PROBLEM-BASED LEARNING MANAGEMENT IN DEVELOPING THE CHARACTER OF ELEMENTARY SCHOOL STUDENTS

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Abstract	This study aims to analyze the relationship between reading literacy culture and students' learning outcomes in Social Studies among seventh-grade students at SMP Negeri 2 Mantingan. The study employed a mixed-methods approach with a correlational research design, integrating quantitative and qualitative methods to obtain a comprehensive understanding of the relationship between the variables. Quantitative data were collected using a questionnaire to measure students' reading literacy culture, while qualitative data were obtained through structured interviews and observations to explore contextual factors influencing literacy habits and Social Studies learning. Secondary data were derived from official school documents, including students' test scores and report card records. The population of this study consisted of all seventh-grade students at SMP Negeri 2 Mantingan, totaling 33 students. Due to the relatively small population size, a total sampling technique was applied, in which all members of the population were included as research participants. Data analysis techniques included instrument validity and reliability tests, normality testing, linearity testing, and hypothesis testing using the Pearson Product-Moment correlation with the assistance of SPSS software. The results of the analysis indicated that the data were normally distributed and exhibited a linear relationship. The Pearson Product-Moment correlation test revealed a positive relationship between reading literacy culture and students' Social Studies learning outcomes, leading to the rejection of the null hypothesis (H_0) and the acceptance of the alternative hypothesis (H_1). These findings demonstrate that reading literacy culture plays an important role in improving students' Social Studies learning outcomes. Therefore, strengthening reading literacy culture should be systematically integrated into Social Studies instruction, particularly within the framework of the Merdeka Curriculum.
Keywords	Character Development, Elementary Education, Instructional Management, Problem-Based Learning.

INTRODUCTION

In the context of improving the quality of character education in elementary schools, Problem-Based Learning (PBL) is seen as a strategic approach relevant to the demands of 21st-century learning. However, based on field observations at Mutiara Hati Integrated Islamic Elementary School, Rotansogo 0701 Elementary School, and Sosa II PTP VII Elementary School in Padang Lawas Regency, the implementation of PBL-based learning management still faces various academic challenges. Observational findings indicate that teacher learning planning is generally still oriented towards administrative requirements, such as lesson plans and syllabi, without systematic and sustainable PBL scenario design. Teachers have not consistently formulated contextual problems that are close to students' lives and have not integrated character indicators such as responsibility, cooperation, honesty, and social awareness into learning objectives and steps. This condition indicates a gap between curriculum policies that emphasize problem-based and character-based learning and classroom-level learning planning practices.

Furthermore, from an implementation perspective, field observations of the learning process indicate that PBL has not been fully implemented as a learning management system. Teachers still tend to dominate the learning process through lectures and individual assignments, while group discussions, exploration of real-world problems, and reflection on character values have not been optimally managed. Field findings also revealed inhibiting factors such as teachers' limited understanding of PBL stages, differences in student abilities and characteristics, and a school learning culture that is still teacher-centered. On the other hand, supporting factors such as the commitment of some teachers, the support of the principal, and the potential of the local social environment as a source of contextual problems have not been optimally utilized. Furthermore, observations indicate that learning evaluation still focuses on cognitive achievement, while character assessment does not use structured and measurable instruments.

Furthermore, based on field observations of student behavior and interactions, the impact of implementing PBL-based learning management on character development shows significant variation across schools. In classes that began implementing PBL more consistently, students showed improvements in aspects of cooperation and responsibility, such as active involvement in group discussions and awareness of completing tasks together. However, character values such as honesty and social concern have not developed evenly due to the lack of an integrated character evaluation system in learning management. This condition confirms that the effectiveness of PBL in

developing student character is highly dependent on the quality of planning, implementation, and evaluation of integrated learning management. Therefore, this study has academic urgency to formulate a PBL-based learning management model that is contextual, applicable, and relevant in developing the character of elementary school students in Padang Lawas Regency.

