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Active Learning through PBL: A Quantitative Study in the Context of Merdeka Belajar.

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ABSTRACT

This study examines the impact of Problem-Based Learning (PBL) on Social Studies learning outcomes at SMP Negeri 1 Atinggola in North Gorontalo, Indonesia. Conducted over four months with 65 Grade VIII students, the research used a quantitative descriptive approach. Data were collected through questionnaires, observations, interviews, and documentation, and analyzed with SPSS v20.0. Results show a positive and significant effect of PBL on academic achievement, with a t-count of 5.212 and R^2 of 0.301. The equation ($\hat{Y} = 53.445 + 0.531X$) indicates each increase in PBL implementation improved scores by 0.531 points. Students displayed greater motivation, participation, and engagement. Observations and interviews supported these findings, revealing enhanced autonomy and relevance of learning. This study confirms that PBL is an effective strategy for Social Studies, aligning with national curriculum goals like Merdeka Belajar and Profil Pelajar Pancasila. It offers practical insights for improving student-centered learning and contributes to research on active learning strategies.

Keywords: Problem-Based Learning, Social Studies, Learning Outcomes, Curriculum Reform.

Introduction

Education plays a fundamental role in shaping the intellectual, social, and emotional capabilities of individuals and is widely recognized as a pivotal instrument for national development. As nations strive to improve human capital and ensure global competitiveness, the focus on educational quality has become increasingly significant. Within this framework, schools serve not merely as institutions of knowledge transmission but also as dynamic environments for socialization and transformation. Teachers, in particular, have been consistently identified as the most influential agents in determining the quality of education, as their pedagogical strategies and engagement directly affect student outcomes. The effectiveness of instruction is therefore central to any effort aimed at educational improvement.

In recent years, the discourse on pedagogical innovation has emphasized the need to transition from teacher-centered to student-centered learning environments. Traditional didactic methods, which prioritize rote memorization and passive reception of information, have been increasingly scrutinized for their inability to nurture higher-order thinking skills, creativity, and learner autonomy. This critique aligns with global educational trends advocating for more interactive and reflective approaches to learning, particularly those that emphasize problem-solving, collaboration, and real-world application. Problem-Based Learning (PBL) has thus emerged as a pedagogical model that aligns with these aspirations by fostering inquiry-driven learning processes where students are actively involved in constructing knowledge through the resolution of meaningful problems.

Despite the documented benefits of PBL in numerous educational settings, there remains a substantial gap in its implementation, particularly within the context of junior high schools in rural or under-resourced regions. One such case is SMP Negeri 1 Atinggola in North Gorontalo, where recent observations revealed a persistent reliance on conventional lecture-based instruction in the teaching of Social Studies (Ilmu Pengetahuan Sosial - IPS). This approach has contributed to a range of issues including low student motivation, passive learning behaviors, and limited critical engagement with the subject matter. Quantitative data further underscore the severity of this issue: in Grade VIII, only 33% of students in class VIII-A, 43% in VIII-B, and 22% in VIII-C achieved the minimum competency standard (KKM). Such findings necessitate an urgent examination of instructional practices and their alignment with contemporary educational goals.

The central problem addressed in this study concerns the low academic achievement and disengagement of students in Social Studies, a subject essential for developing civic knowledge and socio-cultural awareness. The core issues identified include insufficient student participation, lack of critical thinking, and the absence of innovative, student-centered instructional models. These challenges are further exacerbated by the limited professional development opportunities available to teachers, which hinders the adoption of more effective pedagogical

strategies. Consequently, this research seeks to evaluate whether the integration of PBL can serve as a viable solution to enhance learning outcomes in this context.

