



Application Of Mind Mapping-Assisted Poster Commen Method To Improve Students' Creative Thinking Skills In Primary School

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Article Information

Article History:

Received October 2024.

Accepted June 2025

Published July 2025

Keywords:

Creative thinking ability;

Poster Commen method;

Mind mapping.

How to Cite:

Dewi, M.S., et.al. (2025). Application Of Mind Mapping-Assisted Poster Commen Method To Improve Students' Creative Thinking Skills In Primary School. *Jurnal Dimensi Pendidikan dan Pembelajaran Universitas Muhammadiyah Ponorogo*, 13(2), pp 161-175.

Abstract

This research was motivated by the low creative thinking ability of grade IV students of State Elementary School 007, Bangkinang City.. One solution to this problem is using the Mind Mapping-Assisted Poster Commen Method. This study aims to improve the creative thinking skills of grade IV students of State Elementary School 007, Bangkinang City, a total of 23 students, with 12 male and 11 female students. This research method is a class action research carried out in two cycles. Each cycle consists of two meetings and four stages of learning: planning, implementation, observation, and reflection. The research will be conducted in September 2023, using data collection techniques in the form of documentation and observation. At the same time, data analysis techniques include qualitative and quantitative analysis. These research instruments are teacher activity observation sheets, student activity observation sheets, and student worksheets. Based on the results of data analysis, the results of creative thinking skills of grade IV students of State Elementary School 007, Bangkinang City. They were obtained in pre-action with a percentage of learning completeness of 30.43%. In the first cycle of meetings, I had a percentage of learning completeness of 43.47%. Students who completed only 10 students and cycle I meeting II, the percentage of learning completeness increased to 60.86%, with only 14 students completing. In the second cycle of meetings, I also increased the percentage of learning completeness to 78.26%, with 18 students completing cycle II meeting II, and the percentage of learning completeness increased again to 91.30%, with 21 students completing cycle II meeting II. Thus, it can be concluded that applying the Mind Mapping-Assisted Poster Commen Method can improve the creative thinking ability of grade IV students of State Elementary School 007, Bangkinang City.

INTRODUCTION

Education is an effort that can accelerate the development of human potential to carry out the tasks entrusted to them, because only humans can be educated and educate others. Education can influence humans' physical, emotional, mental, moral, spiritual, and religious development. The rapid development of science and technology that is currently taking place has led humans into an era of global competition in various fields of life. Such a situation demands that humans immediately adapt and take steps to prepare for the future. Unfortunately, the education system and low quality of teachers in Indonesia, particularly in terms of pedagogical, professional, social, and personal competencies, have not been able to reach the full potential of children, resulting in education in Indonesia stagnating. (Anggranei, F., 2020). The first step must be to improve human resources who are courageous, strong, resilient, and competent in their fields. This effort can be realized by implementing quality and high-achieving education. One of the steps that must be taken is to prioritize critical and creative thinking, which is applied in every step of future development.

In Indonesia, education is one of the main national development programs. The progress and development of a nation are primarily determined by the state of education implemented by that nation. The government has enacted a law regulating the implementation of education regarding the National Education System in Article 1 Paragraph 1 of Law of the Republic of Indonesia Number 20 of 2003, which states, *“Education is a conscious and planned effort to create a learning environment and learning process so that students actively develop their potential to have spiritual and religious strength, self-control, personality, intelligence, noble character, and the skills needed by themselves, the community, the nation, and the state.”* Learning is a core activity in the educational process. The learning process in the classroom cannot run optimally without good interaction between teachers and students. Therefore, teachers must create innovations to make learning enjoyable by using appropriate methods, models, strategies, or learning media. This is done to foster student activity and interest in learning.

Natural Sciences is a subject taught in schools. Many people think Natural Sciences are boring because they emphasize memorization. It cannot be denied that subjects that study natural phenomena, humans, and their environment are boring when taught using lecture methods, to the extent that students sometimes have no other perspective on an issue in a particular subject. The 2006 curriculum states that science education emphasizes concepts that humanize humanity. In the era of globalization, this can develop creative thinking skills, which can be applied in science education. Meaningful and engaging science learning processes are expected to motivate students to improve the quality of education in Indonesia. The alignment of science curriculum content with the learning environment or social system can maximize all components that students possess to achieve competencies in line with expectations. (Dewi, 2018).

