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Implementation of Problem Solving Method in Improving Learning Outcomes of Fourth Grade Students at MI Al Falah Pagu Wates Kediri

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Abstract

The purpose of this research is to investigate the implementation of the Problem Solving method that has proven to improve the learning outcomes of fourth-grade students at MI Al Falah Pagu Wates Kediri in the academic year 2022/2023, specifically in Social Sciences subject. The research design consists of four stages: (1) planning, (2) implementation, (3) observation, and (4) reflection. The research subjects were 25 fourth-grade students at MI Al Falah Pagu Wates Kediri, comprising 15 male students and 10 female students. Data collection techniques included observation, interviews, tests, and field notes. The data analysis technique used the average of student activities and the final test scores. The results showed that the implementation of the Problem Solving method in the Social Sciences subject could improve the fourth-grade students' learning outcomes at MI Al Falah Pagu Wates Kediri. This was shown in the increase in the percentage of student learning activities from 55.2% to 82% and had an impact on the average learning outcomes of students, which increased from 73.65 to 83.4.

Keywords: Implementation, Learning Outcomes, Problem Solving

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INTRODUCTION

Learning is a process conducted by teachers and students until there is a change within the students themselves. The results of this change in learning can take the form of knowledge, attitudes, and skills (Ngalimun, 2017; Mahananingtyas, 2017). Learning goals can be achieved if the learning process is carried out effectively (Ruba 2020). This requires several related aspects, including the teacher, students, content, teaching methods, and facilities. The Social Sciences subject is a school subject developed based on social phenomena, issues, and realities with an interdisciplinary approach that is related to various fields of social sciences and humanities. Therefore, it can be said that Social Sciences is a discipline that combines social sciences and humanities to produce social actors who can participate in solving national social problems. The learning materials are related to events, a set of facts, concepts, and generalizations related to current issues, phenomena, and societal realities, as well as regional opportunities (Hinton 1974).

According to Wiyono, Social Sciences is a subject that studies human beings in all aspects of life and their interactions in society. Meanwhile, according to Numan Sumantri, the natural and humanities sciences, as well as basic human functions, are psychologically organized and represented for educational purposes. The scope of Social Sciences subject includes the following aspects: human, place, and environment; time, continuity, and change; social and cultural systems; and economic behavior and welfare. Based on the above definition, it can be concluded that Social Sciences is one of the subjects with a large amount of memorization required, which tends to create a sense of boredom for students when studying it (Rahmad 2016). This is where the role of the teacher is crucial in providing explanations to students. If the teacher still uses classical methods in delivering explanations, such as the lecture method which focuses on one-way communication (Mahmudah 2016), it can be ensured that students will not be able to achieve the learning goals to their fullest potential.

The same situation also occurs at MI Al Falah Pagu Wates Kediri. Based on the preliminary observations conducted by the researcher, students are less active in Social Sciences learning. The students' interest in Social Sciences is slightly lower, as evidenced by the majority of students being silent, passive, and indifferent during the lessons, despite being motivated. Another initial indication is that students are reluctant to answer and ask questions related to the themes being studied. Even if they do provide answers, the results are still far from the correct concepts. Another fact states that the final semester examination scores

for Social Sciences are below the Minimum Mastery Criteria (KKM) set by the school, which is 75. Document data shows that out of the 25 fourth-grade students, 11 students (40%) scored above the criteria, while the remaining 14 students were unable to reach the criteria (60%). This data serves as a guide to improve the learning process so that all students in the class can successfully complete their studies.

The use of inappropriate teaching methods is also one of the causes. As a result, the learning process tends to be one-way communication, where students only listen to the teacher's explanations, read, and memorize, leading to a monotonous and less engaging classroom atmosphere. So, the optimal learning outcomes in Social Sciences cannot be achieved.

This condition certainly requires special handling from teachers to make students more interested and challenged in participating in Social Sciences learning process. We know that for children at the elementary school level, learning is more meaningful when what is learned is connected to their life experiences because children see the whole world around them. Social Sciences subject in elementary school develops students' knowledge, values, attitudes, and social skills, enabling them to analyze the social issues they face daily and cultivate a sense of pride and love for the development of Indonesian society.

