IMPLEMENTATION OF MIND MAPPING LEARNING MODEL TO IMPROVE STUDENTS' CREATIVITY IN SCIENCE LESSONS IN GRADE III OF SD GMIT KUANINO 1 KUPANG CITY

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ABSTRACT

The mind mapping learning model is a visualization technique that helps students organize information, plan ideas, and connect concepts more effectively. By using mind mapping, students can be more active in the learning process, so that they can improve their absorption and understanding of the material being taught. By actively involving students in learning, it is hoped that they can develop creative and innovative thinking skills, and gain a deeper understanding of science and natural sciences material. This study aims to examine the implementation of the mind mapping learning model in improving student creativity in science and natural sciences learning in grade 3 of GMIT Kuanino 1 Elementary School, Kupang City. The method used in this study is a type of qualitative research with a descriptive method. The data collection instruments in this study were observation sheets, interview guidelines, documentation studies. And the data analysis techniques used in this study were Data Collection, Data Reduction, Data Verification, and Data Presentation. The results of the study showed thatThe implementation of this method significantly increases students' creativity and engagement in the learning process. Students show high enthusiasm and active involvement during the mind mapping process, which not only makes them understand the subject matter better, but also encourages them to dare to express ideas through image visualization and the use of color.

Keywords: Mind mapping, Creativity, IPAS

I. INTRODUCTION

Education is a conscious, planned and structured effort to change the attitudes and behavior of a person or group of people in an effort to mature humans through lessons and training. Or in other words, education is a way to help students to be able to carry out their tasks independently (Driyarkara, 2017:45).

Education is an important factor in supporting survival in accordance with human dignity. For this reason, humans need to learn, only by learning can humans develop interests, talents and personalities that are in accordance with their abilities (Benu & Nitte, 2021:102).

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Education is not just about providing knowledge or values or training skills but with education it is hoped that it can help students in developing their potential towards positive changes according to their abilities. In its scope, education tries to develop the potential of every human being so that this potential can be useful in the future for individuals, the nation and the country itself (Krianasari, et al. 2023:66).

Elementary school education plays an important role in shaping the quality of students' understanding and skills in various subjects, including Natural and Social Sciences (IPAS). Teaching IPAS in elementary school classes requires an approach that not only strengthens conceptual understanding but also stimulates students' creativity to develop their ideas and concepts better (Fauziah, et al. 2022:109). Various challenges of learning IPAS in elementary schools are: Many concepts in IPAS tend to be abstract and difficult for young students to understand, such as concepts in natural science or history. Creative and innovative learning approaches such as mind mapping can help students overcome obstacles in understanding abstract concepts. With clear and interactive visualizations, mind mapping allows students to build deeper understanding and make associations between concepts that may be difficult to understand verbally or in text alone (Ariani, et al. 2023:115).

Conventional teaching methods are often less able to capture students' attention and interest, which affects the level of retention and reuse of information. Conventional methods tend to be more passive, where the teacher acts as the main source of information while students listen or read more (Salay, 2019:50). This can lead to a lack of active involvement of students in the learning process, which in turn can affect their interest in the material being taught.

A more interactive, collaborative, and innovative learning approach such as mind mapping can be an effective solution. Mind mapping engages students in the learning process in a visual and structural way, allowing them to build deeper understanding and make connections between concepts more clearly. Thus, this method can help improve students' retention and reuse of information, while also increasing their interest in the subject matter being taught. Benefits of Implementing Mind mapping as a Solution to Overcome the Challenges of Learning Science in Elementary Schools. Mind mapping helps students develop their creativity by visualizing their ideas more clearly, promoting associative and innovative thinking. By mapping relationships between concepts visually, students can understand science concepts better, increasing long-term information retention (Ma'ruf, 2023:25). The interactive and visual approach of mind mapping can increase students' interest and involvement in science learning, making the learning process more enjoyable and meaningful.

Resultspre-observation in class III of GMIT Kuanino 1 Kupang Elementary School in August-October 2023, regarding the problem of implementing learning models to increase creativity in science subjects showed thatStudent creativity is still lacking. This can be seen from the learning process carried out by the teacher. The teacher uses a conventional learning model (lecture) which places the teacher as the center of information. By using the lecture model, students only listen but do not understand what the teacher is saying because they do not play an active role in the learning process. The lack of variation in learning models in the teaching and learning process results in students being less active in building their own knowledge. Students tend to get bored with learning because they only listen, so that learning becomes passive resulting in students' creativity and interest in learning, especially in science lessons, being less good. Teachers more often provide material through textbooks only, so that

learning materials do not last long in students' memories, even though the delivery in learning, especially science material, should involve all students in learning activities, finding concepts to be learned and fostering student interest by presenting problems raised from everyday life, so that students will be more interested in participating in learning and the concepts in the learning material will be easier to understand.