Creativity is sometimes overlooked in science subjects. Creativity is only used and seen in art, language, and mathematics. In science learning, students are rarely active; they only listen to the material the teacher discusses through lectures, making them passive. This study aims to enable students to think creatively about problems, encouraging them to think actively, express their opinions about the material presented, and then write down their thoughts. The poster Commen method is expected to improve students' creative thinking skills. In this method, the teacher only presents images for the students to Commen on, and the images shown do not contain any words. Students Commen on the images, and their observations are then expressed in written form. The poster Commen method facilitates students' creative thinking about a problem. This study investigates whether there is an improvement in the creative thinking abilities of fourth-

grade students in science education. This research can be beneficial for schools, teachers, and future researchers.

In teaching and learning activities, the interaction between teachers and students in transferring knowledge will always require important components that must be harmoniously applied between one component and another. In line with this, it means strengthening all components in the teaching and learning process to complement each other to support the achievement of learning objectives. Interaction between teachers and students is not solely dependent on the methods used, but other components also influence the success of the learning process. These components include teachers and students, media, learning objectives, facilities, and infrastructure. Therefore, teachers must be able to design each component to achieve the planned learning objectives.

Table 1. Summary of Creative Thinking Skills Scores for Fourth Grade Students at Public Elementary School 007 Bangkinang Kota

Number of Students		Minimum Completion Criteria	Complete	Not Complete
Female	Male	75	7 student (30,43%)	16 student (69,56%)
11	12			

Based on observations and interviews with the fourth-grade homeroom teacher at State Elementary School 007, Bangkinang City, it was explained that teachers are determined to address these issues to produce a generation of accomplished future leaders for the nation. Various innovations, ideas, and new concepts in teaching and learning activities have been designed and implemented. One of these is the important role of teaching methods in learning. Using methods in the learning system plays a crucial role in educational success, as methods serve as the foundational basis for achieving educational goals and the principles of successful learning. Teaching methods are personalized between teachers and students to engage students and foster their interest in the subject matter. A lesson cannot be considered successful if students lack enthusiasm.

Currently, problems frequently arise in schools, and teachers often encounter difficulties in teaching. Among these, students often feel bored during lessons because nothing can spark their enthusiasm in the learning process. This inevitably leads to a lack of student activity in learning activities, especially in subjects they perceive as difficult. The importance of motivation in learning is an interesting topic for teachers to study, as it implies that teachers need to have a deep understanding of enjoyable and effective learning methods to help improve students' motivation, especially in science education. Therefore, especially for teachers who teach science, they must pay attention to students' learning processes. One of the subjects taught at all levels of formal education is science.

When researchers conducted initial observations at State Elementary School 007, Bangkinang City, they found that science lessons were tedious. This was because the material was presented in a monotonous and expository manner, resulting in students lacking enthusiasm and making the lessons less enjoyable. The teachers' teaching methods were still conventional. The science teaching and learning process was still focused on the teacher and not enough on the students. Sure, students dominated the teaching methods used. Student participation was not comprehensive, leading to discrimination in learning activities. Based on the above considerations, there is a need to develop a teaching method that can involve the active

participation of all students so that the teacher does not dominate teaching and learning activities. In addition, through the selection of learning methods, it is hoped that the information sources obtained by students will not only come from teachers but also from other sources, thereby enhancing the role and activity of students in studying and analyzing the existing knowledge, especially in science subjects. One method that involves all students is the Poster Commen Method, which aims to stimulate, enhance creativity, and encourage students' understanding of issues. This method encourages students to express their opinions verbally about images or posters. Children can only learn effectively based on authentic objects and events at a very young age. Later, images become effective after children learn to connect images with the real world. Images greatly expand the stimulus situations to be studied. Images can express things that are often difficult to convey with words, but images themselves often only make sense when accompanied by verbal explanations.

