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Problem and Project Based Learning as a Method to Improve Problem Solving Ability in Civics Education

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Abstract

The purpose of this research is to improve the problem-solving ability of grade V students in the 2024/2025 academic year in Civics through the application of problem and project based learning models. In an era of education that emphasises 21st century skills, problem-solving ability is key to achieving effective learning. The method used was Classroom Action Research (CAR) Kemmis and McTaggart model which was carried out in two cycles, each consisting of planning, action, observation, and reflection stages. The research data were collected through observation of teacher and students's activities, interviews, and problem solving ability tests. The results showed that in Cycle I, students's problem solving ability increased with an average score of 45.24%, which showed an increase in students's involvement and understanding of the material taught. Furthermore, in Cycle II, the average score increased to 88%, reflecting a significant development in students's ability to identify problems, formulate a solution plan, and apply their knowledge. Thus, the application of problem and project-based learning models proved effective in improving learners' active engagement as well as their problem-solving ability in Civics subject.

Keyword: Civics, Classroom Action Research, Problem Solving Ability, Problem and Project Based Learning.

1 INTRODUCTION

Every child is naturally born with the ability to think. The ability to think is used to meet cognitive needs and develop the potential of children. The ability to think is gained through mental activity to acquire experiences. To maximise children's thinking ability, of course, it goes through a long process, namely the learning process. The learning that children do makes them have the capacity to improve their thinking skills. Through thinking skills, children are expected to improve their learning success and progress in life.

However, in the 21st century, thinking skills alone are not enough to maximise children's abilities. Critical thinking is needed as a tool for navigating life in this era. Critical thinking is one of the 21st century skills that need to be mastered in order to overcome various personal and social problems in life. The ability of the 21st century is not only reflected in the ability to think critically. There are 4 main abilities that are concerned in improving abilities in the 21st century, namely creative thinking, critical thinking and problem solving, communication, and collaboration (Ulfa et al., 2024).

Among these four skills, problem solving is the main focus in this research that must be improved by students. In addition, problem solving ability is also one of the basic abilities that must be mastered by students today. Fatria (2022) argues that problem solving is a process to overcome the difficulties that are faced to achieve the expected goals.

One issue found at SD Plus Al Fathonah Mardlotillah in Bekasi, is the low problem-solving ability of students, especially in Civics Observations showed that the teaching method used by the teacher tended to be monotonous, like lecturing (ceramah), so students were less actively involved in the learning process.

From that learning process, it ultimately has an impact on students. When learning is being conducted by the teacher, many students seem unfocussed and do not pay attention to the teacher nor do they look at the reading text in the book. They were distracted, chatting, and joking with their friends during lessons. Even when doing the tasks given by the teacher, the students continued to joke with their friends. In spite of these factors that have been mentioned, based on the results of previous study by Darmawati (2020) and Setiawan (2022), problem-based learning models have been proven effective in improving critical thinking and problem solving across various subjects. However, these studies have not widely examined the application of project-based learning along with problem-based learning (Teresya, F., & Rahmad, I. N., 2023).

Therefore, by using problem-based learning, students will be able to understand a problem and find a solution to the problem so that students can learn meaningfully. It also allows students to connect their knowledge with real-life contexts (Abidin, 2020). As for connecting the understanding of material in Civics Education, Gustaman (2023) concluded that project-based learning helps students relate problems to real-life contexts, improving their skills and understanding in facing challenges and completing tasks independently or in groups. Therefore, problem-based learning can be integrated with project-based learning. The measures that students can follow in solving problems are understanding the problem, planning to solve the problem, solving the problem according to the plan, and checking all the steps that have been done (Ansori & Herdiman, 2019).

Based on the explanation above, researchers are interested in conducting research that is researched through several cycles, with the title *Problem and Project Based Learning as a Method to Improve Problem Solving Ability in Civics Education.*

2 RESEARCH METHODS

The aim of this study was to improve problem solving ability in Civics subject by using problem and project based learning model for fifth grade students of SD Plus Al Fathonah Mardlotillah odd semester of 2024/2025 academic year. This research was conducted using the Classroom Action Research (CAR) method. PTK or in English called classroom action research is an effort made to improve or improve the quality of learning. With this class action research, the researcher gives action to the subject under study, which is grade V students. Classroom action research can be defined as a form of study or scientific and methodical activity carried out by teachers/researchers in the classroom using actions to improve learning processes and outcomes (Azizah, 2021).