Several studies have examined the relationship between learning management, Problem-Based Learning (PBL), and character education, but they still show limitations in terms of comprehensively integrating the variables. (Haniva et al., 2024) shows that the application of PBL in elementary school learning can significantly improve students' critical thinking skills. However, this study has not yet placed PBL within the learning management framework that encompasses planning, implementation, and evaluation, and has not directly linked it to the development of students' character education. Furthermore, this research (Wahyuni & Fathurrohman, 2025) found that the implementation of PBL combined with character values can improve students' sense of responsibility and cooperation. This study focused more on learning outcomes and changes in student attitudes, without examining in depth how PBL-based learning is managed by teachers and the supporting and inhibiting factors in an elementary school context. Another study by (Kurnianto & Sarwono, 2023) concluded that developing problem-based learning tools can significantly improve student learning activities. However, this research still focuses on the effectiveness of the learning tools and has not yet linked them to character education as the primary learning objective. (Nur & Syahrir, 2025) proves that PBL has a positive influence on the formation of students' disciplined character, while (Dinda et al., 2021) showed that PBL is effective in improving students' problem-solving abilities. These two studies strengthen PBL's position as an effective pedagogical approach, but they have not integrated the learning management dimension and have not linked it to broader character values, such as honesty, social awareness, and cooperation within the context of school culture. (Rochbani et al., 2024) shows that the integration of Islamic values in learning is able to strengthen students' morals, but this research has not used PBL as the main approach and has not been studied within a structured learning management framework.

This research addresses a gap in integrated studies of learning management, Problem-Based Learning (PBL), and character education in local elementary schools. Unlike previous fragmented research, this study offers novelty by systematically examining the planning, implementation, and evaluation of PBL through an Islamic education management lens. It contributes a new integrative model and serves as a practical reference for contextual learning in Padang Lawas Regency.

Studies on learning management emphasize that teachers have a strategic role as learning managers who systematically control the process of planning, implementing, and evaluating learning. (Sanjaya, 2020) states that effective learning management must be designed contextually and oriented towards student activity so that learning objectives are achieved optimally. Furthermore, (Mulyasa & Aksara, 2021) emphasizes that well-managed learning is able to create a learning climate that is conducive to the development of students' attitudes and character. (Susanto, 2016) Adding that weaknesses in learning management often lead to a mismatch between learning objectives and classroom practice. (Rachmaningtyas et al., 2025) emphasized that teachers' ability to select and manage innovative learning models, such as Problem-Based Learning, is an important indicator of the quality of learning management in elementary schools.

Theoretically, Problem-Based Learning (PBL) is rooted in constructivism, which positions students as active problem solvers through the stages of problem identification, exploration, analysis, and reflection to foster critical thinking skills as well as moral character (Feida Noorlaila Isti`adah et al., 2020). Effective education, according to (Abdurahman et al., 2025) must present real experiences and problems so that students build moral judgment and social responsibility through an authentic inquiry process. (Habibah & Hapsan, 2024) emphasizes that PBL not only functions as a cognitive strategy, but also as a process of forming professional attitudes and values , which at the elementary school level become the foundation of character, such as cooperation, discipline, caring, responsibility, and independence, through the active involvement of students in solving authentic problems. (Kariadi et al., 2025) strengthening the character of cooperation and communication through social interaction and group discussions. (Karina et al., 2024) internalize moral values effectively through real learning experiences, not just theoretical teaching. Furthermore, (Suherman et al., 2024) emphasized that problem-based learning is a strategic means of instilling character values such as honesty, social concern, and integrity, in line with the Independent Curriculum, which emphasizes contextual learning, so that the implementation of PBL in Padang Lawas elementary schools not only meets the demands of the curriculum but is also supported by strong theoretical and empirical foundations.

Based on various research and theoretical studies, PBL has been proven effective in improving students' cognitive abilities and character, but there is still limited research that develops PBL learning tools integrated with Islamic educational management approaches specifically for the context of elementary school students in Padang Lawas Regency. Previous research tends to

emphasize the results of PBL implementation without examining in-depth the learning management process, systematic development of tools, validity, and effectiveness testing, resulting in a research gap. Therefore, this study aims to develop PBL-based learning tools integrated with character education and Islamic educational management, while validating their quality and testing their effectiveness in developing the character of elementary school students. Thus, it is expected to provide theoretical contributions in the development of PBL learning tools and practical contributions for teachers in improving the quality of learning and character formation of students.