Based on the above explanation, the researcher was interested in researching at State Elementary School 007, Bangkinang City how science learning is conducted at State Elementary School 007, Bangkinang City. Can improve students' creative thinking skills. Therefore, the researcher conducted a study titled *“The Application of the Poster Commen Method Assisted by Mind Mapping to Enhance Students' Creative Thinking Skills in Elementary School.”*

LITERATURE REVIEW

The following are some of the literature reviews that exist in this study:

Method Poster Commen

The term “method” originates from the Greek word “methodos,” meaning ‘way’ or “method.” A teaching method refers to a teacher's approach to delivering lessons to students. Since this delivery occurs within an educational context, a teaching method can be understood as the approach teachers employ to establish a connection with students during the teaching process. Thus, a teaching method serves as a tool to facilitate the teaching-learning process.

Sudjana and Rivai, in their book (2005:51), state that a poster is a visual combination of a strong design with colors and messages intended to capture the attention of passersby but also to leave a meaningful impression in its environment. Thus, a poster can be defined as a solid design that combines visual elements, colors, and messages intended to capture people's attention. The poster Commen method is part of the active learning strategy. This method is referred to as the image Commening method, a strategy used in education to encourage students to generate ideas about what is contained in the image.

According to Nurhasanah (Roza, 2022), the poster Commen method is part of the active learning strategy, also known as the method of Commening on images, which teachers use to encourage students to express their ideas about what is contained in an image. If a poster is to attract attention and have a strong influence in conveying a message, it must have a strong visual appeal. Daryanto (Nasution, R., 2019) It states that, fundamentally, the poster commen method is a commenary method that emphasizes the power of the message, visuals, and colors to influence a person's attitude and behavior in acting. Posters used in learning are, in principle, ideas realized in the form of simplified illustrations of objects, created in large sizes. The rules that teachers must pay attention to when using the picture method in poster presentations, according to Dewanto (2020), are: 1) easy to see, 2) attractive and colorful, 3) structured, and 4) communicative and informative.

Mind Mapping

Iwan Sugiarto (Rojak, H., 2016) states that mind mapping is a technique for summarizing concepts to be studied and projecting problems encountered as mind maps or graphs to make them easier to understand. Mind mapping is a visual method used to organize information creatively. Mind mapping connects ideas or concepts through lines, branches, and images. The primary purpose of mind mapping is to link free associations, enhance understanding, and aid in better retention of information. Mind mapping can be an effective tool to assist students in understanding, organizing, and remembering information.

Creative Thinking Skills

Thinking is a process whereby a person remembers and understands something, which essentially involves storing something that has been experienced to be recalled when needed (Agustina, 2017). The ability to think requires the ability to remember and understand; therefore, the ability to remember is the most important part of developing thinking skills. This means that someone who can remember and understand cannot necessarily think. Conversely, a person's ability to think is accompanied by the ability to remember and understand. This aligns with Peter Reason's statement (Hastuti, T., 2018), that thinking is impossible without memory.

Creative thinking is a process of generating or producing new ideas. According to Munandar (Yasiro, L. et al., 2021), creative thinking is the ability to see various possible solutions to a problem. Creative thinking involves both logic and intuition simultaneously (Saefudin, A., 2011). Specifically, creative thinking can be described as a unity or combination of logical thinking and divergent thinking to produce something new. Something new is one indication of creative thinking in mathematics, while other indications are related to logical thinking and divergent thinking.

Creative thinking is cultivated by paying attention to intuition, stimulating imagination, exploring new possibilities, opening up surprising perspectives, and generating unexpected ideas. According to Sukmadinata (2004), in (Eva, L. & Kusriani, 2015), creative thinking involves the following abilities: "1) asking questions; 2) evaluating new information and ideas with an open mindset; 3) seeking connections, especially between dissimilar things; 4) seeing connections between one thing and another; 5) applying one's thoughts in every situation to produce something new and different; 6) paying attention to intuition."

So, creative thinking is finding new connections between various things, accepting, remembering, providing critical analysis, and using the results in problem-solving. Creative thinking involves curiosity and questioning, encouraging students to think critically about problems selected for discussion related to the material being covered. With the ability to think creatively, students are expected to develop themselves in making decisions from various perspectives to solve problems, as creative thinking is a key to personal development. Therefore, each student is expected to have a high level of creative thinking.