Various problems faced by teachers in implementing learning models in science learning, schools and educators can implement learning models that focus on creativity more effectively, namely the mind mapping learning model. This will help build students' critical skills and prepare them to face challenges in learning and life in the future. Therefore, researchers are interested in conducting research entitled ""Implementation of the mind mapping learning model to improve student creativity in science lessons for grade III of GMIT Kuanino 1 Elementary School, Kupang City".

II. LITERATURE REVIEW

A. LEARNING MODEL

A learning model is a conceptual framework that describes a systematic procedure in organizing learning experiences to achieve certain learning objectives, and serves as a guideline for learning designers and teachers in planning teaching and learning activities. This means that the learning model provides a framework and direction for teachers to teach (Aris Sohimin, 2014:68). A learning model is a design or pattern used in compiling the curriculum, learning activities, organizing the material taught, and providing instructions to teachers in their teaching settings (Runtukahu & Kandou 2014:232).

B. Mind mapping Learning Model

The mind mapping learning model is one way to make students learn with focus and creativity, in addition, mind mapping also makes students understand the material being studied faster. Mind mapping introduces a visual structure that allows students to organize and present ideas more comprehensively and creatively. Mind mapping can help teachers and students in the learning process in the classroom because by using this media, previously very large material can be summarized and only the important points taken, so that students find it very easy to understand the material being studied.

Mind mapping also called mind mapping or mind maps is one way to record lesson materials that make it easier for students to learn. mind mapping can also be categorized as a creative note-taking technique. Categorized into creative techniques because making this mind mapping requires the use of imagination from the maker. Creative students will find it easier to make this mind mapping. Likewise, if a student continues to make mind mapping, he will be more creative. By using mind mapping, long information can be summarized so that it is easy to remember.

Mind mapping or mind maps utilize the whole brain by using visual images and other graphical tools to form impressions. The brain often remembers information in the form of images, symbols, sounds, shapes, and feelings. Mind maps use visual and sensory reminders in a pattern of related ideas like a road map used for learning, organizing, and planning. This map can generate original ideas and trigger easy recall, it is much easier than traditional note-taking methods because it activates both hemispheres of the brain. This method is also calming,

fun and creative. *Mind mapping* helps learners overcome difficulties, know what to write, and how to organize ideas. (Nur, 2018: 20).

Mind mapping using the child's left and right brain actively and synergistically. The left brain is also called the analytical brain, while the right brain is often called the creative brain. The left brain functions to process words, logic, numbers, sequences, lists, and analysis. In simple terms, it plays a role in academic learning. While the right brain deals with rhythm, spatial awareness, imagination, daydreaming, color, dimension, and tasks that require holistic awareness or the whole picture. In simple terms, it is creative activity. (Rizki, 2019:30). Benefits of the Learning model mind mapping (Gita, 2021:24):

1) Activating the whole brain
2) Allows focus on the subject matter
3) Gives a clear picture of the overall and details
4) Helps to create relationships between separate pieces of information.
5) Stimulates the left and right brain to work synergistically

Mind mapping has a number of advantages and disadvantages that need to be considered before being used as a learning tool. Here are the advantages and disadvantages of the mind mapping technique.

1) Advantages of mind mapping (Herdin, 2017:135)
   (a) Improve memory
   (b) Increase thinking speed
   (c) Enhance unlimited creativity
   (d) Make children produce original works
   (e) Make children's minds full of brilliant ideas
2) Disadvantages of mind mapping ((Ferawati & Rahmawati, 2023:55)
   (a) Limitations for Complex Concepts
   (b) Dependence on Visual Ability
   (c) Limitations for Text Material
   (d) Time and Effort Required
   (e) Reliance on Mind mapping Skills

C. Creativity

Creativity is the capacity to improve new thinking and new approaches to solving problems in finding opportunities. Learning creativity is a mindset where a person can produce new thoughts and improve them into a test, this is not often determined through different ways of students (Astuti, 2021:4). Creativity is essentially possessed by every individual and can be developed. Creativity is one of the very important abilities that needs to be developed from an early age, or a thinking ability that is different from others while creative individuals are able to see, realize, be sensitive and able to respond to something that is in the surrounding environment, so that it encourages to produce something new, innovative and useful for the surrounding environment not only in the form of products but also in the form of ideas that are adaptive and can be accepted by others (Munandar, 2014:31).