The CAR model used in this study refers to the CAR model developed by Kemmis and Mc. Taggart, which uses a self-reflection spiral system starting with planning (plan), action and observation (act & observe), reflection (reflect) and planning again (revised plan). By using this model, if at the beginning of the implementation of the action there are some flaws, then the planning and implementation of corrective actions can still be continued in the next cycle until the desired target is achieved.

The data for this study were collected using many methods, including observation, interviews, problem-solving test, documentation, and researcher field notes. The problem solving test was scored using an assessment rubric that was prepared based on the Student Worksheet (LKPD) that had been made.

Table 1. Rubric for Assessment of Problem-Solving Ability

Assessment Aspect	Indicator	Score 1 (Needs Improvement)	Score 2 (Fair)	Score 3 (Good)	Score 4 (Excellent)
Understanding the Problem	The Student explains the main problem presented in the worksheet (LKPD).	Only gives 1 answer that is unclear or does not explain the main problem	Gives 2 answers, but they are still unclear in explaining the main problem.	Gives 3 answers, but one is still unclear.	Gives 3 answers that are clear and complete about the problem.
Planning Problems Solving	The student creates a plan or solution to the problem in the worksheet (LKPD).	Gives 1 answer that is not appropriate or illogical.	Gives 2 answers, but they are still simple or not fully appropriate .	Gives 3 answers, but one of them is not quite appropriate or logical.	Gives 3 answers that are logical, realistic, and suitable for the problem.
Executing the Problem Solving Plans	The student explains how to solve the problem according to the plan..	Only gives 1 way that is not appropriate or correct.	Gives 2 ways that are quite good but incomplete.	Gives 3 ways, but some are unclear or not appropriate.	Gives 3 ways that are clear, appropriate, and follow the plan accurately.
Reviewing/ Evaluation and Reflection	The student creates a project (like a poster) that shows evaluation and reflection based on the solution provided.	The project (poster) is unclear, unfinished, or does not fit the problem.	The project (poster) is quite good but still simple and not complete.	The project (poster) is good but has some parts that are not fully appropriate or complete.	The project (poster) is excellent, clear, complete, and fits the problem and solution perfectly.

The results that have been obtained are then analysed using 3 steps from the Milles and Hubberman model, which consists of data reduction, presentation, conclusions and data verification (Asipi, Rosalinda, & Nopiyadi, 2022). For the validity of this research data, researchers used triangulation techniques. Triangulation is a method used to check the validity of research data from different perspectives (Alfansyur & Mariyani, 2020). The triangulation techniques used in this study are theoretical triangulation and triangulation of techniques and sources.

The improvement in problem solving ability is considered as successful if 70% of fifth grade students of SD Plus Al Fathonah Mardlotillah Bekasi Regency get high or very good scores on each indicator of problem solving ability (understanding the problem, planning

problem solving, following the problem solving plan, and checking / evaluating and reflecting from the problem or problem given by the teacher.

3 RESULT AND DISCUSSION

From the research that has been conducted, the results of research on problem solving ability in class V students in the odd semester of the 2024/2025 school year at SD Plus Al Fathonah Mardlotillah are as follows:

3.1 Result

The research was conducted to understand the situation in the fifth grade at SD Plus Al Fathonah Mardlotillah, Bekasi, through observational activities. The research procedure itself followed the Classroom Action Research (CAR) model by Kemmis and McTaggart, which consists of planning, research, action, and reflection stages. Throughout the process, in every phase of the activities, the researcher collaborated with the teacher.

The results of this research will be obtained from each cycle conducted by the researcher during the teaching and learning activities (KBM) in the fifth grade at SD Plus Al Fathonah Mardlotillah. The data will be collected or obtained from: The activities that occurred during the teaching and learning process, starting from the pre-action stage, Cycle I, and Cycle II. Interview data with the teacher and students from the fifth grade at SD Plus Al Fathonah Mardlotillah, Bekasi. Observation data with the teacher and students from the fifth grade at SD Plus Al Fathonah Mardlotillah, Bekasi.

3.1.1 Pre-action Stage

The pre-action findings on fifth grade students of SD Plus Al Fathonah Mardlotillah Bekasi based on observations conducted by researchers show that problem solving ability in the fifth grade of SD Plus Al Fathonah Mardlotillah Bekasi are still low.