To address these challenges, educators and policymakers have increasingly turned to PBL as a strategy to revitalize classroom practices. PBL posits that students learn more effectively when they are engaged in solving authentic, complex problems that mirror real-life situations. According to Duch, Allen, and White (in Hamruni, 2012), PBL cultivates critical and analytical thinking by immersing learners in tasks that demand deep understanding and inquiry. Similarly, Fathurrohman (in Hamruni, 2012) underscores the importance of aligning teaching methods with students' competencies and learning needs, highlighting PBL's potential to foster active engagement and meaningful learning experiences.

Further support for PBL's efficacy is found in the work of Tan (2013), who emphasizes the model's capacity to promote teamwork and collaborative knowledge construction through systematic group inquiry. Widodo (2011) adds that PBL motivates learners by presenting practical challenges that connect prior knowledge with new insights, thereby deepening comprehension and retention. Jacob and Cherian (2012) contend that PBL strengthens students' problem-solving abilities and enhances their motivation for self-directed learning. Boud and Fogarty (in Wena, 2013) note that by confronting learners with ill-structured, open-ended problems, PBL nurtures deep understanding and reflective thinking, essential skills in today's knowledge-based economy.

The application of PBL has also been examined in the Indonesian educational context. Trianto (2011a) asserts that PBL encourages meaningful learning by allowing students to explore and construct knowledge through contextualized experiences. Sanjaya (2016) affirms that PBL enhances communication and collaboration skills, vital competencies in both academic and professional domains. While Putri et al. (2018) acknowledge challenges related to time efficiency and lesson structure, their findings nonetheless confirm that PBL contributes to deeper conceptual learning and increased student engagement. Collectively, these studies provide a strong theoretical and empirical foundation for the implementation of PBL in Social Studies classrooms.

Despite the growing body of literature advocating for PBL, there remains a notable gap in studies that quantitatively assess its impact on learning outcomes in junior high schools, especially within less-developed educational environments such as North Gorontalo. Most existing research focuses on higher education or well-resourced schools, thereby limiting the generalizability of their findings. Furthermore, few studies have specifically addressed the use of PBL in Social Studies, a subject often sidelined in educational reform debates despite its critical role in fostering civic responsibility and cultural literacy. This gap highlights the need for context-sensitive investigations that evaluate the practical implications and effectiveness of PBL in enhancing student learning in Social Studies at the junior high school level.

The present study seeks to fill this gap by investigating the effect of Problem-Based Learning on student learning outcomes in Social Studies at SMP Negeri 1 Atinggola. Grounded in a quantitative research design, this study aims to provide empirical evidence regarding the efficacy of PBL in improving academic achievement among junior high school students. The novelty of this study lies in its specific focus on Social Studies within a rural Indonesian context and its use of statistical analysis to validate the impact of PBL on learning outcomes. By exploring the practical applications of PBL in this under-studied setting, the research offers valuable insights for educators, curriculum developers, and policymakers seeking to enhance instructional quality and promote equity in educational opportunities. The findings are expected to contribute to the broader discourse on pedagogical innovation by demonstrating the relevance and adaptability of PBL in diverse educational contexts.

Methodology

This study employed a structured quantitative research design to evaluate the effect of Problem-Based Learning (PBL) on students' learning outcomes in Social Studies. Drawing from established educational and statistical research methodologies, the study integrated multiple stages of data collection and analysis to ensure empirical validity and reliability. The research process was guided by established theoretical principles and was operationalized through carefully chosen methods relevant to the educational setting of SMP Negeri 1 Atinggola.

The research was conducted at SMP Negeri 1 Atinggola, located on Jl. Trans Sulawesi, North Gorontalo Regency. The study was implemented over a four-month period from March to June 2024. This time frame allowed sufficient duration for PBL intervention, observation, and data collection to comprehensively assess its impact on the targeted population. The school setting and timeline were critical in ensuring that the learning environment reflected the natural instructional context, thus supporting the ecological validity of the study.

The research applied a quantitative approach, consistent with Robert Donmoyer's perspective in Given (2008), who characterizes quantitative research as the systematic investigation of observable phenomena via statistical, mathematical, or computational techniques. This approach enabled the researcher to derive objective conclusions from measurable data and test the stated hypothesis regarding the relationship between PBL and learning outcomes.