METHOD

This research uses a naturalistic qualitative approach with a multi-site design. As explained (Sulistiyo, 2023)Qualitative research emphasizes observation of natural conditions without manipulation, producing descriptive data in the form of words, actions, and documents. This research was conducted in three locations, namely Mutiara Hati Integrated Islamic Elementary School, 0701 Rotansogo Public Elementary School, and 0711 PTP VII Sosa II Public Elementary School in Padang Lawas Regency, with the reason for choosing the location based on the need to understand the development of student character and the implementation of problem-based learning in elementary schools. The data sources in this study were students from the three schools (45 students of Mutiara Hati Islamic Elementary School, 278 students of 0701 Rotansogo Public Elementary School, and 102 students of 0711 PTP VII Sosa II Public Elementary School), as well as teachers who were considered knowledgeable about student character development. Data collection was carried out through observation, structured interviews, and documentation. Observations were used to directly examine the process of PBL-based learning management in student character formation, while structured interviews were given to teachers to dig up in-depth information regarding the implementation of PBL and student character development. Documentation is used as a supplement by collecting photos of habituation activities, learning tools, teacher notes, and other school documents to strengthen observation and interview data.

Data were analyzed through reduction, display, and conclusion drawing, using a deductive approach to identify specific patterns from general findings. To ensure scientific validity, the study employed triangulation of sources (teachers, students, documents), techniques (observations, interviews, documentation), and time. This systematic process ensures the results accurately reflect the implementation of PBL-based learning management and character development in Padang

Lawas elementary schools.

FINDINGS AND DISCUSSION

Findings

Problem-Based Learning (PBL) is a strategic approach in primary education, particularly in Padang Lawas Regency, to develop students who are both academically intelligent and have character. PBL uses real-life problems as the basis for learning, fostering critical thinking, collaboration, and problem-solving, while also instilling the values of responsibility, independence, honesty, and social awareness. Its implementation requires systematic learning management, from planning and implementation to performance-based evaluation. With diverse socio-cultural characteristics and resources, PBL is a meaningful, student-centered, and relevant learning strategy for everyday life, thus contributing to the transformation of primary education in comprehensively shaping student character.

Table 1. PBL-Based Learning Management in Developing Student Character

No	Research Aspects	Mutiara Hati Integrated Islamic Elementary School	Rotansogo 0701 Public Elementary School	SD Negeri 0711 PTP VII Sosa II
1	PBL-Based Learning Planning	The planning is comprehensively curriculum-based, with contextual problem scenarios integrating Islamic character values (trustworthiness, discipline, and cooperation). Teachers create lesson plans based on projects and local community issues.	The planning was quite good, but the problem scenarios were still limited to thematic material. The teacher used a simple lesson plan that integrated the character traits of responsibility and independence.	Planning still needs to be strengthened; teachers are developing PBL-based lesson plans, but they are not yet consistent. Problems are not fully contextualized to the lives of plantation students.
2	Implementation of PBL	The implementation proceeded systematically: problem orientation, group discussions, investigations, presentations, and reflections. Students were very active in the discussions, and the teacher acted as an active facilitator.	PBL implementation is underway, but it's still teacher-dominated. Students work in groups, but field investigations are less than optimal due to time and resource constraints.	PBL is working but is not yet consistent; students often revert to the lecture model. Teachers' ability to facilitate inquiry still needs improvement.
3	Character	Character traits such as	Independence and	Character

