

## The Influence Of The Problem-Based Learning Model on Social Studies Learning Outcomes Riviewerd from the Geographic Location of Fourth Grade Students in Ledokombo II Cluster

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**Abstract.** This study aims to examine the effect of the Problem-Based Learning (PBL) model on students' social studies learning outcomes, reviewed from their geographic location. A quasi-experimental posttest-only control group design was used. The population consisted of 190 fourth-grade students in the Ledokombo II cluster, and 110 students were selected through cluster random sampling. The sample was divided into two experimental and two control classes. Data were analyzed using two-way ANOVA. The results show that: (1) PBL had a significantly higher impact on learning outcomes compared to conventional teaching ( $F = 22.284 > F_{table} = 3.93$ ), (2) there was a significant interaction between learning model and geographic location ( $F = 66.428 > F_{table} = 3.97$ ), (3) urban students achieved significantly better results in PBL classes than in conventional classes, and (4) rural students also showed significant differences, although lower than urban groups. These findings indicate that PBL is an effective learning model across contexts, yet geographic disparities influence the magnitude of its effectiveness.

**Keywords:** Problem-Based Learning, Social Studies, Geographic Location, Learning Outcomes

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### INTRODUCTION

Education plays a central role in shaping intelligent, adaptive, and responsible citizens. In the 21st century, students are expected to develop critical thinking, creativity, collaboration, and communication. These competencies cannot be achieved through traditional teacher-centered learning. Instead, learning must facilitate students' active participation and problem-solving abilities (Mustadi, 2020; Wapa et al., 2023)

Social studies (IPS) learning has a strategic role because it integrates knowledge from history, geography, economics, and sociology. However, many teachers still rely on memorization-based learning, resulting in low student engagement and achievement (Windrati, 2022). This issue is more prominent in rural schools due to limited facilities, resources, and digital access

Problem-Based Learning (PBL) presents authentic problems and encourages collaborative investigation. It positions students as active constructors of knowledge, supported by teachers as facilitators (Wijayanti & Wulandari, 2016). Numerous studies show PBL improves motivation, conceptual understanding, and learning outcomes (Sari & Rosidah, 2023; Darmawati & Mustadi, 2023). However, few studies examine how geographic location moderates its effectiveness.

Therefore, this study investigates the influence of PBL on social studies learning outcomes reviewed from students' geographic contexts (urban vs rural). This adds contribution to the academic debate, especially regarding educational inequality and the context-sensitivity of learning models.

### **Methodology**

This study used a 2x2 factorial quasi-experimental design involving one independent variable (learning model), one dependent variable (learning outcomes), and one moderator variable (geographic location). The independent variable comprised the PBL model (A1) and conventional model (A2), while the moderator variable included urban (B1) and rural (B2) geographic locations.

The study population consisted of 190 fourth-grade students from Ledokombo Cluster II. Using cluster random sampling, 110 students were selected and distributed across experimental and control groups.

Research instruments were developed based on curriculum indicators, competency standards, and material characteristics. Content validity was assessed through expert judgment, and reliability tests were conducted using 50 samples and 20 questionnaire items for social studies outcomes (reliability = 0.619). The multicultural attitude instrument comprised 30 items (reliability = 0.615).

Data were analyzed using two-way ANOVA (ANOVA AB) with SPSS 20.0 for hypothesis testing and assumption checks.

### **Results and Discussion**

This study compared the effects of the PBL model and conventional methods on students' social studies learning outcomes while considering geographic location.

The first hypothesis test revealed a significant main effect of learning model on outcomes ( $F = 38.567$ ,  $p < 0.05$ ). Students exposed to PBL achieved higher scores than those in conventional classes.

The second hypothesis test indicated a significant interaction between learning model and geographic location ( $F = 3.768$ ,  $p < 0.05$ ). This suggests that the impact of PBL varied between urban and rural students.

Urban students in PBL classrooms performed significantly higher than those in conventional classes. Rural students also showed improvement with PBL, although the gain was lower compared to urban students. These findings indicate that PBL benefits all students, but geographical context shapes students' access, readiness, and learning support..

The results support previous findings showing that PBL enhances learning outcomes through problem-solving, inquiry, and collaboration (Wijayanti & Wulandari, 2016; Syamsinar & Dassa, 2023). In this study, PBL promoted deeper understanding because students engaged directly with contextual social issues relevant to their environment.

The interaction effect suggests that educational context matters. Urban students may have better access to learning resources, technology, and instructional support, thus amplifying the benefits of PBL. Rural students still benefit, but infrastructural limitations may reduce learning efficiency. This aligns with Zhang et al. (2023), who explain that learning outcomes are shaped not only by pedagogy but also by institutional and environmental support. These findings contribute to academic debate on equity in education. PBL is effective but requires adaptation based on school context to ensure equal outcomes..

## Conclusion

PBL significantly improves social studies learning outcomes compared to conventional learning. Geographic location moderates the effect, with urban students showing greater gains. However, PBL remains effective across contexts and is recommended for elementary social studies instruction. Schools—especially in rural areas—should strengthen infrastructure and teacher capacity to maximize PBL implementation.

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