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Implementation of Mind Mapping in Social Studies Subjects on Socio-Cultural Changes for Junior High School Students

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ABSTRACT - The purpose of this research is to: (1) Describe the implementation of the mind mapping method, and (2) Describe the improvement of activities and learning outcomes in Social Studies (IPS). This research adopts a classroom action research (CAR) design. Based on the results of the classroom action research aimed at improving the process and learning outcomes of students, the following conclusions can be drawn: (1) The implementation of the mind mapping method in Social Studies for Grade IX students at SMPN 7 Bojonegoro involves several stages: (a) Ensure that the main theme is placed in the middle, (b) From the main theme, determine the main branches that are still related to the main theme, (c) Determine sub-topics as "branches" derived from the main branches, (d) Creatively use images, symbols, codes, and dimensions in your mind map, (e) Use lines to connect the Central Topic with the Main Topic and Sub-Topics, and (f) Develop the Mind Map according to your style. (2) The implementation of the mind mapping learning method for Grade IX students at SMPN 7 Bojonegoro in the academic year 2023/2024 can enhance their activities and learning outcomes.

Keywords: Mind Mapping, Socio-Cultural Change, Digital Era, Learning Innovation.

ABSTRAK – Implementasi Mind Mapping Pada Mata Pelajaran Sosial Tentang Perubahan Sosial Budaya Siswa SMP - *Tujuan penelitian ini adalah: (1) Mendeskripsikan pelaksanaan penerapan metode mind mapping (2) Mendeskripsikan peningkatan aktivitas dan hasil belajar IPS. Penelitian ini menggunakan rancangan penelitian tindakan kelas (PTK). Berdasarkan hasil pelaksanaan penelitian tindakan kelas yang bertujuan meningkatkan proses dan hasil belajar siswa, maka dapat disimpulkan hal-hal sebagai berikut: (1) Penerapan metode mind mapping pada mata pelajaran IPS kelas IX SMPN 7 Bojonegoro, melalui beberapa tahapan: (a) Pastikan tema utama terletak ditengah- tengah (b) Dari tema utama, tentukan cabang utama yang masih berkaitan dengan tema utama.(c) Tentukan sub topik sebagai "ranting" yang diambil dari cabang utama (d) Secara kreatif gunakan gambar, simbol, kode, dan dimensi seluruh peta pikiran Anda. (e) Gunakan garis untuk menghubungkan antara Topik Sentral dengan Topik Utama dan Sub Topik. (f) Kembangkan Mind Map sesuai gaya anda sendiri. (2) Penerapan metode pembelajaran mind mapping siswa kelas IX SMPN 7 Bojonegoro tahun pelajaran 2023/2024 dapat meningkatkan aktivitas dan hasil belajar.*

Kata Kunci*: Mind Mapping, Perubahan Sosial Budaya, Era Digital, Inovasi Pembelajaran.*

INTRODUCTION

Learning from experience about the problems that have occurred, then for a teacher should be in the learning process provides a series of activities that allow students happy and interested in the lesson. This depends on the exact teacher in the selection of strategies, methods and learning models in each subject, especially in social studies learning. Thus the teaching and learning process can create an atmosphere that can make students as learning subjects that develop dynamically and positively.

Based on the results of social studies learning that takes place, it can be seen that there are several obstacles that can cause less than optimal student learning outcomes. such as students lack of concentration, students do not like to read, the absence of props so that the delivery of material is very lacking. the low ability of students to understand and apply the basic concepts of social studies in everyday life is also caused by less than optimal implementation of the teaching and learning process using process skills, while KKM social studies subjects in class IX SMPN 7 Bojonegoro is 75.

Problems that occur in class IX students SMPN 7 Bojonegoro from the results of the previous material obtained data on the average value of competency test 70.37 with class completeness 37.5%. There are 62.5% who are not complete while class completeness according to the criteria set must be above 80%.

The low ability of students is an indication of weaknesses as well as learning difficulties. Learning weaknesses and difficulties lie in the difficulty of understanding the material, difficulty recognizing the main idea or main idea and the lack of learning activities when the teacher uses the lecture and assignment method. Students are not given the opportunity to do activities to understand the material through concept maps first in order to build schemes about the content of the material.