Creativity is also very necessary in every learning process because creativity can help students find good ideas, concepts, and ways to develop their potential, learn to solve problems, and create or find something new based on theories, concepts and information received.

Therefore, it is necessary to develop creativity not only from students but also from teachers who teach them to find and create new things in learning models so that students have a great curiosity, have high learning motivation, are independent, responsible, optimistic, confident, have many thoughts, have positive and constructive ideas. This can lead to the growth of high creativity in students. (Mita, 2022:26)

D. Science learning

IPAS is one of the curriculum developments, which combines science and social studies materials into one theme in learning. Science that studies nature, of course, is also very related to the conditions of society or the environment, so that it can be taught in an integrative manner. IPAS learning will certainly be useful in the government's efforts to improve literacy and numeracy of participants

Natural and Social Sciences (IPAS) is a science that studies living things and inanimate objects in the universe and their interactions, and studies human life as individuals as well as social beings who interact with their environment. In general, science is defined as a combination of various knowledge that is arranged logically and systematically by taking into account cause and effect. This knowledge encompasses natural knowledge and social knowledge. (Fita, 2023:19).

As a country rich in culture and local wisdom, through science and technology, it is hoped that students will explore the wealth of local wisdom related to science and technology, including using it to solve problems. Therefore, the main focus to be achieved from science and technology learning is not on how much material content can be absorbed by students, but on how much competence students have in utilizing the knowledge they have. Considering that elementary school/MI children still see everything as it is, whole and integrated, science and social studies learning is simplified into one subject, namely science and social studies. This aims to make students more holistic in understanding their surroundings (Ministry of Education and Culture, 2022).

III. METHODOLOGY

This study uses a qualitative research type, using a descriptive approach. The type and source of data are the research subjects where the data is obtained. The data sources in this study come from human data, namely the principal, teachers and students. In this study, the researcher used three (3) data collection techniques, including observation, interviews and documentation. Data validity tests in qualitative research include data credibility tests, transferability tests, dependability tests and confirmability tests. In this study, data credibility tests were used to test the validity of the data. Data credibility tests were carried out by triangulation. Data triangulation is defined as checking data from various sources in various ways and times.

IV. RESULTS

A. Implementation of the mind mapping learning model at GMIT Kuanino 1 Kupang Elementary School

Elementary school education is an important foundation in the formation of students' character and abilities. One of the challenges faced in the learning process is how to teach complex concepts in Natural and Social Sciences (IPAS) lessons in an interesting and easy-to-understand way. To overcome this challenge, various innovative learning models need to be applied. One method that is increasingly popular is mind mapping. Mind mapping is a technique that allows students to organize information visually, using images, colors, and keywords. With this model, students can see the relationship between concepts more clearly, making it easier for them to understand the lesson material.

From the results of observations, interviews, and document analysis regarding the application of the mind mapping model in science lessons in grade III of GMIT Kuanino 1 Elementary School, Kupang City, it can be concluded that: The application of the mind mapping model has been successfully implemented, which can be seen from the enthusiasm and active involvement of students during the learning process. Students are not only passive listeners, but are also directly involved in making mind maps, which encourages their creativity and understanding of the subject matter. By using colors and images, students can express their ideas freely. This not only clarifies the concept, but also shows that students understand the material well. This collaborative activity allows students to discuss and exchange ideas with each other, creating a lively and dynamic classroom atmosphere.

B. Improving student creativity through the implementation of the mind mapping learning model

The application of the mind mapping learning model in class III of GMIT Kuanino 1 Elementary School, Kupang City, can be concluded that the implementation of this method significantly increases students' creativity and involvement in the learning process, namely students show better ability in remembering information after making a mind map. Visualization through images and diagrams has been proven effective in strengthening memory, so that students can confidently explain the material that has been learned. Students feel freer to express their ideas through the use of images, colors, and keywords. High enthusiasm is seen when they present mind maps, which creates a fun and innovative learning atmosphere.

Deeper discussions during learning showed an increase in students' critical thinking skills. They asked each other questions and gave opinions, indicating that students not only understood the information but were also able to analyze and consider various points of view. Although there were challenges in understanding how to make a mind map, guidance from the teacher allowed students to overcome these difficulties, so that all students could actively contribute to learning. Thus, the application of the mind mapping learning model in grade III not only increased students' creativity but also developed their cognitive and social abilities, making the learning experience more meaningful and enjoyable.