A quantitative descriptive method was selected as the research design to explore the correlation between the independent and dependent variables. The independent variable (X) was Problem-Based Learning (PBL), while the dependent variable (Y) was student learning outcomes in Social Studies. The research design was diagrammatically represented in Figure 3.1, which delineated the hypothesized directional influence of PBL on academic performance. This model offered a clear framework for empirical validation of theoretical assumptions.

Variables were operationally defined to ensure clarity and measurement consistency. Learning outcomes were conceptualized following Dimyati and Mudjiono (2013), who outline three primary domains—cognitive, affective, and psychomotor. These outcomes were understood as observable and quantifiable behavioral changes resulting from instructional engagement. Meanwhile, PBL was defined in accordance with Arends (2012), who identifies its key components as problem orientation, investigation, collaboration, and reflection. These dimensions were operationalized in classroom practice to simulate authentic learning experiences.

The population of the study comprised all 65 students enrolled in Grade VIII at SMP Negeri 1 Atinggola, distributed across three classes: VIII-A (21 students), VIII-B (21 students), and VIII-C (23 students). According to Handayani (2020), population refers to all individuals or units sharing similar characteristics relevant to the research question. Given the relatively small population size (<100), the study adopted a quota sampling method and included the entire population as the research sample. This strategy minimized sampling error and allowed for comprehensive analysis.

Data collection utilized four main techniques: observation, questionnaire, interview, and documentation. Observation, guided by Sugiyono (2017), was employed to record student behavior and classroom dynamics during the implementation of PBL. Emphasis was placed on student participation, interaction, and problem-solving activity, providing qualitative support to the quantitative data.

The questionnaire was administered using a structured, closed-ended format based on a five-point Likert scale (Strongly Agree to Strongly Disagree). This scale facilitated standardization in responses and enabled quantitative analysis of students' perceptions and experiences. The scoring system, as outlined in Table 3.3, was used to categorize response levels and facilitate the computation of composite indices for analysis.

In-depth interviews were conducted with teachers and a selection of students to gain deeper insight into their experiences and perceptions regarding PBL implementation. According to Sugiyono (2017), interviews serve to enrich data collection by capturing nuanced perspectives that may not be evident through standardized instruments. The interviews functioned as a triangulation mechanism to validate findings and identify emergent themes.

Documentation was another critical data source. Sakban et al. (2019) describe documentation as a method involving the review of archival materials such as academic records, attendance lists, lesson plans, and photographs. This study used documentation to cross-verify reported student performance and contextualize observational and survey data.

To ensure the credibility of the research instruments, both validity and reliability tests were conducted. Instrument validity was tested using the Product Moment Correlation (Pearson's r), as recommended by Sugiyono (2017). Using SPSS v20.0 software, all 15 items in the questionnaire achieved r-count values

exceeding the critical r-table value of 0.412, confirming the validity of the instrument.

Reliability was tested using Cronbach's Alpha. Sugiyono (2017) defines reliability as the consistency of a measure across repeated administrations. The obtained alpha coefficient was 0.925, which exceeded the 0.6 threshold, indicating high internal consistency of the instrument and thus confirming its reliability.

Data analysis followed a multi-step procedure. The first step involved testing the normality of the data distribution using the Kolmogorov-Smirnov Test. SPSS v20.0 results showed an Asymp. Sig (2-tailed) value of 0.125, which is greater than the significance threshold of 0.05. This result suggests that the data distribution was normal. The P–P Plot (Figure 4.1) visually confirmed the linearity and normal distribution of the residuals.