One of the steps that can be taken to foster student learning activities and results is by using the Mind Mapping method. Using Mind Mapping, students can explore more and deeper information from the material to be more schematic, detailed, and more concrete with a variety of images / writings that attract the attention of students who learn,

According to Tony Buzan (2007) Mind Mapping is an easy way to explore information inside and outside the brain, a new way to learn and practice that is fast and powerful, a way to take notes that is not boring and the best way to create new ideas in planning projects.

Reflecting on this phenomenon, the researcher decided to make Mind Mapping (concept maps) in the activity of understanding the material in the form of classroom action research. The reason for choosing this method is because (1) Mind Mapping / Mind maps can help students organize their focus of attention so as to avoid giving excessive focus on less important material, (2) Mind Mapping / mind maps allow students to carry out activities to understand the material with a clear goal of finding information to answer the material. (3) Students practice making Mind Mapping this shows skills. So, Mind Mapping are the best alternative solution and very appropriate for increasing learning activities and results.

LITERATURE REVIEW

Mind mapping is the easiest way to put information into the brain and retrieve information from the brain. The mind map is the best technique in helping the brain's thinking process in an organized manner because it uses graphic techniques derived from human thinking that are useful for providing universal keys to unlock the brain's potential (Tonny and Bary Buzan, 2004). The topic or idea that has to be brought up is prominently displayed in mind maps. The topic's primary topics, represented by an image or keyword, branch out from the center (Ibrahim, 2000; Sugiarto, 2004). Links to higher branches serve as a representation of subordinate subjects. According to Buzan & Buzan (1996), all branches together form a framework of interconnected nodes. Such a diagram makes it simpler to comprehend and recall the intricate relationships between the concepts or themes and to analyze the individual components by visually representing those relationships. This facilitates knowledge representation and makes learning a more profound process (Biggs, 1987; Mayer & Gallini, 1990).

Mind maps facilitate the recording of extensive knowledge pertaining to a theme or concept and the visualization of relationships between the emerging ideas (Hardy and Stadelhofer, 2006). As knowledge about the theme and its connections are regulated, people's capacities for awareness, reasoning, analysis, planning, coordination, and integration grow (Wen-Cheng, Chung-Chieh, & Ying-Chien, 2010). Pupils make the most of their brain's potential by using their imagination in an unrestricted and autonomous manner while considering the connections between ideas (Buzan & Buzan, 1996). Nonetheless, it is well known that critical thinking is supported by analysis, reasoning, and concept discovery (Thomas, 2011). Thus, mind mapping

studies are considered a helpful method that promotes the growth of critical thinking abilities (Tsirkunova, 2013; Polat and Ebru, 2020).

The following presents the differences between traditional notes (ordinary notes) and mind-mapping notes.

Table 1. Differences Between Regular Notes and Mind Mapping

Ordinary Notes	Mind Mapping
1. text only	1. in the form of writing, symbols, and pictures
2. only in one color	2. colorful
3. review takes a long time	3. quick and short review time is required
4. time needed to learn longer	4. the time needed to learn is faster and more effective
5. static	5. makes individuals more creative

The literature contains studies that demonstrate the benefits of mind mapping on a range of skills. Research has shown that mind mapping studies have a positive impact on a variety of skills, including student motivation (Jones et al., 2012), language acquisition (Buran & Filyukov, 2015), writing abilities (Al Naqbi, 2011; Putra, 2012; Bukhari, 2016), creativity (Taadi, Raharjo, & Deliana, 2019; Vijayakumari & Kavithamole, 2014; Zubaidah, Fuad, Mahanal, & Suarsini, 2017), problem-solving (Farrand, Hussain, & Hennessy, 2002; Ismail, Ngah, & Umar, 2010), and self-regulation (Tanriseven, 2014).

However, mind-mapping methods also have a number of drawbacks. To begin with, mind mapping necessitates selecting a large number of keywords related to the main topic and giving it some long-term thought. It also takes a lot of effort to create mind maps and get the required images ready. This is why creating a comprehensive mental map requires some time. Second, it could be difficult for young children to identify the main branches and essential phrases that comprise the mind map.