One of the methods used by teachers is to change the teaching method employed. If the teacher has been using lecture-based methods in the past, this time the teacher is using the problem-solving method. Problem-solving method is an instructional approach that encourages students to identify and solve problems in order to achieve learning goals (Jauhar, Nurdin, and Solving 2017; Sulasmono 2012). It is a teaching method that directs students to think scientifically, critically, and analytically, enabling them to actively and independently engage with the real world (Manitik & Pesak, 2020). The problem-solving method is capable of arousing students' interest, fostering constructive and creative thinking, and providing them with the freedom to develop their own concepts, making it easier for students to remember the concepts. Moreover, teachers need to implement student-centered learning, as the more students participate in activities, the more learning experiences they gain (Andita and Taufina 2020; Martini 2019).

The problem-solving method is not just a teaching method but also a thinking method, as it can be used to solve problems, ranging from seeking information to drawing conclusions. It is a teaching method that directs students to think scientifically, critically, and analytically, enabling them to actively and independently engage with the real world (Manitik & Pesak, 2020). Another

definition states that the problem-solving method is capable of arousing students' interest, fostering constructive and creative thinking, and providing them with the freedom to develop their own concepts, making it easier for students to remember the concepts. Moreover, teachers need to implement student-centered learning, as the more students participate in activities, the more learning experiences they gain. Through this method, students are trained to face different problems, both personal and group problems, to be solved individually or collectively. The learning orientation is exploration and discovery, with problem-solving at its core.

According to Savage and Armstrong, the problem-solving method consists of four stages, namely (1) recognizing the existence of a problem; (2) considering approaches to solve it; (3) selecting and applying the chosen approach, and (4) reaching a justifiable solution (Utami, Utami, and Sarumpaet 2017). When these four stages are carried out perfectly, several advantages can be observed, including training students to (1) design an invention, (2) think and act creatively, (3) realistically solve the problems they face, (4) identify and conduct investigations, (5) interpret and evaluate observation results, and (6) stimulate the development of students' critical thinking skills to effectively solve the problems at hand. The greatest benefit is that it makes school education more relevant to real-life situations, especially the working world.

On the other hand, the problem-solving method requires a longer duration compared to other teaching methods and requires a teacher who is proactive in providing various stimulating questions to students. Another aspect that is usually encountered in the application of the problem-solving method is that not all learning materials are suitable for this method.

This is consistent with a research titled "The Application of Problem-Solving Method in Improving the Understanding of Mawaris Materials in Second-grade Students of Mas Lamno" by Zainal Arifin. The research results stated that the problem-solving method is very effective when used for topics with extensive discussions. Although it requires a proactive role from the teacher, this method is suitable for delivering Mawaris materials to second-grade students (Arifin 2022).

This is also affirmed by an article titled "Implementation of Problem-Solving Learning Method to Improve Creative Thinking Skills and Mathematics Learning Outcomes of Elementary School Students" by Kisty Handayani et al., as well as the efforts to improve students' learning outcomes in fifth-grade Mathematics learning using the problem-solving method by Emilia et al. (Kisty Handayani, 2019; Sabihi, 2019). Both studies state that in exact subjects such as

Mathematics, the problem-solving method can also be maximized in its application. Students' learning outcomes improve significantly when teachers use this method.

The results of implementing the problem-solving method are evident, as students become more enthusiastic in participating in the learning process. They feel challenged to express brilliant ideas, which lead to increased engagement and a livelier classroom atmosphere. These observations have prompted researchers to further explore the implementation of the problem-solving method in Social Sciences subject for fourth-grade students at MI Al Falah Pagu Wates Kediri. What makes this research different compared to previous studies is the selected research subjects, who are fourth-grade students experiencing the transition from lower-level to higher-level schooling. This aspect significantly influences the students' psychological well-being.