	Development through PBL	discipline, collaboration, self-confidence, and empathy have significantly improved. Students are accustomed to solving problems independently and responsibly.	responsibility are developing, but collaboration between students still needs improvement. Character development is more evident in project activities.	development is progressing, but is uneven. Students are beginning to learn to work together and ask questions, but student engagement remains low.
4	PBL Learning Evaluation	Evaluation uses portfolios, project assessments, character rubrics, and self-reflection. Teachers routinely implement authentic assessments.	Evaluation is conducted with a combination of written tests, attitude observations, and project assessments, but the character rubric has not been standardized.	Evaluation is still dominated by cognitive tests; authentic assessments are not yet optimal, and character assessments are not well documented.
5	Implementation Barriers	There are no significant barriers; the teachers are well-trained, and the environment is supportive. The only challenge lies in the varying abilities of the students.	The main obstacles are limited learning media and unequal literacy skills.	Major obstacles include the lack of PBL training, inadequate facilities, and a student learning culture that is not yet ready for inquiry.
6	Impact on Strengthening Student Character	Very high impact: students showed improvements in aspects of responsibility, creativity, cooperation, and problem solving.	The impact is quite good, especially on independence and responsible attitudes, although there is still a need for improvement in creativity and participation.	Low–medium impact; character develops gradually but not significantly because the implementation of PBL is not optimal.
7	Effectiveness of PBL Management	Highly effective: strong school support, competent teachers, and a values-based academic culture.	Quite effective: implementation is running, but is not yet stable and not yet optimal across all classes.	Less effective: management is not yet organized, teachers need further training, and facilities are inadequate.

Source: Mutiara Hati Integrated Islamic Elementary School, Rotansogo 0701 Public Elementary School, PTP VII Sosa II 0711 Public Elementary School

The table shows that Mutiara Hati Integrated Islamic Elementary School (SD Islam Terpadu Mutiara Hati) demonstrated the best PBL learning planning readiness, with systematic planning, contextual issues, and clear integration of Islamic character values. SD Negeri 0701 Rotansogo had a fairly good plan, but problem scenarios were still limited, and character integration was not optimal. Meanwhile, SD Negeri 0711 PTP VII Sosa II still needed strengthening because PBL implementation was inconsistent, and learning issues were less relevant to students' lives.

In terms of PBL implementation, Mutiara Hati Integrated Islamic Elementary School systematically implements learning stages, starting from problem orientation, group discussions, investigations, presentations, and reflections. Students are actively involved in the learning process, while teachers act as facilitators who guide the discussion and inquiry. At SD Negeri 0701 Rotansogo, PBL implementation has been underway, but the teacher's role is still quite dominant, so learning is not fully student-centered. Students have worked in groups, but field investigation activities have not been optimal due to limited time and supporting facilities. Meanwhile, at SD Negeri 0711 PTP VII Sosa II, PBL implementation has not been consistent because learning often returns to a lecture pattern, and teachers' abilities in facilitating the inquiry process still require improvement.

In terms of character development through PBL, Mutiara Hati Integrated Islamic Elementary School demonstrated the most prominent results. The characters of discipline, collaboration, self-confidence, and empathy developed significantly, as seen in students' habits of solving problems independently and responsibly in group work. At SD Negeri 0701 Rotansogo, the development of the characters of independence and responsibility has begun to appear, but collaboration skills between students still need to be improved, and character strengthening is more visible in project-based activities. Meanwhile, at SD Negeri 0711 PTP VII Sosa II, character development has begun but is not evenly distributed, marked by an increase in students' courage to ask questions and work together, although the level of student engagement in learning is still relatively low.

In terms of PBL learning evaluation, Mutiara Hati Integrated Islamic Elementary School has implemented diverse and process-oriented evaluations, such as portfolio assessments, projects, character rubrics, and student self-reflection. Authentic assessments are conducted routinely and are well documented. At SD Negeri 0701 Rotansogo, learning evaluations are conducted through a combination of written tests, attitude observations, and project assessments, but character assessment instruments do not yet have clear standards. In contrast to these two schools, SD Negeri 0711 PTP VII Sosa II is still dominated by cognitive evaluations, while authentic assessments and character assessments have not been optimally implemented and have not been systematically documented.

In terms of implementation barriers, Mutiara Hati Integrated Islamic Elementary School (SD Islam Terpadu Mutiara Hati) relatively did not experience significant obstacles because teachers had

been trained and the school environment supported the implementation of PBL, although differences in student abilities remained a challenge. At SD Negeri 0701 Rotansogo, the main obstacles lie in limited learning media and uneven student literacy skills. Meanwhile, at SD Negeri 0711 PTP VII Sosa II, the obstacles faced were more complex, including minimal PBL training for teachers, limited learning support facilities, and a student learning culture that was not yet ready for inquiry-based learning.