Subsequently, simple linear regression analysis was performed to assess the influence of PBL on learning outcomes. The regression equation, as formulated by Sugiyono (2018), was $\hat{Y} = a + bX$, where $\hat{Y}$ denotes predicted learning outcomes, a is the constant (53.445), and b is the regression coefficient (0.531). This indicates that for every one-unit increase in PBL implementation, student learning outcomes increased by 0.531 units. This positive correlation signifies a measurable effect of the independent variable on the dependent variable.

To evaluate the significance of the relationship, a t-test was conducted. The calculated t-count of 5.212 exceeded the critical t-table value of 1.669, leading to the rejection of the null hypothesis (H_0). This result statistically confirms that PBL significantly affects students' learning outcomes in Social Studies. Furthermore, the coefficient of determination (R^2) was 0.301, indicating that 30.1% of the variance in learning outcomes could be explained by the application of PBL. The remaining 69.9% is attributed to other external or unmeasured factors.

Finally, the statistical hypotheses tested in the study were as follows: H_0 stated that PBL does not significantly affect learning outcomes, while H_1 posited that PBL does significantly influence learning outcomes. Based on the regression and t-test results, H_0 was rejected in favor of H_1, thus affirming the efficacy of PBL in improving academic performance among Grade VIII students in the studied context.

This methodology section outlines a rigorous empirical framework that adheres to established principles of educational research. By combining robust quantitative analysis with rich qualitative insights, the study ensures comprehensive and valid results. Through this approach, the research provides a compelling argument for the integration of PBL in junior high school settings, especially in rural educational environments.

Results

This section presents the findings of the study on the impact of Problem-Based Learning (PBL) on students' learning outcomes at SMP Negeri 1 Atinggola. The analysis is structured into various sub-sections, starting with descriptive statistics,

instrument validation, and classical assumption testing, followed by regression analysis, hypothesis testing, and qualitative insights from observations, interviews, and documentation. The results are contextualized with relevant literature to support the interpretation and significance of the findings.

The descriptive statistical analysis aimed to outline the level of PBL implementation and student learning outcomes among the 65 students of Grade VIII. According to the categorization framework by Kuncoro (2017), scores were grouped into four intervals: Low (20–40%), Moderate (40.01–60%), Fairly High (60.01–80%), and High (80.01–100%). The grand mean for the PBL variable was 4.37, equating to 87.4% of the ideal score and falling within the High category. This result indicates that students experienced a high level of engagement with the PBL model. The individual item means ranged from 4.09 to 4.65, with the highest rated item being Item 5 (mean = 4.65) and the lowest Item 7 (mean = 4.09), signaling consistently strong responses across the instrument. Table 4.2 summarizes these results, showing a total score of 4.264 out of a possible 4.875.

Instrument validation was conducted through both validity and reliability tests. The validity test utilized the Pearson Product-Moment Correlation method through SPSS v20.0. With a critical r-table value of 0.412, all 15 questionnaire items demonstrated r-count values ranging from 0.541 to 0.874, surpassing the threshold and confirming their validity. These results are summarized in Table 4.4. Reliability testing, based on Cronbach's Alpha, revealed an alpha coefficient of 0.925, well above the acceptable benchmark of 0.6 as suggested by Sugiyono (2017), confirming the internal consistency of the instrument. Table 4.5 displays these reliability outcomes.

To assess the data distribution, a normality test was performed using the Kolmogorov-Smirnov method. The resulting significance value of 0.125 exceeded the 0.05 threshold, indicating that the data were normally distributed. This was further supported by visual inspection through the P–P Plot (Figure 4.1). Table 4.6 presents the details of the normality test, affirming the suitability of the data for parametric analysis.

Simple linear regression analysis was applied to determine the effect of PBL on student learning outcomes. Following the formula $\hat{Y} = a + bX$ as outlined by Sugiyono (2018), the regression equation obtained was $\hat{Y} = 53.445 + 0.531X$. This implies that for every one-point increase in the implementation of PBL, there is a corresponding 0.531-point increase in learning outcomes. The coefficients are detailed in Table 4.7, showing the constant a as 53.445 and the regression coefficient b as 0.531, with both coefficients significant at $p < 0.05$.