METHOD

This study is Classroom Action Research, which utilizes the problem-solving strategy through real-world activities to identify and solve problems (Mu'alimin and Hari 2014). Wiriatmadja explains that Action Research is a qualitative research method that describes meaningful words based on quantitative data (Darmawan 2011). The research subjects are 25 fourth-grade students (15 male students and 10 female students) from MI Al Falah Pagu Wates Kediri in the academic year 2022/2023. Observational data indicates that the fourth-grade students are in a transitional phase from lower-level to higher-level schooling, and the majority of them exhibit higher levels of engagement compared to other classes. This research follows the spiral action research model, progressing from one cycle to the next. Each cycle includes planning, action, observation, and reflection stages (Susilowati 2018).

The data required for this research includes the learning outcomes data of fourth-grade students from MI Al Falah Pagu Wates Kediri, which encompasses product and process skills data (Purnomo 2011; Suwandi and Pd 2013). This includes learning outcome data in the form of products, such as individual test results at the end of each cycle as planned. It also includes learning outcome data in the form of process skills, specifically collaborative skills obtained from the assessment of students' cooperative abilities to solve problems during the learning process.

Data collection techniques include three aspects: observation, interviews, documentation, and tests (Putra 2014). Observation is a method of gathering data by systematically observing and recording everything that occurs in the observed object (Purnomo 2011). In this research, the researcher conducted observations during the internship activities for a duration of 6 weeks, from January 2nd to February 13th, 2023, at MI Al Falah Pagu Wates Kediri. The researcher observed aspects related to the conditions of the school and the learning environment.

Interview is done to get in-depth information. In this research, the interview was conducted by the researcher with seven randomly selected students, one homeroom teacher of the fourth grade, and one Social Sciences teacher as the interviewees. There are eight questions that need to be answered, including those related to the implementation of the Jigsaw method and students' responses when this method is applied. The purpose of this interview is to understand the teaching methods previously used in the school. This will ensure smooth progress in the research conducted.

Documentation method involves gathering information about something through records, quotations, books, newspapers, and magazines. Documentation means collecting the necessary information to serve as research data, such as students' grades in Social Sciences subject, both pretest and posttest scores, teachers' lesson plans to examine the reference materials to be taught, and so on.

Testing methods are used to measure the extent to which the learning material provided by the teacher can be understood by the students. This test can be conducted orally or in written form (Suwandi 2013). In this classroom action research, the form of the test conducted is a written test with several given questions.

The entire collected data, which consists of learning outcomes of both groups and individuals, are presented and then are analyzed to determine the extent of students' competence achievement. As stated by Suharsimi Arikunto, data analysis is an effort to select, sort, discard, classify, and organize data into categories, classifying the data to answer the main questions, namely, what themes can be found in the data and to what extent the data can support the research objectives. The data analysis technique used in this study is qualitative data analysis technique.

FINDINGS AND DISCUSSION

This research is implemented in several stages, namely:

1. Pre-Action

In the pre-action stage, the researcher acted as an observer during the learning activities conducted by the fourth-grade teacher. The observation took place on Tuesday, January 10th, 2023. The pre-intervention activities were carried out in one session for 1 x 35 minutes. In the opening activity, the teacher led the students to pray and followed by greetings. The next stage was the core activity, where the teacher started the lesson by arranging the classroom, which was still monotonous so the students' enthusiasm for learning had decreased. During this introductory teaching, the teacher mainly provided information through lectures, while the students were sitting, being silent, listening, and taking notes. The students did not have the opportunity to explore information themselves, and the teacher did not use any media during the lesson. The effect was that the teacher only focused on what was already in the textbook, making the students appear passive. At the end of the lesson, the students were asked to work on workbook exercises.

The initial assessment results showed that the Social Studies lesson for fourth-grade was not successful. This can be seen from the Minimum Mastery Criteria (KKM) set at 75, where only 11 students (40%) scored above the criteria, while 14 students (60%) did not reach the criteria. The average score of the students was 63, which was lower than the criteria. Therefore, improvements in the teaching and learning process were needed to ensure that all students in the class could successfully complete the lesson. Based on the pre-action insights, several weaknesses were identified, such as the learning outcomes falling below the criteria, students were not given the opportunity to express their opinions, an unfavorable learning environment, and suboptimal implementation of the Lesson Plans. Hence, actions were necessary to be done in Cycle I.

