Literature Review of the Effectiveness of the Mind Mapping Learning Model on the Science Learning of Class IV Students of SDN Batulaccu

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Abstrak

Penelitian ini bertujuan untuk menganalisis efektivitas penggunaan model *Mind Mapping* dalam pembelajaran IPA. Dengan kajian pustaka ini guna untuk memperkuat analisis dari berbagai sumber yang digunakan. Studi literatur dalam penulisan ini diambil daari berbagai sumber data terkait jurnal-jurnal yang telah dipublikasikan sebelumnya terkait dengan model *mind mapping* terhadap pembelajaran IPA pada sekolah dasar. Pengumpulan data yang dilakukan dengan cara menelusuri sumber data dari jurnal online pada google cendekia/google scholar dengan jurnal 5 tahun terakhir. Hasil yang penulis dapat dari penelusuran ini dikaji kembali menggunakan prinsip deskriptif analitik. Berdasarkan hasil analisis data dari berbagai sumber, penggunaan model pembelajaran *mind mapping* memberikan dampak positif terhadap pembelajaran IPA dengan banyak peningkatan yang berbeda-beda pada setiap pembelajarannya.

Kata Kunci: Model pembelajaran; Model mind mapping; Pembelajaran berbasis kontekstual; Pembelajran IPA; Sekolah dasar.

Abstract

This research aims to analyze the effectiveness of using the Mind Mapping model in science learning. This literature review is used to strengthen the analysis from the various sources used. The literature study in this writing was taken from various data sources related to previously published journals related to the mind mapping model for science learning in elementary schools. Data collection was carried out by tracing data sources from online journals on Google Scholar with journals from the last 5 years. The results that the author obtained from this search were reviewed using analytical descriptive principles. Based on the results of data analysis from various sources, the use of the mind mapping learning model has had a positive impact on science learning with many different improvements in each lesson.

Keywords: Learning model; Mınd Mapping learning model; Contextual based learning; Science learning; Elementary school.

Introduction

Republic of Indonesia Government Regulation Number 32 of 2013 concerning National Education Standards Article 19 Paragraph 1, the learning process in educational units must be carried out in an interactive, inspiring, fun, challenging manner, motivating students to participate actively, and providing sufficient space for initiative, creativity, and independence in accordance with students' talents, interests and physical and psychological development (SNP, 2013: 10). Based on this understanding, teachers must be able to plan well so that the implementation of learning can run well and learning assessment can be aimed at increasing the effectiveness and efficiency of continuing education. Obtaining graduate skills.

Education is important to equip students to face the future (Jusmawati et al., 2022). Education is not just about providing knowledge or values, but education must be able to help students develop their potential. Through this education, students will be able to strive for positive changes according to their abilities. So that the potential that students have can then be beneficial for the surrounding environment and even for the Nation and State (Sipayung et al., 2022). Education is the foundation that shapes humans. It is a step that is implemented deliberately, structured and planned with the aim of changing or developing the desired behavior (Jusmawati, 2019).

Basic education is very important for every individual because it improves the quality of education as a guarantee for the future. To ensure a good future arrangement, teachers and students are required to make maximum effort in learning activities. Therefore, teachers and students must work together to achieve learning goals.

Natural Sciences (IPA) is essentially a science that studies the natural environment around humans. Science learning plays a very important role in improving the quality of education, focusing on increasing students' knowledge about themselves and the natural environment (Istiqomah, 2019). Apart from that, science subjects are also used by students to study the relationship between humans and nature by observing and collecting natural concepts that are logical, systematic and aimed at discovery (Sastra et al., 2023). According to (Jannah et al., 2022) science learning in elementary schools always focuses on direct experience according to students' characteristics and abilities.

In fact, what is happening in science learning elementary schools today is that students only study science as a product, memorizing concepts, theories and laws. Teachers are less creative in creating conditions that encourage students to develop their own knowledge. Most teachers in the science learning process still apply teacher-centered teaching methods so they are not able to provide lessons to students that can influence science learning outcomes in schools in the future. These less than optimal learning outcomes occur because in the learning process the teacher uses a teaching method based on one-way interaction which is dominated by lectures which makes the teacher the core authority of the learning process. This causes the learning process to become less meaningful and students tend to be passive and less creative. In addition, teachers rarely organize group learning, so students rarely participate in interactive discussions. Teachers still do not have creative and interesting learning models for students. Teachers rarely let their students practice, teachers only provide material, making students less active, quickly bored, fed up and less confident. Various problems in the learning process in class will certainly affect student learning outcomes (Istiqomah, 2019). Learning is a process of changing behavior that concerns several aspects that occur in each individual or changes that occur from not knowing to knowing (Fatimah et al., 2022).