According to (Siswono, T., Y., 2007), the improvement of creative thinking levels in mathematics is based on three components: fluency, flexibility, and novelty in problem-solving. The level of creative thinking (LCT) consists of five levels: level 4 (very creative), level 3 (creative), level 2 (adequate), level 1 (less creative), and level 0 (not creative). This hypothetical theory of creative levels is called the draft level of creative thinking.

According to Munandar (Huliatunisa et al., 2019), indicators of creative thinking include: 1) Fluency, which is the ability of students to express their opinions in learning. 2) Flexibility is a thinking skill that differs from most people, seeking varied alternative answers, and being able

to change the direction of thinking spontaneously. 3) Originality is a student's skill in coming up with new and unique ideas and finding new approaches to solving problems. 4) Elaboration is the students' ability to develop an idea they have received. Students who have elaboration skills are not easily satisfied with simple knowledge.

Students' ability to think creatively enables them to solve problems and make decisions, increase their awareness of their role in and maintenance of the natural environment, increase their awareness of the importance of respecting nature and its order as God's creation, and acquire knowledge, concepts, and science skills as a foundation for continuing their education in junior high school (Khalida & Astawan, 2021).

METHODS

This study uses the classroom action research (CAR) method, where the root of the problem arises in the classroom and is directly felt by the educators concerned. CAR is a type of action research conducted by teachers through self-reflection to improve and enhance the quality of the learning process in the classroom, thereby increasing student learning outcomes (Ananda, 2019). In other words, PTK is research conducted to improve learning in the classroom.

The research subjects were 23 fourth-grade students at State Elementary School 007, Bangkinang City, consisting of 12 male and 11 female students. The researcher chose fourth-grade students as the research subjects because of their low critical thinking skills. The techniques used to collect data in this study were observation and documentation, with research instruments including observation sheets of teacher and student activities, observation sheets of students' creative thinking abilities, documentation sheets, and learning tools such as syllabi, lesson plans, and worksheets.

Data analysis techniques used qualitative and quantitative analysis. Qualitative analysis was used to analyze data obtained through words or descriptions of students' creative thinking abilities during the learning process. Quantitative analysis was used to analyze students' creative thinking scores. Quantitative data in this study were used to measure the extent of improvement in students' creative thinking skills using the poster Commen method, which involved collecting data during each observation in each cycle and then analyzing it using percentage techniques.

The success indicators achieved in this classroom action research are based on individual and classical mastery criteria. Individual mastery is seen from the students' abilities, which were examined from the results of each action meeting. Individual learning mastery is achieved if students obtain a minimum score of 76, the minimum passing grade set by the school. The percentage of student scores is calculated using the following formula:

$$\text{Individual Completion} = \frac{\text{Obtained Score}}{\text{Maximum Score}} \times 100\%.$$

The author compared the results obtained from the formula with the indicators in Table 2.

Table 2. Student Completion Rate Guidelines

90% - 100%	Very High
80% - 89%	High
76% - 79%	Good
50% - 75 %	Low
< 49%	Very Low

Furthermore, classical mastery is achieved when 80% of all students have the expected reading ability. To determine classical learning mastery, the following formula can be used:

$$\text{Classical Completion} = \frac{\text{Number of Students Completing the Program}}{\text{Total number of students}} \times 100.$$

Source: (Panjaitan, W. et al., 2021).

RESULTS AND DISCUSSION

Research Results

Pre-Action

The researcher conducted observations during the learning process. These observations revealed problems in class IV of State Elementary School 007, Bangkinang City, namely that many students felt bored and tired during the learning process and lacked enthusiasm when learning. Additionally, many students could not express their opinions, as evidenced by a pre-intervention assessment of the creative thinking abilities of fourth-grade students, where only 7 out of 16 students were categorized as proficient.

Based on the results of the observations conducted by the researchers, these findings served as the basis and reference for the researchers to conduct a study on science education for fourth-grade students at State Elementary School 007, Bangkinang City.. For students' creative thinking skills to be adequately implemented at the elementary school level, skilled teachers must design and manage the learning process. One of the efforts teachers can make in the learning process to make students more active in learning, especially in improving their creative thinking skills, is to apply the Poster Commen model assisted by Mind Mapping.