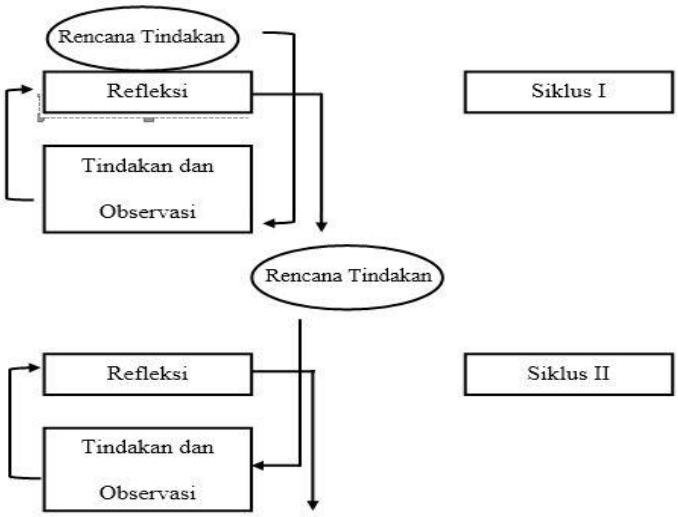
On the other hand, older kids might refrain from only writing the essential terms out of concern that they won't remember the details. When necessary conditions are not met, children who are performing mind mapping for the first time may find it challenging to manage the procedure (Chang, Sung, & Chen, 2001; Chang, Sung, & Chen, 2002; Windura, 2008). As a result, it's thought that introducing the subject to kids gradually and giving them the help they need is important in helping them create mind maps free from anxiety and dread of making mistakes.

METHODOLOGY

The research approach used in classroom action research (CAR) leads to descriptive qualitative research. The focus of this research is the Mind Mapping learning method. The form of research used is a classroom action research model of the teacher as a researcher, so the work starts from preparation, conducting research, and reporting the results of the research carried out by the teacher concerned. Thus, since the research planning the data is collected, then analyzed, and finally reported the results of the research.

The research was conducted in cycles. There are 2 cycles, each cycle consists of 2 meetings, where each meeting is 2 x 40 minutes long. Each cycle goes through the stages of action planning, action implementation and observation, reflection. The results of this reflection are then used to improve the planning of the next cycle (revised plan). In general, the flow of action in this study is drawn by Kemmis and Mc. Taggart in Figure 1.

Figure 1. The Class Action Research Cycle



Researchers in this CAR are as full participants so that their presence is known by the research subjects. The researcher is the party who feels the problem that needs to be solved and is most concerned with solving or obtaining answers to problems in social studies class IX with the subject matter of sociocultural changes. The research was conducted at SMPN 7 Bojonegoro. The research subjects were ninth grade students of SMPN 7 Bojonegoro in the 2023/2024 school year totaling 32 students.

The instruments used in this study are tests and non-tests. Non-test questions include: (1) Observation guidelines by the teacher in measuring the implementation of learning (2) Observation sheet of student learning activities with Mind Mapping (3) Questionnaire. Test questions in the form of: The instrument used to measure the results of this test is a multiple choice written test containing 20 questions. Data processing techniques are carried out by entering data on the results of respondents' answers to questions / questions that have been given using a simple formula, namely descriptive percentages. So that a picture of the achievement results between cycle I and mind map / mind map is obtained, then the results of the reflection are used for planning in cycle II. If there is an increase in cycle 1 to cycle II and according to the success criteria, it means that this research is successful and does not need to be continued to the next cycle.

The data analysis used in this research is qualitative descriptive. Data analysis is shown in the form of data exposure described in sentence form. The data collected will be analyzed descriptively, both qualitative and quantitative descriptive. Qualitative data in the form of observation, photo documents, and field notes. The data analyzed descriptively quantitative is the data of the teacher activity observation sheet when teaching. student activity observation sheet which is realized in the form of a table/questionnaire in the form of a "checklist" as well as the results of student evaluations on the material of social-cultural changes. with the assessment using a type of quantitative assessment with a value range of 0-100 analyzed by percentage and average analysis.

RESULT AND DISCUSSION

Cycle 1

Planning

In this stage, among others: (1) Developing learning tools including lesson plans and assessment systems. (2) Developing observation sheets for student activity assessment (3) Preparing evaluation tools in the form of written tests of student competency test questions about the material.

Implementation

At the stage of implementing cycle I action, researchers carried out learning in the classroom for 2 face-to-face sessions, namely on Tuesday and Thursday, February 6 and 8, 2024. Activities carried out include introductory activities,

core activities, and closing. The material discussed in cycle 1 was socio-cultural changes.