According to (Krisdiyanti et al., 2019) today's teachers must have creativity

in creating a learning atmosphere to make it more interesting. There are many things to create interesting learning, such as the use of varied learning models which will foster students' interest in learning. The use of varied learning models will arouse students' curiosity in understanding the material.

According to (Putri, 2022) explains that mind mapping is a creative method that allows students to think about material presented orally or in writing. The mind mapping learning model is a concept map model which is a tool that provides learning material to encourage students to think critically in solving problems. Students are also required to identify problems, look for solutions to problems, and find effective ways to solve them. problems and then take further action (Ruhama & Erwin, 2021). Mind mapping is based on details and mind maps are easy to remember. Mind maps are a creative recording model as a form of expressing the results of left brain and right brain thinking which are applied in a visual style and display the results of thinking in all directions comprehensively, (Yulianti et al., 2022).

Through this article, the author will explain the contextual-based mind mapping learning model in science learning in elementary schools. The purpose of writing this article is to find out how effective the contextual-based mind mapping learning model is in science learning in elementary schools.

Method

The method used in this research is literature study research. Literature study is a method of collecting data or document sources related to research topics (Cahyani et al., 2022). According to (Yulianti et al., 2022), a literature review is a scientific study that focuses on a particular topic. The technique of proving or solving a particular problem or literature review can be said to be a scientific process that produces results in the form of a report in order to conduct scientific research or focus attention on research. The library research method involves compiling research that combines a number of research results that have been carried out by other people. The technique used in research is descriptive. As a reference, researchers used 15 journals to explore the results of using contextual-based mind mapping models in science learning in elementary schools.

Result and Discussion

From the research conducted by researchers, results were obtained related to the mind mapping learning method, where with this method students are more active and able to think about the nature of their learning outcomes. This mind mapping method helps students more easily remember learning theories. The application of the mind mapping method has helped improve student learning, becoming better and better, resulting in an increase in the average score of and learning can be controlled and guided comfortably.

The application of the mind mapping method must pay attention to the following steps: (1) the teacher needs to convey the KD that students need to achieve, (2) the teacher explains the concepts that need to be learned, (3) asks students to create a mind map, (4) the teacher discussing and concluding the document (Zulfa et al., 2021).

Choosing the right learning method will provide a pleasant learning atmosphere and help students develop their creativity. A pleasant learning atmosphere will have an impact on greater learning motivation and discipline. High motivation is one of the factors that determines a student's success in achieving learning outcomes. the best.. In teaching and learning activities (KBM), teachers play a very important role.. The teacher's presence in the learning process always plays an important role.. Therefore, teachers must have the skills to choose the right method in delivering material to students so that it is more interesting, not

boring, and easy to absorb the material, thus supporting successful learning (Dafit & Ramadan, 2020).

Based on the results of theoretical studies from several articles regarding the Mind Mapping contextual learning model in science learning, it can be described as follows:

(Setyarini, 2019) in a journal entitled "Mind Map Learning Method to Improve Learning Achievement of Elementary School Students" explains that a quality Mind Mapping learning method aims to develop students' potential and skills in identifying problems, evaluating colors, types of images, document branches and Present ideas or thoughts as interesting as possible. The benefit of applying the Mind Mapping learning method is that it is very effective and efficient, helping students focus on the ongoing learning process. In addition, the learning outcomes achieved or achieved by students include a significant increase in the level of understanding of the material through the Mind Mapping concept learning method.

(Situmorang et al., 2022) in a journal entitled "The influence of the mind mapping learning model on student learning outcomes on the environmental theme of our friends in class V SDN 173417 Pollung and SDN 173420 Pollung" explains that there is an influence on student learning outcomes using the mind mapping model including very good category, there is a strong influence between the mind mapping learning model on student learning outcomes with the environmental theme of our friends in class V SDN Pollung District and there is a significant positive influence from the use of the mind mapping learning model on student learning outcomes with the Environment Theme Our Friends sub-theme Human and Class V Environment of SDN 173417 Pollung and 173420 Pollung for the 2021/2022 Learning Year.