In this action research, the researcher first developed learning tools by preparing ATP, teaching modules according to the steps of the Poster Commen model, preparing videos and learning media, preparing observation sheets for teacher and student activities, and preparing student worksheets. The researcher then scheduled the appropriate time to conduct the research at State Elementary School 007, Bangkinang City, specifically on September 27 and 28, 2023, for Cycle I, and October 6 and 7, 2023, for Cycle II. This research was conducted in collaboration with classroom teachers and assisted by peers as observers. The research aimed to determine whether applying the Poster Commen model assisted by Mind Mapping could improve students' creative thinking skills. This research was conducted in two cycles, each consisting of two meetings with two lessons (2 x 35 minutes).

Action

Cycle I

a. Planning Stage

First, the researcher planned Cycle I on students' creative thinking abilities using the Mind Mapping-assisted Poster Commen model with material on the form of matter and its changes in fourth-grade students at UPT State Elementary School 007, Bangkinang City. After formulating the planning procedure for Cycle 1, the implementation plan for Cycle I was prepared according to the specified schedule.

b. Action Implementation Stage

This stage was carried out according to the teaching module that had been compiled and implemented using mind mapping media, using the poster Commen model, covering initial activities (introduction), core activities, and closing activities. Core activities included media presentation, question and answer sessions, group formation, group Commen sessions, and learning analysis (changes in the form of objects). Based on observations of teacher and student activities during the first meeting of Cycle I, the teaching module conducted the overall learning process; however, the researcher had not yet fully mastered the class, and several aspects still needed improvement for the next meeting.

Additionally, there were still deficiencies in student activities during the learning process, particularly when the teacher asked students to observe the form of substances and changes in objects, as some students still did not understand or grasp the material. Therefore, the researcher corrected all errors in the next meeting. Cycle I Meeting II was implemented on September 28, 2023, where all learning stages remained the same as in Meeting 1. The observation results from Meeting 2 were satisfactory, with the learning process proceeding according to the researcher's plan. Students were also enthusiastic and eager to participate in the learning process.

c. Observation Stage

The teacher and peers conducted the observation stage. The activities included observing the researcher's and students' activities in the learning process using the Commen model. The observation was carried out by filling out the teacher's observation sheet and the students' observation sheet in cycle I, which yielded the following results: 1) The teacher had implemented the learning process using the Poster Commen learning model with the assistance of Mind Mapping quite well. 2) The Teaching Module conducted the learning process, but several aspects needed improvement. 3) Student learning activities were quite good. 4) In group work, intelligent students dominated, and 5) Some students were still noisy during the learning process.

The results of students' creative thinking abilities in Cycle I Meeting I can be seen in Table 3.

Table 3. Results of Students' Creative Thinking Skills Cycle 1 Meeting I

No	Category	Value Range	Number of Students
1	Very High	90-100	0
2	High	80-89	3
3	Good	75-79	7
4	Low	50-74	13
5	Very Low	<49	0
Number of Students		23	
Average		66,73	
Number of Students Who Passed		43,47%	10
Number of Students Who Did Not Pass		56,52%	13

Source: 2023 test results

Meanwhile, the results of students' creative thinking abilities in cycle I meeting II can be seen in Table 4.

Table 4. Results of Students' Creative Thinking Skills Cycle I Meeting II

No	Category	Value Range	Number of Students
1	Very High	90-100	0
2	High	80-89	9
3	Good	75-79	5
4	Low	50-74	9
5	Very Low	<49	0
Number of Students		23	
Average		73,04	
Number of Students Who Passed		60,86%	14
Number of Students Who Did Not Pass		39,13%	9

Source: 2023 test results

d. Reflection Stage

Based on the research results, it was found that in cycle 1, students' creative thinking skills showed improvement from meeting 1 to meeting 2. However, the researchers and teachers continued to evaluate the learning process to determine the extent of improvement in students' creative thinking skills using the poster Commen and mind mapping models as the media.