C. Student and teacher responses to the implementation of the mind mapping learning model

Based on the results of observations and interviews indicated that students were very enthusiastic and actively involved in the process of making mind mapping. They showed strong joy and collaboration when working in groups, which created an interactive and mutually respectful learning environment. The application of the mind mapping learning model was able to improve students' understanding and encourage active participation in class, this method makes learning more fun and interesting, and increases their confidence in explaining the material. Overall, the application of the mind mapping learning model has succeeded in creating a lively and enjoyable classroom atmosphere, as well as improving students' critical and social thinking skills. This emphasizes the importance of innovative learning methods in supporting effective teaching and learning processes.

V. DISCUSSION

The mind mapping learning model has been recognized as an effective strategy in improving students' creativity and understanding. In the context of Natural and Social Sciences (IPAS) lessons in grade III of GMIT Kuanino 1 Elementary School, Kupang City, the application of this method aims to encourage students not only to remember information, but also to develop creative and critical thinking skills. Collaborative activities that emerge during the creation of mind maps also create a lively and dynamic classroom atmosphere. Discussions between students allow them to exchange ideas and learn from each other, which strengthens understanding of the material. Collaboration in learning can increase student engagement, as well as help them develop important social and communication skills.

The results of the study on Increasing Student Creativity through the Implementation of the Mind mapping Learning Model can be concluded that this method significantly increases student creativity and involvement in the learning process in grade III of SD GMIT Kuanino 1 Kupang City. This finding is in line with the views of several education experts in Indonesia in the last decade. Students show better ability to remember information after making a mind map. This is supported by research by Haryanto (2021:105), which states that visualizing information through images and diagrams can strengthen students' memory. By utilizing this technique, students not only remember information better, but are also able to explain the material they have learned more confidently.

The results of the study on the Challenges in Implementing the Mind mapping Learning Model in Science Lessons for Grade III of GMIT Kuanino 1 Elementary School, Kupang City, show that the implementation of the mind mapping learning model faces several significant challenges that need to be overcome to increase the effectiveness of learning.

a) Students' Difficulty in Understanding Mind mapping. Some students have difficulty in understanding how to create an effective mind map. This confusion is seen when they try to organize ideas and concepts into a visual format, students learn better when they actively construct their own knowledge. However, without adequate guidance, students have difficulty reaching that stage. Guidance provided by teachers, including explanations of basic steps and concrete examples, has been shown to help students improve their understanding and confidence.

b) The second challenge is the limited tools and materials available in the classroom. Many students do not have access to adequate colored paper and drawing tools, which reduces their ability to express ideas visually and attractively. The use of various media in learning is very important to support the various types of student intelligence. This limitation is reflected in student worksheets that show a lack of creativity and variation in presenting information.

Teachers and students agreed that with better tool support, students could more freely express their ideas. The Learning Implementation Plan (RPP) which included additional guidance and observation reports that recorded student interactions during the learning process confirmed that this challenge had been identified and needed further attention.

VI. CONCLUSION

Based on the results of observations, interviews, and document analysis and discussion of research on the implementation of the mind mapping learning model in science lessons in grade III of GMIT Kuanino 1 Elementary School, Kupang City, it can be concluded that the application of this method significantly increases students' creativity and involvement in the learning process. Students show high enthusiasm and active involvement during the mind map making process, which not only makes them understand the subject matter better, but also encourages them to dare to express ideas through image visualization and the use of color. In addition, visualization through mind mapping strengthens students' memory, facilitating them in explaining the material more confidently. Group discussions that occur during the mind map making process improve students' critical thinking skills, where they ask each other and exchange opinions, thus showing a deep understanding of the information being taught. Although there are challenges in understanding how to make a mind map, guidance from teachers has proven effective in helping students overcome these difficulties. However, there are several challenges that must be faced, such as students' difficulties in organizing ideas and the limitations of the tools and materials available. Therefore, additional support from teachers and the provision of better tools are needed to improve the effectiveness of this learning. Overall, the implementation of the mind mapping learning model in grade III of SD GMIT Kuanino 1 has not only succeeded in increasing students' creativity, but also strengthening their cognitive and social abilities. This method has created a dynamic and enjoyable learning atmosphere, which is very important in supporting an effective teaching and learning process.

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