In the introductory activities, questions about the benefits of sociocultural changes were asked to students, followed by providing information about learning objectives, material to be learned, and the learning model to be applied. In the core activities, the following things were done: (1) the teacher conveys learning media in the form of charts, and factor tree schemes, on a media paper to present the material; (2) the teacher conveys learning objectives (3) the teacher applies the concept of mind map learning. With the following procedure: (a) Writing the problem (topic) of discussion, namely the material about, in the center of the paper in the form of a circle or tree (b) Making branches of the problem (topic) about in more detail, (c) Making branches of problems related to branches or related to the problem being discussed, (4) The teacher then gives an exercise to each group that has been formed with the concept of mind mapping to describe the problem being discussed, in more detail with the topic by giving a time limit of 25 minutes. At the end of the discussion, the teacher conveys the discussion material through the mind map concept. (5) The teacher conducts an evaluation test to determine the ability of learning outcomes (6) the teacher reflects on the application of the mind map learning concept.

Furthermore, the test results are processed to obtain quantitative values (numerical form). The test results that have been obtained are then compared with the results of previous achievements. The results of the application of the Mind Mapping learning concept are as follows: At the beginning of learning, it can be seen that (1) Students are less enthusiastic about working in groups in learning. (2) Students are not used to learning conditions using learning methods with Mind Mapping. (3) Students are lazy to answer questions and wait for each other or other groups (4) Interaction activities in groups, equalizing perceptions, and asking each other in groups are still lacking (5) Lack of discipline and confidence in answering questions is still a weak point. (6) Insufficient time because the researcher must first explain the learning model with the mind map method to students about the rules involved in mind mapping.

To overcome the problems found in cycle I above, the following efforts were made: (1) Motivate students by showing props that will be used in the mind map method related to the material to be studied. (2) Researchers need to manage time well. (3) Give warnings to group members to be more

disciplined and confident so that they know and understand the questions so that they can answer correctly. (4) Intensive guidance is needed to train the importance of thinking together in their groups, and paying attention to the material to be conveyed. From the results of observations by teachers on the implementation of learning with Mind Mapping, the data obtained are as shown in Table 2.

Table 2. Data on learning implementation with Mind Mapping Cycle I

No	Data	Percentage
1	Implementability of Mind Mapping	77,77 %
2	Non-implementation of Mind Mapping	22,23%

What has not been done in cycle I is that the teacher limits the time for practice and the teacher has not conducted an evaluation (oral test) to find out the competency test. At the end of the cycle from the results of observations, after the actions were taken, there were changes in the classroom atmosphere, including: (1) Students are getting used to the learning conditions using the learning model with the mind map method and understand the steps. (2) Students are more motivated to learn. (3) Students are able to use activities according to the teacher's instructions, quickly carry out group formation, and are eager to analyze each question, very enthusiastic about answering questions. (5) The learning atmosphere is more fun when each group is scrambling to answer questions and express the reasons for the answers with enthusiasm to find out the correct answer through demonstration.

Table 3. Data on Student Activity and Learning Outcomes during Mind Mapping Learning Cycle I

No	Data	Average (Percentage)
1	Student Activities	79.9 %
2	Competency Test	73,75%

Observation

In cycle I class action research, observations were made about student activities and assessment of student learning outcomes in learning using the Mind Mapping method. In the observations made to find out student activities that become aspects of the assessment of group aspects include thinking together, doing tasks, answering questions and completing tasks on time. Based on the data, it can be seen that the activity from meeting 1.

Reflection

Successes and failures that occur in the cycle I are as follows : (1) students are not familiar with the conditions of learning using a learning model with Mind Mapping method, this is because the learning model is new for students.(2) the results of observations in the first cycle showed that the average percentage of student activity reached 79.9% this result has met the success indicator that has been set at 70% and for descriptive analysis of the activities of all students entered in good criteria. For student learning outcomes obtained from the competency test scores that have been analyzed with an average of all students reached 73.75 %, and classical completeness reached where of the 32 students of class ixd as many as 20 students were declared complete and only 12 students were not complete. (3) students become more enthusiastic in learning Mind Mapping in class, the spirit of working in groups, and enthusiastic about finding out the right answers. (4) Learning Time is still not enough because researchers must first explain to students about the rules that exist in Mind Mapping.