Based on the results of observations and discussions with the classroom teacher, several issues still need to be addressed. These issues include the teacher's difficulty in managing students during the learning process, the need for the teacher to have better control of the classroom, and the need for the teacher to update the learning model or style in the classroom to prevent students from becoming bored and to encourage them to express their opinions with greater confidence. As for the issues from the students, many students quickly feel bored in class because teachers still use monotonous teaching methods, and many students lack confidence in expressing their opinions.

Based on the results of observations and reflections, actions need to be taken to address these issues. The improvements in Cycle II involve getting closer to the students. Overall, the results of Cycle I indicate that students' learning motivation has increased. However, the percentage of students' learning motivation has not yet reached the desired indicator. Therefore, improvements have been planned for the next cycle, Cycle II.

Cycle II

a. Planning Stage

The planning for cycle II was almost the same as the planning stage in cycle I, where the researcher created teaching modules using the Commen poster model before starting the learning process. Mind mapping was still used as the teaching media. The researcher then prepared test sheets for students to measure their abilities and data collection tools, such as teacher observation sheets and student observation sheets, to find out about the teaching and learning process in the classroom.

b. Action Implementation Stage

This second cycle of activities was carried out by the teaching module that had been prepared in line with the planning stage, and was implemented similarly to the previous

cycle. However, this time the media was designed to be more appealing to students. The activities included an introductory, core, and closing phase. The core activities include the media presentation, question and answer sessions, group formation, group discussion sessions, and learning analysis (changes in the form of objects). The results of observations of teacher and student activities in the first meeting of Cycle II indicate that the activities proceeded smoothly. All students were enthusiastic and motivated in their learning, and their creative thinking skills were evident.

However, the researcher needs to maximize the available time to ensure that the learning activities proceed according to plan and are more effective without exceeding the allocated time. Therefore, the researcher will proceed to the second meeting to maximize the time and observe whether the learning process using the poster Commen model with mind mapping media increasingly enhances students' creative thinking abilities. Cycle II Session 2 was implemented on October 7, 2023, so the learning process proceeded well. All students were highly enthusiastic and motivated during the learning process. The classroom environment was conducive and well-managed.

c. Observation Stage

The learning outcomes of the second meeting showed improved students' creative thinking skills using the mind mapping-assisted poster Commen model compared to the previous meeting. In addition, the learning process also improved, with students appearing more enthusiastic and active during learning activities. The results of the second cycle observation were as follows: 1) The mind mapping-assisted poster Commen model became more interesting and maximized, so students were enthusiastic and excited about learning. 2) The teacher's activities in giving instructions, demonstrating, motivating students, and managing time were maximized. 3) Students' learning activities were good. 4) All students were active in group work. Moreover, 5) Students were no longer challenging to manage.

The results of the observation and evaluation of Cycle II by the researcher with the teacher as a collaborator yielded data on the creative thinking abilities and learning scores of fourth-grade students at UPT State Elementary School 007, Bangkinang City.. The results of students' creative thinking abilities in Cycle II, Session 1, can be seen in Table 5.

Table 5. Results of Creative Thinking Ability of Students in Cycle II Meeting I

No	Category	Value Range	Number of Students
1	Very High	90-100	1
2	High	80-89	13
3	Good	75-79	4
4	Low	50-74	5
5	Very Low	<49	0
Number of Students		23	
Average		78,04	
Number of Students Who Passed		78,26%	78,26%
Number of Students Who Did Not Pass		21,73%	21,73%

Source: 2023 test results

The results of students' creative thinking abilities in Cycle II Meeting II can be seen in Table 6.

Table 6. Results of Creative Thinking Ability of Students in Cycle II Meeting II

No	Category	Value Range	Number of Students
1	Very High	90-100	6
2	High	80-89	12
3	Good	75-79	3
4	Low	50-74	2
5	Very Low	<49	0
Number of Students		23	
Average		83,04	
Number of Students Who Passed		91,30%	21
Number of Students Who Did Not Pass		8,69%	2

Source: 2023 test results

d. Reflection Stage

After cycle II, teacher activities in cycles I and II greatly influenced students' creative thinking abilities. The average in cycle I meeting was 66.73, which increased to 73.04 in meeting II. Then, in cycle II meeting I, there was an increase to 78.04, which increased again in meeting II to 83.04. The average classical score for students' creative thinking ability in Cycle I Session I was 43.47%, increasing to 60.86% in Session II. In Cycle II Session I, the score increased to 78.26%, and further increased to 91.30% in Session II, categorized as "very good."