The results of pre-action research in grade V of SD Plus Al Fathonah Mardlotillah, Bekasi in Civics Education on the subject of unity and integrity in society can be seen in the following table:

Table 2. Recapitulation of Pre-Action Score of Problem Solving Ability

Description	Percentage per Indicator			
	Understanding the Problem	Planning Problems Solving	Executing the Problem Solving Plans	Reviewing/Evaluation and Reflection
High Score	38,09%	33,33%	23,80%	28,57%
Low Score	61,91%	66,67%	76,20%	71,43%

Based on table 2 above, it is known that the problem solving ability of fifth grade students of SD Plus Al Fathonah Mardlotillah for each indicator is still low. For the first indicator, Understanding Problems, out of a total of 21 students only 38.09% or 8 students are good and or very good at understanding problems. This means that the ability of 61.91% or 13 students is still poor or low. The second indicator, Planning Problem Solving, only 33.33% or 7 out of 21 learners who get good / very good scores. Meanwhile, 66.67% or 14 out of 21 students are still low. For the third indicator, only 23.80% of the total 21 learners or 5 learners scored good/very good. While 76.20% or 16 other students are still lacking. Likewise, in the fourth indicator, only 28.57% or 6 learners scored good/very good. The other 71.43% or 15 students still received low scores.

3.1.2 Cycle I

From the results of observations and analyses of problem solving skills using problem and project based learning models applied in the fifth grade of SD Plus Al Fathonah Mardlotillah, Bekasi, cycle I has not yet obtained the expected results. The cycle I scores can be seen in the following table:

Table 3. Recapitulation of Cycle I Scores of Problem Solving Ability

Description	Percentage per Indicator			
	Understanding the Problem	Planning Problems Solving	Executing the Problem Solving Plans	Reviewing/Evaluation and Reflection
High Score	61,91%	42,85%	23,80%	52,38%
Low Score	38,09%	57,15%	76,20%	47,62%

Table 3 shows that there is an improvement in each indicator of problem solving ability. However, the improvement in problem solving ability has not yet reached the criteria for the success of the action where this action is considered successful if 70% of students get a score or high score on each indicator of problem solving ability. Therefore, in this case the researcher will proceed to the next stage, which is cycle II.

3.1.3 Cycle II

From the observation and analysis of problem solving ability using problem and project based learning models applied in class V SD Plus Al Fathonah Mardlotillah Bekasi in cycle II, the results are as follows:

Table 4. Recapitulation of Cycle II Scores of Problem Solving Ability

Description	Percentage per Indicator			
	Understanding the Problem	Planning Problems Solving	Executing the Problem Solving Plans	Reviewing/Evaluation and Reflection
High Score	76,20%	76,20%	100%	100%
Low Score	23,80%	23,80%	-	-

Table 4 above indicates that the value of problem solving ability has improved in each indicator. Even the improvement shown can be said to be very good. In the Understand the Problem indicator, there are 76.20% or 16 out of a total of 21 students who get scores above the minimum. Similarly, in the indicator of Planning Problem Solving, there are 76.20% or 16 students who also get scores above the minimum. Even in the indicators of Implementing Problem Solving Plans and Checking Back / Evaluation and Reflection, it is 100% or 21 students or all of them get the maximum score.

Based on observations during the learning process, students who previously had difficulty in solving problems, by using this problem and project based learning model, students find it easier to understand problems because during learning students become more active, collaborative, and creative so as to stimulate thinking skills to improve problem solving ability.

In cycle II of this study, the improvement in students' problem solving ability scores exceeded the success criteria. This indicates that the research has been considered successful. Because the Action Success Criteria set by the researcher is 70% of students

show an improvement in problem solving ability. This means that the percentage of completeness of cycle II scores has met the requirements for not continuing the next cycle. And this research ended in cycle II.