(Saputra, 2019) in an article entitled "The effectiveness of applying Mind Mapping in improving science learning outcomes for elementary school students"

explains that the use of mind mapping in learning can increase student activity, creativity and innovation so that learning is more meaningful and students feel happier. This is shown through increasing student academic results. Learning with Mind Maps can be varied by using many different learning methods. Thus, the application of Mind Mapping is considered effective in improving learning outcomes, especially in science subjects for elementary school students.

(Lawe & Pau, 2019) in a journal entitled "The influence of the contextual learning model on elementary school students' science learning outcomes" explains that there are significant differences in science learning outcomes between students who study with the contextual model and students who study with the conventional model. From the arithmetic average, it is known that the arithmetic average of the experimental group is higher than the control group and that the contextual model has a significant effect on science learning outcomes.

(Nurdiana & Darwis, 2021) in a journal entitled "The Influence of the Mind Mapping Learning Model on Science Learning Outcomes on Natural Event Material in Class V Students of SD Negeri 104275 Lubuk Saba" which explains that the use of the Mind Mapping learning model in learning has a big influence on learning outcomes. student. In learning using the mind mapping model, students are divided into several groups, each student notes and listens to material about natural events that is presented. Then invite students to discuss in groups to create a mind map or mind mapping as best as possible from the documentation given to you.

(Susanti & Ruqoyyah, 2021) in the article entitled "Ability to understand Natural Science concepts of Class V Elementary School Students in Bandung City through a mind mapping learning model regarding the water cycle", explains that the ability of Class V elementary

school students to understand science concepts about the water cycle with Using the mind map method is very good because learning is more effective and fun. Students enthusiastically listen to the teacher's explanation and become more active and creative. Apart from that, the teacher gave a satisfactory answer, it is clear from the results of interviews with researchers that it shows that the teacher feels happy and motivated to use the mind mapping learning model to improve the ability to understand concepts. Researchers stated that there were three stages carried out, namely an initial test or pre-test, providing treatment using the mind mapping learning model, and giving a final test or post-test.

(Putri, 2022) in a journal entitled "Effectiveness of mind mapping learning in elementary schools" explains that science is a science that aims to explore nature systematically. Therefore, a learning support is needed to teach science. Choosing the right learning media can make the material more interesting and easier to understand. One learning tool that can be applied is the mind map learning tool. With mind mapping learning materials, students are trained to think creatively through ideas communicated orally and in writing to understand the material. Thus, the use of mind map learning materials can be applied in the teaching process in elementary schools.

(Dewi et al., 2020) in a journal entitled "The influence of the SFAE learning model using mind mapping on creativity and science knowledge competency" explains that the use of mind mapping media stimulates students to be more enthusiastic in the learning process. Mind mapping media makes it easier for students to remember learning material because students record learning material by applying interesting images and symbols. Based on the explanation, it can be concluded that the Student Facilitator and Explaining learning model using mind mapping has an effect on students' knowledge competency.

(Sastra et al., 2023) in a journal entitled "Problem Based Learning Model Assisted by Mind Mapping Improves Class V Science Learning Outcomes" explains that the results of data analysis show that the application of the PBL model using mind mapping has a positive effect on improving student learning outcomes. The success of this research was influenced by several aspects, one of which was the syntax of a systematic and student-centered learning model.

(Almu, 2019) in a journal entitled "Effectiveness of the mind mapping learning model assisted by image media, the beauty of togetherness to improve the cognitive learning outcomes of elementary school students" explained that the results showed that after learning was carried out using the mind mapping learning model assisted by image media, the results of the fourth grade posttest were Overall, the following data was obtained, there were 24 people or 84% who reached the KKM standard with a score range of 70-85, while 4 people or 14% did not reach a score of 70 in accordance with the minimum completion criteria determined by the school if the results were compared between pre test and post test.

(Yulianti et al., 2022) in an article entitled "Literature review of the use of mind mapping learning methods in science learning" explains that the application of the mind mapping method can improve understanding abilities in science learning in elementary schools and the increase in students' understanding abilities can be seen from learning outcomes. students before and after using the mind mapping method in learning.

Conclusion

The mind mapping learning model is effective in improving student learning, especially in science lessons, this model helps students become more active in

improving student learning. This model helps students become more active, understand the nature of learning outcomes, and remember learning theories more easily. The application of the mind mapping model also allows learning to be controlled and guided comfortably. Therefore, the mind mapping model is worthy of consideration as an effectiveness learning model. The mind mapping model also has benefits in developing students' potential and helping them understand and present information better

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