In terms of its impact on strengthening student character, the implementation of PBL at Mutiara Hati Integrated Islamic Elementary School has a very high impact, marked by an increase in students' responsibility, creativity, cooperation skills, and problem-solving skills. At SD Negeri 0701 Rotansogo, the impact of PBL implementation is quite good, especially in developing independence and a sense of responsibility, although students' creativity and active participation still need to be improved. Meanwhile, at SD Negeri 0711 PTP VII Sosa II, the impact of PBL implementation is in the low to medium category because character development takes place gradually and has not shown significant results due to the suboptimal implementation of PBL.

Overall, the effectiveness of PBL management was most prominent at Mutiara Hati Integrated Islamic Elementary School, supported by teacher competence, school management support, and a values-based academic culture. At SD Negeri 0701 Rotansogo, PBL management was considered quite effective, but its implementation was not yet stable and not evenly distributed across all classes. At SD Negeri 0711 PTP VII Sosa II, PBL management was still less effective because it was not systematically organized, teachers needed further training, and learning facilities were inadequate.

PBL-Based Learning Planning

Research results indicate varying degrees of PBL-based lesson plan readiness across the three schools: Mutiara Hati Integrated Islamic Elementary School demonstrates the most advanced systematic planning, successfully integrating contextual social problems and Islamic character values like trustworthiness and cooperation into all learning components. SD Negeri 0701 Rotansogo maintains a good standard but lacks depth, as problem scenarios remain limited to textbook themes rather than real-world applications. Meanwhile, SD Negeri 0711 PTP VII Sosa II shows the greatest need for improvement, with inconsistent implementation and a failure to leverage the surrounding plantation environment for contextual learning due to limited teacher experience. Collectively, while character integration has begun in all locations, only the private

Islamic school has achieved a fully structured and meaningful alignment between PBL and character development.

Implementation of PBL

The implementation of PBL at Mutiara Hati Integrated Islamic Elementary School proceeded systematically and consistently according to the established plan. The learning process began with problem orientation, followed by group discussions, investigative activities, presentations, and reflection. Students were actively involved in each stage of learning, while the teacher acted as a facilitator, guiding, directing, and motivating students throughout the problem-solving process. At SD Negeri 0701 Rotansogo, PBL implementation had begun, but the teacher's dominant role in the learning process remained. Students were divided into groups and given problem-solving tasks, but field investigations and independent exploration activities were not yet optimal. Limited learning time and supporting facilities were factors contributing to the less-than-optimal implementation of PBL at this school. PBL implementation at SD Negeri 0711 PTP VII Sosa II was not yet consistent. In practice, learning often reverted to a lecture model, especially when teachers experienced difficulties managing student discussions and inquiry activities. Teachers' ability to facilitate the PBL process still needs to be improved so that students can be more active and learning is no longer teacher-centered.

Student Character Development Through PBL Learning Management in Three Schools

Character development across the three schools varies significantly based on the effectiveness of PBL facilitation and teacher competency. At SD IT Mutiara Hati, consistent teacher guidance allows leadership and collaboration to flourish naturally as students are empowered to lead discussions and resolve conflicts. In contrast, SD Negeri 0701 Rotansogo shows moderate success in fostering responsibility and independence, yet falls short in creativity and cooperation due to student passivity and a reliance on dominant group members. Meanwhile, development at SD Negeri 0711 PTP VII Sosa II remains in the early stages, where uneven results in courage and problem-solving are exacerbated by limited facilities and teachers' struggles to transition from traditional roles to active learning facilitators. Ultimately, these findings highlight that the success of character education through PBL is directly dependent on the teacher's ability to create a supportive environment for student expression and equitable group interaction.