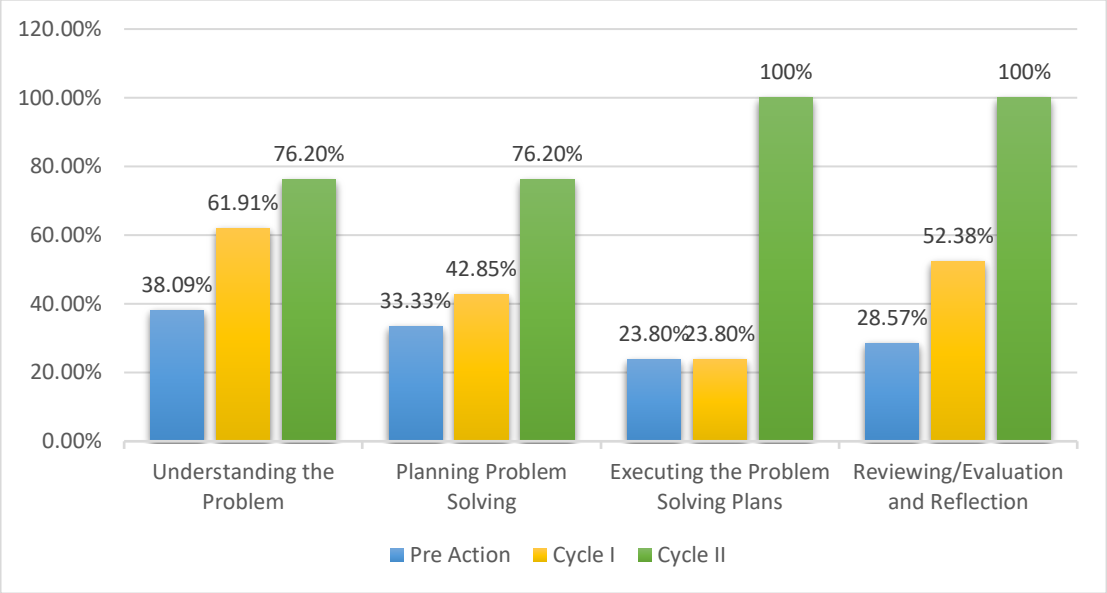
3.2 Discussion

Research with the title *Problem and Project Based Learning as an Effort to Improve Problem Solving Skills in Civics Education* has been completed. The research was implemented through 2 research cycles. The following is a recapitulation table of the improvement in the problem solving ability of fifth grade students of SD Plus Al Fathonah Mardlotillah Bekasi:

Table 5. Recapitulation of Problem Solving Ability Improvement Results per Indicator

Indicators	Pre-Action		Cycle I		Cycle II	
	Number of Students	Percentage (%)	Number of Students	Percentage (%)	Number of Students	Percentage (%)
Understanding the Problem	8	38,09%	13	61,91%	16	76,20%
Planning Problems Solving	7	33,33%	9	42,85%	16	76,20%
Executing the Problem Solving Plans	5	23,80%	5	23,80%	21	100%
Reviewing/Evaluation and Reflection	6	28,57%	11	52,38%	21	100%

From the table above, it is known that the percentage of problem solving ability scores per indicator in each research cycle has increased. For example, in the first indicator, Understanding the Problem, at the pre-action stage there were only 38.09% or 8 out of 21 students who scored high or very good. Then in cycle I of the research the number of students who scored very well increased to 61.91% or 13 students. Furthermore, in cycle II of the research, the number of students who obtained high scores for problem solving skills in the first indicator was 76.20% or 16 students. Likewise with other indicators which also have an increase as shown in table 5 above. The following is a graphic image of a recapitulation of the improvement in problem solving ability.



Grafik 1. Percentage Recapitulation of Problem Solving Ability Improvement

In pre-action activities in the fifth grade of SD Plus Al Fathonah Mardlotillah, Bekasi, the class teacher, Mrs Sri Atiko Farida, was teaching the subject of unity and integrity in society. It is known that the results of the problem solving ability of class V students of SD Plus Al Fathonah Mardlotillah are out of 21 students only 33.33% or 7 students who are able to understand the problem. As many as 66.67% or 14 students have not been able to understand the problem.s

When teaching the lesson, the class teacher asks to read the theme 5 subtheme 3 student book which contains the subject of Unity and Integrity in Society. The class teacher immediately read the reading text and the students were asked to listen. After that, the class teacher asked learners to open the next page and continued to explain examples of the importance of unity in society. The lesson ends by giving tasks that are to be completed individually by the students.

Based on the results of analyses and observations in the field, the low score of problem solving ability of fifth grade students of SD Plus Al Fathonah Mardlotillah, Bekasi Regency, is due to several factors, such as the learning by teachers because they do not stimulate students to develop critical thinking.

So that the learning objectives to improve problem solving ability have not been achieved. In addition, the lecture plus question and answer method used by the teacher does not help students to be more creative and critical in thinking because the information received is only by recording what the teacher says which may not be absorbed optimally by students. There are also factors that come from students, where students do not pay attention or listen to the explanation from the teacher properly. Some students also find it difficult to understand the lesson because the explanation delivered is not fully understood. In addition, when the teacher reads the text *The Importance of Unity and Integrity in Society*, many of them joke or chat with friends and do not pay attention to the text that is actually already in the students' books. This means that the learning process does not increase students' focus on the lesson.

