each factor between the jigsaw model and the mastery of environmental vocabulary depends on each other in influencing the skill of writing short story texts. The interaction process between these variables can be explained as follows.

Based on the Anova test results in hypothesis 4, it can be seen that there is an interaction between the jigsaw learning model assisted by mind mapping media and students' mastery of environmental vocabulary in influencing short story text writing skills with $F_{count} 6022.115$ greater than $F_{table} 4.15$. The jigsaw model assisted by mind mapping media affects the short story text writing skills of students who have high environmental vocabulary mastery and low environmental vocabulary mastery. It can also be seen from the average value of students' short story writing skills when using the jigsaw model and when using the conventional model has a significant difference. This is in line with research conducted by Kusumawardani (2022) that there is an interaction between the jigsaw learning model and mastery of environmental vocabulary on students' negotiation text writing skills. In addition, Fransisca & Ummul (2024) in their research also found that the jigsaw learning model was effective in influencing writing skills.

As stated earlier, interaction is the effect of a particular learning method treatment on a group of students who have vocabulary mastery. However, mastery of environmental vocabulary does not necessarily fully determine success in writing short story texts. Many other factors as support such as intelligence, ability, talent, and others. In addition, the teacher's readiness factor in using the jigsaw model in the learning process of short story writing skills will also affect students' writing skills.

The research finding that there is an interaction between vocabulary mastery can be seen from the average short story text writing skills using the jigsaw learning model and the average short story text writing skills using the conventional learning model. This happened at both levels of mastery of environmental vocabulary, both high and low. The average score of short story text writing skills with high and low environmental vocabulary mastery in the experimental class using the jigsaw model is higher than the score of short story text writing skills with high and low environmental vocabulary mastery in the control class using the conventional model. This can be seen in the following interaction graph.

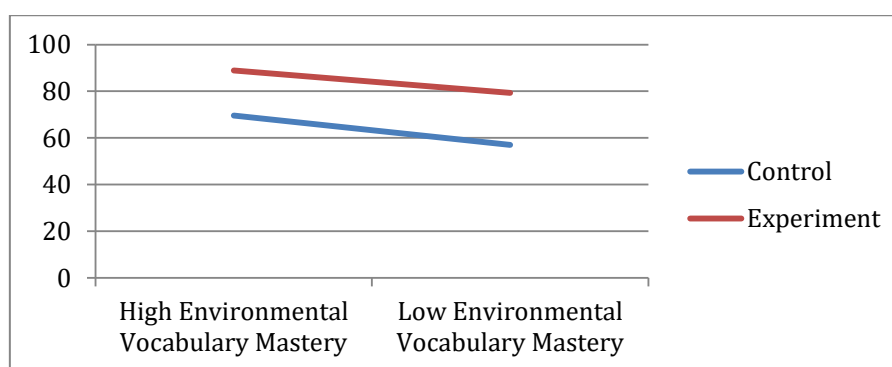


Figure 7. Interaction Graph of Jigsaw Learning Model Assisted by Mind Mapping Media and Environmental Vocabulary Mastery on Short Story Text Writing Skills

Based on the graph above, it can be seen that the results of short story text writing skills of students with high and low mastery of environmental vocabulary using the jigsaw model have significant differences with students using conventional models. The average difference in the experimental and control classes, namely in students who have high environmental vocabulary mastery taught with the jigsaw model assisted by mind mapping media has an average of 88.89, while students who have high environmental vocabulary mastery taught with conventional models have an average of 69.63. Students who have low environmental vocabulary mastery taught with the jigsaw model assisted by mind mapping media have an average of 79.26, while students who have low environmental vocabulary mastery taught with the conventional model have an average of 57.04.

Due to the interaction, it can be concluded that each factor of the jigsaw learning model assisted by mind mapping media and environmental vocabulary mastery depend on each other in influencing the results of short story text writing skills. The jigsaw learning model assisted by mind mapping media seems to be more effective at both levels of environmental vocabulary mastery. In other words, the jigsaw model assisted by mind mapping media is appropriate for students who have high mastery of environmental vocabulary and also students who have low mastery of environmental vocabulary.

Conclusion

Based on the results of the research and discussion that has been described, it can be concluded as follows. First, there is a difference in the performance test results of short story text writing skills of students in grade IX SMP Negeri 2 Batang Anai using the jigsaw model assisted by mind mapping media and the performance test results of short story text writing skills using conventional models. Second, there is a difference in the performance test results of short story text writing skills of students in grade IX SMP Negeri 2 Batang Anai with high environmental vocabulary mastery using the jigsaw model assisted by mind mapping media with excellent qualifications (BS) with the performance test results of short story text writing skills of students with high environmental vocabulary mastery using the conventional model with more than sufficient qualifications (LdC) Third, There is a difference between the performance test results of short story text writing skills of ninth grade students of SMP Negeri 2 Batang Anai with low environmental vocabulary mastery using the jigsaw model assisted by mind mapping media with good qualifications (B) and the performance test results of short story text writing skills of students with low environmental vocabulary mastery using the conventional model with sufficient qualifications. Fourth, there is an

interaction between the jigsaw model assisted by mind mapping media and students' mastery of environmental vocabulary in influencing short story text writing skills.

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