PBL Learning Evaluation

Evaluation of PBL learning at Mutiara Hati Integrated Islamic Elementary School is conducted comprehensively and oriented towards the learning process and outcomes. Teachers use various evaluation techniques, such as portfolio assessments, projects, character rubrics, and student self-reflection. Authentic assessment is routinely implemented and well-documented, allowing for continuous monitoring of students' academic and character development. At SD Negeri 0701 Rotansogo, learning evaluation is conducted by combining written tests, attitude observations, and project assessments. However, the character assessment rubric has not been standardized and is not used consistently by all teachers. As a result, student character assessment does not fully reflect the ongoing learning process. Unlike the two previous schools, learning evaluation at SD Negeri 0711 PTP VII Sosa II is still dominated by cognitive tests. Authentic assessment has not been optimally implemented, and character assessment has not been well documented. This makes it difficult to systematically measure student character development.

Implementation Barriers

The results of the study indicate that Mutiara Hati Integrated Islamic Elementary School (SD Islam Terpadu Mutiara Hati) experienced relatively few significant obstacles in implementing PBL. Teachers have received adequate training, and the school environment supports innovative learning. The challenges faced are more related to the variation in students' abilities in understanding and solving problems. At SD Negeri 0701 Rotansogo, the main obstacles lie in the limited learning media and the uneven distribution of students' literacy skills. This condition affects the effectiveness of PBL implementation, especially in investigation activities and group discussions that require reading comprehension and sufficient information. Implementation obstacles at SD Negeri 0711 PTP VII Sosa II are complex. The lack of PBL training for teachers, limited learning facilities, and students' learning culture that is not yet ready for inquiry-based learning are the main factors hindering the optimal implementation of PBL.

Impact on Strengthening Student Character

The implementation of PBL at Mutiara Hati Integrated Islamic Elementary School has had a significant impact on strengthening students' character. Students demonstrated significant improvements in responsibility, creativity, cooperation, and problem-solving skills. These characteristics were evident in daily learning activities, both inside and outside the classroom. At SD Negeri 0701 Rotansogo, the impact of PBL implementation was quite positive. Improvements

were seen in students' independence and sense of responsibility, although student creativity and active participation still need to be improved. This indicates that PBL has great potential but still requires more optimal management. Meanwhile, at SD Negeri 0711 PTP VII Sosa II, the impact of PBL implementation on strengthening students' character was in the low to medium category. Students' character developed gradually, but did not show significant changes because PBL implementation was not carried out consistently and comprehensively.

Effectiveness of PBL Management

PBL management effectiveness varies across the schools, with SD IT Mutiara Hati demonstrating a highly effective model where teacher competence, strong school support, and a values-based culture ensure that planning, implementation, and evaluation are perfectly aligned to improve student character. In contrast, SD Negeri 0701 Rotansogo shows moderate effectiveness, having implemented PBL but lacking the stability and even distribution across classes needed for optimal character development. Meanwhile, SD Negeri 0711 PTP VII Sosa II remains less effective due to disorganized management, inadequate facilities, and a need for further teacher training. Overall, this study confirms that while PBL is a powerful tool for character building, its success is not automatic; it requires a comprehensive institutional commitment to systematic planning, continuous evaluation, and the provision of a conducive environment to move beyond theory into impactful student growth.

Discussion

Problem-Based Learning (PBL) based learning management at Mutiara Hati Integrated Islamic Elementary School, Rotansogo 0701 Elementary School, and PTP VII Sosa II 0711 Elementary School showed significant differences in the planning and teacher readiness aspects in implementing PBL. This finding supports the theory. (Murtikusuma, 2024) which confirms that the success of PBL is not only determined by the problem design, but also by the quality of the planning carried out by the teacher. At SD IT Mutiara Hati, the planning appears to be very structured with a lesson plan that includes contextual problem scenarios and character integration, in line with research. (Habeahan et al., 2024) which concluded that learning tools must be systematically designed to strengthen the learning process. Conversely, in two public schools, planning was still limited and inconsistent, resulting in PBL steps not being fully implemented. This condition supports the research findings. (Marfuah, 2024) which states that weak learning planning results in less than optimal character building in elementary schools.