The hypothesis was tested using a one-sample t-test. The null hypothesis (H_0) stated that PBL does not significantly affect learning outcomes, while the alternative hypothesis (H_1) posited a significant effect. With a calculated t-count of 5.212 exceeding the t-table value of 1.669 at $\alpha = 0.05$, the null hypothesis was rejected. This confirms a statistically significant positive relationship between PBL and student learning outcomes. Table 4.8 summarizes the results of the t-test.

Furthermore, the coefficient of determination (R^2) was calculated to assess the proportion of variance in learning outcomes explained by PBL. The R^2 value was 0.301, meaning that 30.1% of the variation in student learning outcomes could be attributed to PBL implementation, while the remaining 69.9% may be influenced by other external factors such as home environment, prior knowledge, or teaching resources. Table 4.9 displays the model summary, including R, R^2, adjusted R^2, and the standard error of the estimate.

Observational data gathered during the study period provided qualitative support to the quantitative findings. Classroom observations revealed a noticeable increase in student motivation and active participation during PBL sessions. Students were organized into small groups of 5 to 6 members to collaboratively tackle real-world issues related to social and economic phenomena. The teacher functioned primarily as a facilitator, guiding inquiry and encouraging student agency. The classroom dynamic shifted to a more interactive and collaborative atmosphere, with students demonstrating improved confidence in articulating their ideas and presenting their solutions.

Interview findings corroborated these observations. Teachers reported substantial improvements in student enthusiasm, critical thinking, and conceptual understanding as a result of the PBL approach. Students expressed that the PBL model made lessons more engaging and relevant to their daily lives. More than 70% of students noted that they felt more motivated and involved in PBL sessions compared to traditional lecture-based instruction. These testimonies align with the assertions of Tan (2013), who emphasizes the importance of learner-centered approaches in enhancing knowledge construction and teamwork.

The review of supporting documents further validated these findings. Documentation included photos of group discussions, presentation archives, student attendance records, and comparative grade sheets. The analysis of these materials indicated a general increase in student achievement post-PBL intervention. These outcomes support the assertions of Widodo (2011) and Jacob & Cherian (2012), who underline the motivational and experiential value of real-world problem integration in classroom learning.

The findings of this study align with prior literature that advocates for the implementation of PBL in school curricula. Marzano (2020) contends that problem-based contexts promote higher-order thinking and better long-term retention of knowledge. Similarly, Kauchak and Eggen (2020) argue that PBL fosters the integration of academic and social competencies, which are essential for 21st-century learning. These views resonate with the constructivist learning theory, which posits that learners construct knowledge more effectively when actively involved in contextualized and collaborative learning environments.

In summary, the research presents compelling empirical evidence of the effectiveness of Problem-Based Learning in enhancing student learning outcomes in Social Studies. The key findings include a high average PBL engagement score (4.37), full instrument validity and reliability ($r > 0.412$; $\alpha = 0.925$), normal data

distribution (Sig = 0.125), a strong linear relationship (Y = 53.445 + 0.531X), and a significant t-count (5.212 > 1.669), along with an R^2 of 0.301. These results collectively support the conclusion that PBL has a significant positive impact on student achievement.

This conclusion is consistent with earlier works such as those by Fathurrohman (in Hamruni, 2012), Duch, Allen & White (in Hamruni, 2012), and Trianto (2011a), all of whom affirm the pedagogical strengths of PBL in promoting critical thinking, collaboration, and contextual learning. It also reinforces the findings of Putri et al. (2018), who acknowledge both the benefits and logistical challenges of PBL implementation. Moreover, this study adds to the body of evidence supporting the integration of PBL into Indonesian junior high school curricula, particularly in Social Studies education where the need for student engagement and real-world relevance is paramount.