2. Research Cycle
   a. Cycle I

      Cycle I consisted of two meetings, namely the first meeting held on Thursday, January 12, 2023, and the second meeting held on January 17, 2023, with the topic of natural resources. In the Planning stage, the researcher created Lesson Plans, Student Worksheets, and research instruments such as observation sheets for activities, observation sheets for the teacher during teaching and learning activities, as well as interview

guidelines for teachers and students. In the Implementation stage, the teacher carries out various activities to develop the students' social skills, both verbal and nonverbal, such as expressiveness, sensitivity, and control during the initial learning. The core learning started with the teacher showing pictures and asking questions and answers to test the students' understanding of the displayed text. Then, the teacher divided the students into four heterogeneous groups, each consisting of five students. After completing the concept planting task, students could ask questions if the material is unclear. When someone asked a question, the teacher did not immediately answer but instead threw the question to other students who could answer it, and then the teacher elaborated on the answer. The next activity was asking the students to return to their original seating positions and collect the Student Worksheets.

Figure 1 Group Presentation

After the core activities are completed, the lesson concludes with closing activities such as greetings and prayers. The details are shown in the following table:

Table 1. Summary of Learning Activity Percentage in Cycle 1

No	Type of Activity	Aspect	Score of Meeting 1	Score of Meeting 2	Average
1	Visual activity	Students pay attention to the teacher's explanations	2	3	49,5%
2	Oral activity	Students are able to ask and answer questions	1	2	23,5%
		Students are able to discuss with their peers	2	3	54%
3	Emotional activity	Students are enthusiastic in completing tasks	3	3	61,5%

4	Mental activity	Students able to complete the Student Worksheets	3	3	71%
		Average			55,2%

Explanation of student activity percentages:

1 = insufficient (0%-25%)

2 = adequate (25%-50%)

3 = good (50%-75%)

4 = excellent (more than 75%)

Based on the table above, it can be concluded that in the visual activity, students had not shown good results because the majority of students were still confused with the applied teaching method. However, there was improvement in the second meeting. Similar conditions also applied to the other three activities, where students lacked enthusiasm in completing tasks and the Student Worksheets. The observation results from the researcher were also not significantly different, indicating that students need encouragement from the teacher, such as being reminded when they are not paying attention or being encouraged to participate in discussions.

The students' learning outcomes during Cycle 1 were obtained from the final test scores of the second meeting, as follows:

Tabel 2. Scores of Student Learning Outcomes in Cycle 1

No	Name	Score
1	Student 1	72
2	Student 2	68
3	Student 3	65
4	Student 4	70
5	Student 5	75
6	Student 6	85
7	Student 7	80
8	Student 8	70
9	Student 9	90
10	Student 10	70
11	Student 11	70
12	Student 12	80

13	Student 13	78
14	Student 14	80
15	Student 15	85
16	Student 16	85
17	Student 17	85
18	Student 18	70
19	Student 19	70
20	Student 20	70
21	Student 21	80
22	Student 22	80
23	Student 23	80
24	Student 24	85
25	Student 25	72
	Average	73,65

Based on the table above, it can be concluded that the average of students' learning outcomes in Cycle 1 was 73.65 and it showed improvement from the pre-action stage. This could be seen by the decrease in the number of students who scored below the criteria, from 14 to only 10 students. However, the students' learning outcomes are still below the criteria, indicating the need for Cycle 2.