During the PBL implementation phase, it was evident that SD IT Mutiara Hati was able to implement the entire PBL syntax in its entirety, starting from problem presentation, group discussion, field investigation, solution presentation, and reflection. This is in line with the theory (Syamsinar, 2024), which states that PBL learning requires active student involvement through investigation and solving real-life problems. The results of this study are also in line with the findings(Siregar et al., 2024)that students are able to identify and solve problems if facilitated through clear inquiry stages. However, the implementation of PBL at SDN 0701 Rotansogo and SDN 0711 PTP VII Sosa II still encountered obstacles such as a lack of media, limited time, and low teacher preparedness. These results are similar to previous studies, such as Artisari et al. (2024) and Rahmayani et al. (2025), who found that PBL often does not run optimally in public schools due to limited facilities and a lack of teacher training on innovative learning models. Schools with a strong collaborative culture are able to implement PBL more optimally. Mutiara Hati Islamic Elementary School demonstrates effective classroom management with conducive group dynamics, in line with theory. (Sunarsih et al., 2023), which states that the success of PBL is greatly influenced by the teacher's ability as a facilitator in managing group interactions. Meanwhile, at SDN 0701 Rotansogo, group dynamics are still dominated by only a few students, and at SDN 0711 PTP VII Sosa II, most students are not yet accustomed to working in groups. These findings strengthen the research (Rizqina & Budhi, 2025), which found that the success of PBL is determined by the teacher's ability to condition the classroom, not simply by presenting problems to students. This suggests that implementing PBL requires a collaborative learning culture, which doesn't develop instantly in schools accustomed to traditional learning.

Problem-Based Learning (PBL) can significantly develop student character when managed systematically, as seen at Mutiara Hati Integrated Islamic Elementary School. This finding aligns with character education theory. (Lickona, 2022) which emphasizes that character develops through moral knowing, moral feeling, and moral action experienced directly by students in the learning process. Furthermore, the effectiveness of PBL in developing cooperative and responsible character can also be explained through Lev's social constructivism theory (Vygotsky & Cole, 2018), which emphasizes the importance of social interaction and group work in the formation of values. Empirical research by (Yufrinalis & Hero, 2023) showed that integrating PBL with character education was able to increase the responsibility and collaboration of elementary school students. In contrast, findings at SD Negeri 0701 Rotansogo and SD Negeri 0711 PTP VII Sosa II, which showed

suboptimal results, corroborate the research findings. (Tuni'mah et al., 2025) which concludes that PBL is only effective in forming character if teachers are able to manage reflective discussions and contextual problems consistently.

In terms of learning evaluation, only Mutiara Hati Islamic Elementary School implemented comprehensive, authentic assessment through portfolios, character assessment rubrics, project assessments, and self-reflection. This finding aligns with the theory of the Minister of Education and Culture Regulation No. 66 of 2013. (Pendidikan et al., 2013) which emphasizes the urgency of authentic evaluation in competency-based learning. Meanwhile, two public schools still use a traditional evaluation approach that focuses on cognitive aspects (Nuriza & Muniroh, 2025). This study shows that elementary schools in non-urban areas tend not to implement authentic assessment due to teachers' limited competence in developing rubrics and character instruments. A similar finding was found at SDN 0701 Rotansogo and SDN 0711 PTP VII Sosa II, where teachers have not implemented comprehensive character assessment, resulting in poorly documented student character development.

The obstacles to PBL implementation found in this study are closely related to teacher readiness, the availability of facilities, and the school's learning culture. This condition aligns with the learning management theory, according to (Zakiyyah, 2024) which states that learning innovation requires the support of human resources, facilities, and a conducive organizational climate. The limitations of teacher training and learning media found at SD Negeri 0701 Rotansogo and SD Negeri 0711 PTP VII Sosa II also support the research findings. (Sihotang, 2024) which confirms that PBL failure is often caused by low teacher competence in facilitating problem-based learning. Conversely, the minimal obstacles at Mutiara Hati Integrated Islamic Elementary School align with the findings (Aziza et al., 2025) which emphasizes that the success of PBL is largely determined by the readiness of the institution and the role of the teacher as a facilitator, not as an information center.