Based on the reflection results in Cycle II, the researcher and teacher did not need to conduct further cycles, as it was clear that the students' creative thinking skills had already reached the desired indicators.

Comparison

A comparison of students' creative thinking abilities in cycles I and II of each meeting using the mind mapping-assisted poster Commen model can be seen in Figure 1.

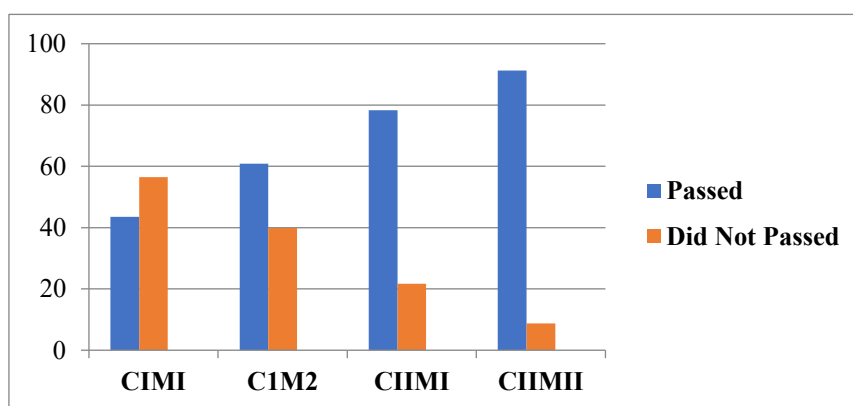


Figure 1. Diagram of Creative Thinking Ability of Students in Cycles I and II

Description:

C1M1 : Cycle I meeting I C1M1 : Cycle II meeting I
 C1M2 : Cycle I meeting II C1M2 : Cycle II meeting II

Based on Figure 1, there was an increase in students' creative thinking skills using the Poster Commen model assisted by Mind Mapping in grade IV of State Elementary School 007, Bangkinang City.. It was found that the students' scores in cycle I meeting I were 43.47%, then increased in meeting II to 60.86% classically. Then, in Cycle II Session I, there was an increase to 78.26%, which further increased to 91.30% in Session II on a class-wide basis.

The development of students' creative thinking skills from the pre-intervention, Cycle I, and Cycle II in the fourth-grade class at State Elementary School 007, Bangkinang City. Can be seen in Table 7.

Table 7. Comparison of Creative Thinking Abilities of Fourth Grade Students at Public Elementary School 007 Bangkinang Kota Pre-action, Cycle I, and Cycle II in Science Subjects

Description	Preliminary Data	Cycle I		Cycle II	
		Meeting I	Meeting II	Meeting I	Meeting II
Classical percentage	30,43%	43,47%	60,89%	78,26%	91,30%

Source: 2023 test results

Based on the data in Table 8, the percentage of students' creative thinking skills increased per meeting from cycle to cycle. From the pre-intervention data, the percentage was (30.43%), then increased again in cycle I meeting I to (43.47%) and in meeting II to (60.89%). In cycle II meeting I, it increased to (78.26%); in cycle II meeting II, it increased to (91.30%) classically.

Discussion

Planning students' creative thinking skills using the Poster Commen model with the help of Mind Mapping.

For the first and second cycles of science learning for fourth-grade students, researchers must prepare a lesson plan because, according to (Saitya, 2022) the learning process must be planned. Saroni (Rozaq, M. & Kocimaheni, A., 2020) Also, in designing the learning process, teachers create a scenario (plan) that must be implemented during the teaching and learning process in the classroom. The plans to be carried out by the researcher in this study are as follows: 1) Developing an instrument in the form of a Learning Objective Flowchart (LOF), 2) Developing teaching modules by the steps using the Poster Commen model with the assistance of Mind Mapping, 3) Preparing observation sheets for teacher activities, 4) Preparing observation sheets for student activities, 5) Preparing questions to be answered by students.