To improve the weaknesses and successes that have been achieved in Cycle I, then made planning and maintaining the success that has been achieved in Cycle I, then made planning for the implementation of Cycle II in order to achieve better results. The steps taken include: (1) provide motivation to students to be more active and confident in learning. (2) reward the group and students who managed to answer the question correctly.(3) continue to provide intensive guidance to students to train the importance of thinking together in their groups, and pay attention to the material you want to convey.(4) Re-explain the material that has not been understood by students and provide assignments for students who have not completed.(5) rearrange the learning device with an easy-to-understand Mind Mapping method and manage time well.(6) preparing a questionnaire of student responses to the learning model with Mind Mapping to determine the response of students.

Cycle II

Cycle II also consists of four stages such as cycle I, namely planning, implementation, observation and reflection.

Planning

Planning cycle II is done based on the results of reflection cycle I will mainly implement this method of Mind Mapping according to the time set in the

lesson plan and continue to intensively guide students, especially training the importance of thinking together in their groups.

Implementation

The steps in this cycle include: (1) teachers prepare Learning media in the form of power point slides, concept map schemes with power point media presented in front of the class, to convey subject matter about social and cultural change (2) teachers convey learning objectives about social and cultural change (3) teachers apply the concept of Mind Mapping with the following procedures : writing problems (topics) discussion of social and cultural change students together are invited to fill out branches. Students together with the teacher make branches related to branches related to the topic being discussed. The teacher then gives exercises to each group that has been formed with the concept of mind mapping to outline problems related to the topic of the problem being discussed. The teacher set a time limit of 25 minutes. At the end of the discussion through the concept of Mind Mapping. The results can be seen in Table 4

Table 4. Learning Implementation Data with Mind Mapping Cycle II

No	Data	Percentage
1	Implementability of Mind Mapping	100 %
2	Non-implementation of Mind Mapping	0 %

Furthermore, the test results are processed to obtain quantitative values (numerical form). The test results that have been obtained are then compared with the results of previous achievements. The results of the application of the concept of learning Mind Mapping (mind map) are as follows: (1) learning activities increasingly lead to learning with the Mind Mapping method. (2) students are familiar with the group and cooperate with the group in solving problems from the teacher. (3) students are more courageous and confident to express their opinions in conveying the reasons for the answers given regarding the demonstration presented (4) students become more enthusiastic about finding out the truth of the answers by direct demonstration and listening to the right reasons from the teacher who is the answer. (5) the learning atmosphere is more fun when each group scrambles to answer questions and put forward the reasons for the answers with enthusiasm .(6) Time Management is better than the first cycle, can complete the learning to assessment to the dissemination of questionnaires in a timely manner. (7) at

the end of learning cycle II questionnaire distributed to determine the response of students to learning by Mind Mapping method.

Observations

The results of observation of student activities and evaluation of student learning outcomes in the second cycle can be seen in Table 5:

Table 5. Data on Student Activity and Learning Outcomes during Mind Mapping Learning Cycle II

No	Data	Average (Percentage)
1	Student Activities	87,45 %
2	Competency Test	87,5 %

The average percentage of student activity has reached 87.45%, this is already above the completed criteria set at 80%. And the results of the competency test in the second cycle have obtained 87.5%, which means that of the 32 students who have completed, there are 28 students and only 4 students who have not completed. This has shown more improvement than cycle I.

The questionnaire was used to determine the response of students to the learning model with Mind Mapping distributed to each student after learning activities. Mind Map Cycle II implemented. The questionnaire contains 5 items of questions that contain student responses to learning models with Mind Mapping. The statement items are contained in Table 6.

Table 6. Student Responses to Mind Mapping

No	Items of Questions	SA	A	DA	SDA
1	I feel from the beginning of learning has been interested in learning the mind-mapping model	0,5%	10%	2,3%	0,5%
2	Mind mapping learning Model can eliminate boredom during the process of teaching and learning activities	0,5%	6,6%	2,5%	0,5%
3	The mind mapping Model makes me more active in learning	1%	10,3%	2%	-
4	I agree that the mind mapping learning model is very suitable to be applied to the material of socio-cultural change	11,2%	18,4%	1,4%	-

No	Items of Questions	SA	A	DA	SDA
5	I believe the mind-mapping learning model can improve my learning outcomes	15,5%	16,1%	1,7%	0,1%
Total (100%)		28,7%	61,3%	8,9%	1,1%

Noted :