According to the results of analyses and observations in cycle I, students felt that there was something new that made them excited about learning. In the first meeting of cycle I, students were asked to read the text of the Importance of Unity and Integrity in turn and randomised. By doing so, students finally become more focused and participate in reading so that indirectly it has involved students in learning. Furthermore, researchers encourage students' thinking skills by adding examples of problems during the explanation of the lesson and students are asked to try to understand these problems, make a problem solving plan, and carry out the solution plan with guidance from the researcher through

questions that lead to the correct answer. Learning activities in cycle I ended with a poster-making project. In the results of the recapitulation of problem solving ability scores, there was an improvement from before in cycle I, but it was still not enough to reach the Action Success Criteria so that it was continued with cycle II.

In cycle II, researchers attempted a group learning scenario. Students will form groups into 4 groups, 3 groups of 5 members and 1 group of 6 members. By being in groups, students had more options for answers from the discussion with group members, students could also share tasks which made the task less difficult. Because according to Ambarwati and Widodo (2023) in a collaborative learning, students can compromise and share their perspectives in seeing a problem and analysing possible solutions that can be taken and learning also becomes more active because all students are involved in the learning process.

After implementing cycle II, it is known that students have succeeded in improving problem solving skills in each indicator. For example, in the first indicator, Understanding the Problem, previously only 38.09% or 8 students increased to 61.91% or 13 students in cycle I and further increased to 76.20% or 16 students in cycle II. The success of the increase is partly due to the problem-based learning model and *projects* that support the activeness and development of students' critical thinking.

The increase in the score of problem solving ability in cycle II is also inseparable from group learning. Problem and project based learning models are included in co-operative learning. Cooperative learning is implemented in groups where one student will be a learning resource for another. Thus, cooperative learning is developed based on the assumption that the learning process will be more meaningful if students can teach each other (Hasanah & Himami, 2021).

During the implementation of classroom action research conducted over two cycles, there was an increase in problem solving ability. This can be seen from the recapitulation of the problem solving ability score. The problem solving ability of fifth grade students of SD Plus Al Fathonah Mardlotillah, Bekasi had improved quite well and met the criteria for the successful action. This can be seen from the results of analyses and observations of students which showed an improvement in each cycle, so the researcher decided to stop the learning action in cycle II, or in other words, the action hypothesis was accepted.

4 CONCLUSION

Based on the results of the research and discussion, the classroom action research that has been conducted to improve problem solving ability in Civics Education subjects through problem and project based learning models for fifth grade students of SD Plus Al Fathonah Mardlotillah, Bekasi, the Odd Semester of the 2024/20245 academic year has been completed. The research was carried out through 2 cycles of research. The results of the research are as follows: In pre-action activities in class V SD Plus Al Fathonah Mardlotillah, the low problem-solving ability in Civics Education subjects on unity and integrity in society is caused by several factors, both from teacher and student factors. Such as passive learning models, boring learning, students who do not pay attention and joke, and so on. After the learning process in cycle I and cycle II, it is known that students have improved their problem solving ability. Students have been able to understand the problems in Civics Education subjects on the material of unity and integrity in society. From 38.09% at the time of pre-action, after the research was conducted it increased to 76.20% or 16 students. Students have been able to plan problem solving in Civics Education subjects on the material of unity and integrity in society. From 33.33% of students before the action was given, after cycle I and cycle II were conducted, it increased to 76.20% or 16 students. Students have been able to implement problem solving plans in Civics Education subjects on the material of unity and integrity in society. At the time of pre-action only 23.80% of students, after the research was carried out it increased to 100% or 21 students in cycle II. Students have been able to review or evaluate problem solving and reflect on Civics

Education subjects on the material of unity and integrity in society. At the time of pre-action only 28.57% of students, after cycle I and cycle II it increased to 100% or 21 students. The application of problem and project based learning models is able to improve the problem solving ability of fifth grade students of SD Plus Al Fathonah Mardlotillah seen from the results of the recapitulation of the improvement of problem solving ability. Overall, this study succeeded in improving the problem solving ability of students in the fifth grade of SD Plus Al Fathonah Mardlotillah. From cycle I to cycle II, all indicators showed improvement as expected, with the average student achieving a very good score and more than 70% of students successfully achieving the target in each indicator. With those results, the research was considered successful and did not have to continue the learning action in the next cycle and stopped at cycle II.

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