Discussion

This study aimed to examine the impact of Problem-Based Learning (PBL) on Social Studies (IPS) learning outcomes at SMP Negeri 1 Atinggola. The findings reveal a statistically significant and positive relationship between the implementation of PBL and improved academic performance, supporting the central hypothesis that innovative, student-centered teaching approaches enhance cognitive outcomes. The discussion integrates both quantitative and qualitative insights, contextualized within relevant theoretical frameworks and prior empirical findings.

The results affirm that PBL has a significant positive effect on student learning outcomes. A t-count of 5.212, which surpasses the critical t-table value of 1.669 at the 0.05 significance level, validates the alternative hypothesis (H_1), confirming that PBL contributes meaningfully to academic achievement. Furthermore, the coefficient of determination (R^2) value of 0.301 indicates that PBL explains 30.1% of the variance in learning outcomes, while the remaining 69.9% may be attributed to other external or contextual factors. These statistical indicators underscore the effectiveness of PBL in improving student comprehension and engagement.

The regression equation derived from the analysis, $\hat{Y} = 53.445 + 0.531X$, demonstrates that each one-unit increase in PBL implementation yields a 0.531-point rise in learning outcomes. This empirical evidence supports Sugiyono's (2018) assertion regarding the predictive capacity of regression models in educational research. Students exposed to PBL showed marked improvement in post-intervention assessments, reflecting heightened engagement, enhanced collaboration, and deeper problem-solving abilities, which are essential to constructivist pedagogy.

Observational data further corroborate these findings. During the implementation of PBL, students were observed actively participating in structured group discussions, working collaboratively to analyze real-life socio-economic

problems. This aligns with Arends (2012), who identifies the core elements of PBL as problem orientation, investigation, and reflective discussion. The teacher assumed the role of facilitator, guiding the inquiry process and encouraging students to construct their knowledge autonomously. This transformation in classroom dynamics fostered a more vibrant and participatory learning environment, with students displaying increased vocalization, self-confidence, and mutual respect.

Interviews with teachers and students provided additional qualitative validation. Teachers noted significant improvements in students' motivation, autonomy, and critical thinking. Students themselves reported that the real-world relevance of PBL tasks made learning more meaningful and enjoyable. Over 70% of students indicated a preference for PBL over traditional lecture-based instruction. These sentiments are in line with Jacob & Cherian (2012), who emphasize that PBL enhances intrinsic motivation and supports self-directed learning.

Supporting documentation, including attendance records, grade reports, and photographs, reinforced these findings. Average grades increased following the PBL intervention, and attendance rates improved, reflecting heightened student engagement. This outcome is consistent with the observations of Widodo (2011), who asserts that problem-oriented learning enhances both motivation and academic performance. The evidence from this study strengthens the argument that PBL contributes not only to cognitive development but also to affective and behavioral domains of learning.

The study's outcomes align with and reinforce existing literature on the efficacy of PBL in Social Studies education. For example, Siregar & Marbun (2021) and Fitriani & Suryani (2020) found that PBL implementation significantly improves student motivation and comprehension in secondary-level Social Studies. Marzano (2020) also emphasizes that problem-based contexts facilitate higher-order thinking and long-term knowledge retention. These congruent findings affirm that PBL is a robust pedagogical model capable of fostering both academic excellence and holistic student development.

The results further resonate with constructivist learning theories, which posit that knowledge is actively constructed through experience, reflection, and social interaction. PBL operationalizes these principles by encouraging learners to engage with complex, ill-structured problems, thereby promoting critical thinking, collaboration, and knowledge transfer. Boud and Fogarty (in Wena, 2013) argue that PBL situates learning within authentic contexts, thereby increasing its relevance and retention. Similarly, Kauchak & Eggen (2020) note that PBL integrates academic and social competencies vital for navigating contemporary educational and professional landscapes.