After going through the learning planning process for Cycle I and then implementing the learning process using the Poster Commen model with the assistance of Mind Mapping, which was not implemented effectively, a better plan was developed for improvements in Cycle II. This aligns with the opinion of (Novita & Sundari, F., 2020) learning improvements should be made in Cycle 2 if Cycle 1 did not achieve the success indicators.

Implement students' creative thinking skills using the Poster Commen model with the help of Mind Mapping.

The Poster Commen with Mind Mapping assistance is a learning model in which students are asked to Commen on a picture that has been shown to them so that they become more creative in expressing their opinions. The implementation begins with the teacher showing a picture that explains the material to be studied. Based on the learning process results using the Poster Commen with Mind Mapping model in the first cycle, the learning process was still relatively inactive and

unengaging. Many hesitated to share their opinions when the teacher encouraged students to speak up or ask questions. When the teacher explained, many students did not pay attention. Many refused when asked to Comment on the image in front of the class. This is in line with the opinion (Hermida, 2017) that in the first meeting, students were not yet accustomed to the model and method taught by the researcher.

Students' creative thinking skills in cycle one were still lacking, as evidenced by only seven active students. Teachers play a crucial role in learning success and guiding students to be active in their learning. This occurs because teachers teach monotonously and do not acknowledge students who volunteer to speak in class. Therefore, in cycle I, students' creative thinking skills were categorized as insufficient, leading to the implementation of cycle II. Activities in cycle II of the learning process using the Poster Comment model assisted by Mind Mapping have been running well. Through the Poster Comment model assisted by Mind Mapping, students will learn comfortably using a more enjoyable learning model.

Implementing learning using the Poster Comment model with Mind Mapping assistance can make students feel comfortable absorbing every lesson they receive. Thus, this process can enhance students' creative thinking skills. However, despite its advantages, the Poster Comment model with Mind Mapping assistance also has a drawback: many students cannot express their opinions because they do not yet understand. Therefore, a teacher must be able to involve all students in the ongoing learning process.

Improving students' creative thinking skills using the Poster Comment model with the help of Mind Mapping

Using the Poster Comment model assisted by Mind Mapping can improve students' creative thinking skills. This can be assessed from the increase in students' creative thinking skills in a classical manner, starting from the pre-action, cycle I, and cycle II. Of the 23 students in cycle I, 13 did not achieve the predetermined criteria, scoring at least 75. In Cycle II, two students did not meet the criteria for adequacy, which was defined as a score of at least 75. This was because the students tended to be quiet during the learning process and were unwilling to interact with their peers. They also did not dare to voice their opinions. As a result, the students could still not effectively participate in the Poster Comment model assisted by Mind Mapping.

Overall, the improvement in students' creative thinking skills has achieved the expected goal, namely that students' creative thinking scores are above the category determined by the researcher, which is the "fairly good" category with a minimum score of 75, and have reached a classical mastery level of 80%. Therefore, the researcher and teachers agreed to conclude the learning improvement and classroom action research at cycle II and not continue it in the next cycle. The research to enhance students' creative thinking skills using the Poster Comment model assisted by Mind Mapping was declared victorious. This study reinforces previous research (Noerjannah et al., 2016) that using the Poster Comment model increased the creative thinking skills of fourth-grade students at State Elementary School 1 Sidangrasa.

CONCLUSION

One of the factors that drives student success in learning is their creative thinking skills. Therefore, educators must continue improving students' creative thinking skills to help them succeed in their studies. Using the Poster Comment model with the assistance of Mind Mapping has proven to enhance students' creative thinking abilities. Mind Mapping is an effective method for making learning materials more engaging and stimulating students' creative thinking abilities

to Commen on and analyze the materials (Poster Commen), particularly in science subjects. This can be observed from each cycle's meetings in Grade IV of the Technical Implementation Unit of State Elementary School 007, Bangkinang City. The results obtained in each cycle are as follows: in Cycle I, 43.47% or 23 students achieved mastery, with 10 students meeting the criteria. In Cycle II, the improvement in students' creative thinking skills reached 78.26%, with 21 out of 23 students achieving mastery. Based on these results, it can be concluded that students' creative thinking skills using the Poster Commen model with the assistance of Mind Mapping can be improved among fourth-grade students at the Technical Implementation State Elementary School 007, Bangkinang City.

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