The final stage in Cycle 1 is reflection, where the teacher identified several shortcomings experienced during the teaching and learning process. These included students talking amongst themselves during discussions, students being quiet and shy when given the opportunity to ask questions, students refusing to present their discussion results, and students feeling bored with the discussion activities. These aspects would be taken into consideration when formulating the planning for Cycle 2 as improvement measures.

b. Assessment of Cycle II

Cycle II consisted of two meetings; the first meeting held on Thursday, January 19th, 2023, and the second meeting held on Tuesday, January 24th, 2023, with the topic of environmental sustainability. The planning phase was used by the teacher to address the shortcomings identified in the first meeting, such as implementing a scoring system where students would

receive additional scores if they actively participated in answering and asking questions. On the other hand, students would receive deductions in scores if they were not focused during the lesson. The accumulation of these scores would be periodically obtained by students and rewarded as an acknowledgment of their achievements. Additionally, the teacher also prepared the instructional materials similar to Cycle I, including lesson plans, student worksheets, observation sheets, and interview guidelines.

During the implementation phase, the teacher began with a recap by asking questions about the previously learned material and inquiring about the students' knowledge of environmental sustainability. The teacher also communicated the learning objectives and the benefits of studying the topic.

The next step was for the teacher to form groups and organize the students for discussions and presentations in front of the class. Throughout the activity, the teacher provided guidance and assigned tasks for the students to complete in their student worksheet. In turn, the teacher asked one representative from each group to present their discussion outcomes, while other classmates asked related questions. The following is the summary of the percentage of student learning activities in Cycle II:

Tabel 3. Summary of the Percentage of Learning Activities in Cycle II

No	Type of Activity	Aspect	Score in Meeting 1	Score in Meeting 2	Average
1	Visual Activity	Students pay attention to the teacher's explanation	3	4	73%
2	Oral Activity	Students are able to ask and answer questions	3	3	66,5%
		Students are able to discuss with their peers	4	4	88%
3	Emotional Activity	Students are enthusiastic in completing tasks	4	4	90,5%
4	Mental Activity	Students are able to complete the student worksheets	4	4	88%
		Average			82%

Explanation of student activity percentages:
1 = insufficient (0%-25%)
2 = adequate (25%-50%)

3 = good (50%-75%)
4 = excellent (more than 75%)

The data above indicates that students had shown improvement in all activities during Cycle II, including visual activities, oral activities, emotional activities, and mental activities. This was a result of implementing the Problem Solving method, which is reflected in the improvement of test scores as shown below.

Tabel 4. Scores of Student Learning Outcomes in Cycle II

No	Name	Pre-test
1	Student 1	78
2	Student 2	80
3	Student 3	85
4	Student 4	86
5	Student 5	80
6	Student 6	85
7	Student 7	80
8	Student 8	82
9	Student 9	90
10	Student 10	84
11	Student 11	82
12	Student 12	80
13	Student 13	85
14	Student 14	84
15	Student 15	85
16	Student 16	85
17	Student 17	85
18	Student 18	80
19	Student 19	85
20	Student 20	84
21	Student 21	85
22	Student 22	80
23	Student 23	90
24	Student 24	85
25	Student 25	80

Average	83,4

Based on Table 4, we can conclude that the student learning outcomes in Cycle II were good. This was shown from the average test score of 83.4, which had improved compared to Cycle I, and there were no students who scored below the criteria. The final stage was reflection, where students were enthusiastic and engaged in the learning process. They were not shy to ask and answer questions, and they were willing to express their opinions during discussions. This data had demonstrated the success of the classroom action research, and the study could be concluded.

CONCLUSION

Based on the research findings and discussions above, the researcher can draw the following conclusions. This classroom action research was conducted using two cycles. The observation results indicated a significant improvement in student learning activities, as seen in the following table.

Table 5. Summary of the Findings

No	Type of Activity	Average	
		Cycle I	Cycle II
1	Visual Activity	49,5%	73%
2	Oral Activity	38,75%	77,25%
3	Emotional Activity	61,5%	90,5%
4	Mental Activity	71%	88%
	Average	55,2%	82%

From the first and second cycles of the research, it can be concluded that student learning activities had increased from 55.2% to 82%. This has certainly had an impact on the average student learning outcomes, which had increased from 73.65 to 83.4. These data proved that through the implementation of the Problem Solving method, a teacher could improve students' learning outcomes. Students began to understand how to work in groups, identify problems, and find solutions. They acquired knowledge, started forming hypothesis solutions although it was still imperfect, and began applying concepts.

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