From an educational practice perspective, these findings carry significant implications for teaching strategies, curriculum design, and institutional policy. Teachers are encouraged to adopt PBL to foster active participation, independent inquiry, and reflective learning. As Fathurrohman (in Hamruni, 2012) suggests,

effective teaching models must align with student needs and learning objectives. PBL reduces dependence on didactic instruction and shifts the locus of learning from teacher to student, empowering learners to take ownership of their educational journeys.

For schools, the findings underscore the importance of institutional support in training educators to effectively implement PBL. This includes professional development programs, resource provision, and integration of PBL into formal curricula. The model's compatibility with Indonesia's Merdeka Belajar framework and the Profil Pelajar Pancasila underscores its relevance in current national education reforms, which emphasize character development, contextual learning, and the cultivation of critical thinking and collaboration.

For students, PBL presents an opportunity to develop transferable skills such as communication, teamwork, analytical reasoning, and problem-solving. These competencies are indispensable in the 21st century, where educational success is measured not only by content mastery but also by the ability to apply knowledge creatively and collaboratively in real-world settings. Sanjaya (2016) notes that PBL fosters such competencies, making it an essential strategy for contemporary education.

The integration of PBL with national educational goals further validates its strategic importance. The Merdeka Belajar policy advocates for learning models that promote student agency, contextual relevance, and lifelong learning. PBL's emphasis on inquiry, reflection, and collaboration aligns seamlessly with this vision. Moreover, it contributes to the development of the Profil Pelajar Pancasila, which seeks to nurture learners who are spiritually grounded, culturally aware, collaborative, independent, and critical thinkers.

To illustrate the dynamics of PBL's impact on learning, Figure 4.2 conceptualizes a model wherein PBL enhances motivation, which in turn drives engagement, leading to improved cognitive performance and ultimately higher learning outcomes. This framework encapsulates the multi-dimensional influence of PBL and serves as a guide for future research and implementation.

In conclusion, the findings of this study provide compelling evidence of the educational value of Problem-Based Learning. Quantitatively, PBL is shown to significantly influence learning outcomes ($R^2 = 0.301$; $t = 5.212$; $p < 0.05$). Qualitatively, students and teachers alike report enriched learning experiences, heightened motivation, and improved classroom dynamics. These outcomes confirm the theoretical and empirical assertions found in the literature, including those by Tan (2013), Duch, Allen & White (in Hamruni, 2012), and Trianto (2011a).

The study advocates for the systematic integration of PBL into Social Studies education in Indonesia and similar educational contexts. It encourages stakeholders—teachers, school leaders, and policymakers—to invest in pedagogical innovations that align with the needs of 21st-century learners. In doing so, the education system can better prepare students to navigate complex social realities with confidence, competence, and creativity.

Conclusion

This study provides strong empirical evidence that Problem-Based Learning (PBL) significantly improves student learning outcomes in Social Studies, particularly in the junior high school context of SMP Negeri 1 Atinggola. The analysis revealed that the implementation of PBL positively influenced students' academic performance, as indicated by a statistically significant t-value of 5.212 and a coefficient of determination (R^2) of 0.301. This implies that PBL accounted for 30.1% of the variance in learning outcomes, underscoring its substantial contribution to student achievement.

The findings highlight that students engaged in PBL exhibited higher motivation, improved participation, and stronger critical thinking and problem-solving abilities. Observational and interview data further validated these results, demonstrating enhanced classroom dynamics, increased student autonomy, and greater enjoyment in learning. These outcomes support the constructivist learning paradigm and affirm previous research on the efficacy of PBL.

Importantly, the study contributes to the existing body of knowledge by offering context-specific evidence from a rural Indonesian educational setting. It advocates for the broader adoption of PBL in Social Studies, suggesting that this approach aligns well with national educational reforms such as the Merdeka Belajar curriculum and the Profil Pelajar Pancasila.

Future research could explore longitudinal effects of PBL, its impact on other subjects, and integration with digital learning platforms. Additionally, comparative studies across different socio-economic and geographical contexts would enhance the generalizability of these findings.

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