The impact of PBL on student character development shows very different results between schools. Mutiara Hati Islamic Elementary School showed improvements in discipline, cooperation, responsibility, self-confidence, and problem-solving skills, in line with research. (Ramadhan, 2025) A strong character can be formed through learning activities involving moral values, collaboration, and problem-solving. This finding is also supported by research (Kusnandar et al., 2025), which found that PBL can improve students' social and cognitive character if implemented consistently. In

contrast, at SDN 0701 Rotansogo and SDN 0711 PTP VII Sosa II, the impact of PBL on character was still low to moderate because implementation was inconsistent, evaluation did not address character aspects, and students' learning culture was still passive. These results are in line with the findings (Rahmat et al., 2025) that the success of character-based learning is highly dependent on the consistency of the application of learning methods and management.

The differences in the effectiveness of PBL management across the three schools confirm that PBL should be understood as part of a learning management system, not simply a teaching method. This finding aligns with Terry's educational management theory (planning, organizing, actuating, and controlling), which emphasizes that the success of a program is determined by the integration of planning, implementation, and evaluation. The high effectiveness at Mutiara Hati Integrated Islamic Elementary School aligns with the research findings (Bariyah et al., 2022) which states that PBL is effective when supported by thorough planning and authentic evaluation. Meanwhile, the low effectiveness of SD Negeri 0711 PTP VII Sosa II confirms the findings (Husna et al., 2025) That problem-based learning will be less effective if it is not supported by strong school management and a supportive academic culture. Thus, this study confirms that the effectiveness of PBL is highly dependent on the quality of holistic learning management.

Overall, the results of this study show that the effectiveness of PBL management is largely determined by teacher capacity, school management support, the availability of learning tools, and student learning culture. SD IT Mutiara Hati successfully implemented PBL comprehensively due to strong systemic support, while two public schools still struggled with conceptual understanding and basic implementation. This strengthens the research (Salsabila, 2024) which emphasizes that the success of PBL lies not only in the learning strategy, but also in the overall learning management, including planning, implementation, classroom control, and evaluation. Thus, this study provides evidence that comprehensive learning management integration is essential to ensure that PBL functions optimally in developing student character, especially in non-urban areas such as Padang Lawas Regency.

This study's novelty lies in its comprehensive analysis of integrated PBL-based learning management for character development across three diverse elementary schools in rural Padang Lawas. Moving beyond typical cognitive-focused research, it examines how managerial aspects—planning, implementation, evaluation, and institutional support—shape traits like discipline, cooperation, and courage. By mapping teacher readiness and learning cultures in both Islamic and

public school settings, the study contributes a unique integrative management model specifically designed for rural contexts, filling a significant gap in existing educational literature.

Although this study yielded comprehensive findings, several limitations warrant consideration. The study involved only three schools over a six-month period, thus not fully representing the long-term dynamics of PBL implementation, particularly in student character development. The qualitative approach used also potentially tainted the researcher's subjectivity, despite data triangulation. Furthermore, limited facilities and teacher competency in some schools, as well as differences in student backgrounds, limit the generalizability of the findings. Therefore, further research is recommended to employ a longitudinal design and involve more schools to obtain more representative and in-depth results.

CONCLUSION

Based on the research results and discussion, it can be concluded that Problem-Based Learning (PBL)-based learning management has a strategic role in developing the character of elementary school students, but its level of effectiveness is largely determined by the quality of learning management in schools. The results of the study indicate that Mutiara Hati Integrated Islamic Elementary School is able to implement PBL effectively through systematic planning, consistent implementation, and authentic evaluation, thus having a significant impact on strengthening the character of responsibility, cooperation, independence, and social awareness of students. SD Negeri 0701 Rotansogo shows quite good effectiveness, although it still faces limitations in the consistency of implementation and supporting facilities, while SD Negeri 0711 PTP VII Sosa II has not shown optimal results due to limited teacher competency, facilities, and learning culture. Therefore, this study recommends strengthening teacher competency through continuous PBL training, development of standardized character evaluations, as well as managerial support and learning facilities from schools and policymakers, so that PBL implementation can run more effectively and sustainably in shaping student character.

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