SA = Strongly Agree

A = Agree

DA = Disagree

SDA= Strongly Disagree

Reflection

The success obtained during the implementation of the second cycle is as follows: (1) increased student activity which includes group aspects, doing tasks, thinking together, and answering questions that have shown an increase in the percentage of overall student activity of more than 7.55 %, namely, cycle I amounted to 79.9% to 87.45%. in Cycle II and enter the good criteria in cycle I to be very good in Cycle II. (2) improvement of student learning outcomes from the analysis of student competency test scores showing 13.75% in the first cycle of 73.73% to 87.5% in the second cycle, with the percentage of completeness of the first cycle of 62.5% and Cycle II of 87.5%, up 25 %. where in the second cycle only four students are declared incomplete. Classical completeness achieved has met the indicator that has been set at 80%. (3) student response to learning at most is Agree (A) of 61.3%, then strongly agree (SA) 28.7%, disagree (TS) 8.9%, and strongly disagree (SDA) 1,1%. The total percentage of strongly agree and agree is 90% greater than the category of disagree and strongly disagree.

Discussion

The learning Model with the Mind Mapping method helps students to further develop students' activeness in solving problems, the accuracy of scientific thinking, interacting in groups, and understanding the material through direct demonstrations.

Based on the analysis of observation data cycle I, not the implementation of the closing part due to still not being skilled in learning Mind Mapping as a result of insufficient time. For this reason, good time management is carried out in the cycle II. There is still a lack of joint thinking activities in cycle I, possibly because students are not used to learning that emphasizes the importance of interacting with each other, convincing others, and equalizing

perceptions. Another cause is the lack of teacher guidance in teaching the importance of working together (social skills) in groups. The teacher simply asked for directions and answered the door.

Observation results of learning cycle II went much better than cycle I. Intensive guidance both in terms of analysis and answering every question in Mind Mapping in groups and teaching social skills (by reminding to think together), causing demonstration activities, thinking together (interacting, convincing each member, equalizing perceptions), and answering questions is quite prominent. These activities are strong points on student activities. So the student activity characteristics increased from good characteristics in Cycle I to very good in Cycle II. This means that it is above the performance indicators set are good and the positive impact is the increase in student activity and student learning outcomes.

The incompleteness of student learning outcomes in the first cycle has to do with there are still students who work alone in learning Mind Mapping or answering questions and grouping less heterogeneous questions. So there are more groups of weak students than smart students.

The form of questions designed by researchers based on demonstrations related to the description of a concept, motivating students to concentrate on seeing the demonstration and hearing the questions read so as not to be wrong in answering and spurring students to think scientifically about the demonstrations presented so that students can answer quiz questions in groups and then find out the answer through evidence from the demonstrations displayed so that students 'understanding of the material being taught increases.

Increased student understanding has a direct effect on the ability of students to work on the competency test questions given so that it will improve student learning outcomes. The incompleteness of students in the cycle I due to students still not understanding and not accustomed to using the learning model with the mind mapping method so that less mastered the material taught. In the Cycle II, students become more enthusiastic about learning so that there is an increase in student activity and also improve student learning outcomes so that learning completeness increases. The increase occurred in student activities and student learning outcomes from Cycle I and Cycle II.

A questionnaire used to determine the response of students to the mind-mapping learning model is distributed to each student after the mind-mapping

learning activities are carried out. From the responses given by students can be concluded that the learning carried out is new, students feel happy to follow the lessons, quizzes are easier to understand, motivating to do tasks, and feel ready to answer questions, focus their attention and critical thinking, and more passionate. This shows that learning using the mind mapping method gets a positive response from students.

CONCLUSIONS

Learning with Mind Mapping can improve social studies learning outcomes on the material of socio-cultural changes in class IX SMPN 7 Bojonegoro in the 2023/2024 academic year. The average daily test before action (pre-cycle) of 70.37 rose to 73.75% in cycle I and 87.5% in cycle II. The average percentage of student activity increased by 7.55% from 79.9% in Cycle I and to 87.45% in Cycle II. Based on this, there are several notes in this study: (1) Considering that the implementation of the cycle in this study has only run twice, the research cycle is expected to continue to get more significant findings. (2) The instrument used in this study is still an instrument whose validity level is not satisfactory, the next cycle the data tries with a more standard instrument. (3) At the end of the second cycle, the level of achievement of the three performance indicators determined has not been maximized. The next cycle is expected to further improve students' process involvement, learning outcomes achievement, and positive student response.

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