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Implementation of Problem-Based Learning Model For Increase Understanding of Tactics Game Football

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ABSTRACT

This classroom action research aimed to improve students' understanding of football game tactics through the implementation of the Problem-Based Learning (PBL) model at SDN 1 Pojok Dampit. The background of this study was the low tactical comprehension of fifth-grade students, particularly in positioning, teamwork coordination, and decision-making during gameplay. Learning activities were previously dominated by technical drills, resulting in passive participation and limited tactical awareness. The study was conducted in two cycles, each consisting of planning, action, observation, and reflection stages. The research subjects were 30 fifth-grade students. Data were collected using tactical understanding tests, observation sheets of student learning activities, and teacher reflection notes. Quantitative descriptive analysis was applied to measure improvement across cycles. The results indicated a significant increase in students' tactical understanding after implementing PBL. In Cycle I, the average score reached 68 (sufficient category), with learning completeness improving from 33.3% in the pre-cycle to 56.7%. After refinement of learning strategies in Cycle II through structured discussions, mini-game simulations, and collective reflection, the average score increased to 82 (good category), with completeness reaching 83.3%. It can be concluded that the PBL model is effective in enhancing tactical game understanding in football, while also fostering collaboration, sportsmanship, and learning motivation in physical education settings.

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INTRODUCTION

Physical Education, Sports, and Health (PJOK) plays a strategic role in holistically developing students' physical, cognitive, social, and emotional aspects (Ospankulov et al., 2022; Subyakto et al., 2024). In the elementary school context, physical education (PE) is not only oriented towards improving motor skills but also serves as a vehicle for character development, teamwork, decision-making, and emotional regulation (Spees et al., 2019; Schlesselman-Tarango & Edgerton, 2023). One sport systematically taught in

elementary schools is football, a team game that integrates technical skills, tactical understanding, and team social dynamics (Munir et al., 2022).

However, football instruction in elementary schools is still dominated by a technique-centric approach. Students are primarily trained in basic skills such as passing, dribbling, and shooting, while their understanding of game tactics such as positioning, offensive and defensive transitions, and decision-making in game situations has not developed optimally (Gumantan, 2022; Fitrah et al., 2024). This situation impacts the quality of play during lessons and when students participate in internal school competitions.

Several studies show that weak tactical understanding directly impacts the effectiveness of team play and the ability to read game situations (Nidomuddin et al., 2023; Kristiyandaru, 2023). Students tend to play individually without tactical coordination, so the learning objectives of Physical Education (PJOK) which emphasize collaboration, sportsmanship, and adaptive decision-making are not optimally achieved. This issue indicates the need for innovative learning models that can simultaneously integrate technical and tactical aspects while encouraging students' cognitive engagement in football learning.

Research developments over the past decade have shown a paradigm shift in physical education (PJOK) learning from teacher-centered to student-centered learning (Rahman et al., 2022; Masgumelar & Mustafa, 2021). One approach that has seen significant growth is Problem-Based Learning (PBL), which places authentic problems as the starting point for learning (Rizkyanto, 2022; Bofosa et al., 2022).

PBL has been proven effective in improving critical thinking, problem-solving, and collaboration skills in various educational contexts (Abbasi et al., 2022; Kristiyandaru, 2023). In physical education, PBL encourages students to analyze game situations, discuss strategies, and evaluate tactical solutions collectively. This model enables students to develop a deeper conceptual understanding beyond mere repetition of techniques (Rahman et al., 2022).

Several studies from Scopus and SINTA show that integrating PBL into sports learning improves game sense and tactical awareness (Ospankulov et al., 2022; Gumantan, 2022). PBL has also been shown to increase learning motivation because students perceive the learning as relevant to the real-life game context (Abbasi et al., 2022).

In elementary school football, a problem-based approach can take the form of mini-game scenarios with specific conditions, for example: "How to create space when the opponent is defending tightly?" or "What strategy can be used to maintain a lead?" Through group discussions and reflection, students are trained to develop situational analysis and tactical decision-making skills (Fitrah et al., 2024).

Recent studies in sports education also show that a problem-based learning approach is positively correlated with increased cognitive engagement and tactical performance (Subyakto et al., 2024; Munir et al., 2022). This confirms that developing tactical understanding is inseparable from appropriate pedagogical strategies.

Although various studies have examined the effectiveness of PBL in general education and physical education, several significant research gaps remain. First, most PBL studies in physical education focus on improving motivation or cognitive learning outcomes in general, rather than specifically on understanding football tactics at the elementary school level (Gumantan, 2022; Rahman et al., 2022). Second, research empirically measuring improvements in tactical game understanding through structured PBL intervention designs in Indonesian elementary school contexts is still limited (Fitrah et al., 2024). However, the characteristics of elementary school students, who are in the concrete operational development phase, require a contextual and problem-solving approach to effectively understand tactical concepts. Third, the integration of PBL in football learning is rarely linked to game performance indicators, such as positioning accuracy, decision-making speed, and teamwork coordination (Nidomuddin et al., 2023). Thus, there is an urgent need for research that systematically tests the implementation of Problem-Based Learning (PBL) in improving the understanding of football game tactics in elementary school students, particularly at SDN 1 Pojok Dampit. This research is crucial for strengthening the empirical basis of innovative learning models in the context of Indonesian Physical Education (PJOK).

This study aims to analyze the implementation of the Problem-Based Learning model in improving the understanding of football game tactics in students at SDN 1 Pojok Dampit. Specifically, this study examines: (1) Improved understanding of game tactical concepts after implementing PBL, (2) Changes in the quality of students' decision-making in game situations, and (3) Improved coordination and teamwork in learning mini-games. The novelty of this research lies in: (1) The systematic integration of PBL with indicators of tactical game understanding in an elementary school context; (2) Measuring the improvement in tactical understanding based on observations of actual game performance; (3) Empirical contribution to the development of a student-centered learning model for football learning in elementary school physical education (PJOK).

This research is expected to provide theoretical contributions to the development of problem-based sports pedagogy and practical contributions for physical education (PJOK) teachers in designing football lessons that are more meaningful, contextual, and oriented toward developing students' tactical thinking skills.

Thus, the implementation of PBL is not only a methodological innovation but also a transformational strategy for improving the quality of football learning in elementary schools, in line with the 21st-century educational paradigm that emphasizes critical thinking, collaboration, communication, and creativity.

METHODS

This research used a Classroom Action Research (CAR) approach with a spiral cycle model consisting of planning, action, observation, and reflection, as developed by Kemmis & McTaggart and adapted to the context of modern Physical Education (PJOK) (Hasrion et al., 2020; Kristiyandaru, 2023). This approach was chosen because it is effective in improving direct and contextual learning practices in the classroom (Rahman

et al., 2022; Masgumelar & Mustafa, 2021). CAR is considered relevant for the implementation of Problem-Based Learning (PBL) in physical education because it allows teachers to continuously reflect on improving students' tactical understanding (Gumantan, 2022; Rizkyanto, 2022). The subjects were 28 fifth-grade students of SDN 1 Pojok Dampit in the 2025/2026 academic year. The research was conducted in two cycles, each consisting of two meetings. Each cycle implemented a problem-based learning scenario through a football mini-game with specific tactical situations (Bofosa et al., 2022; Fitrah et al., 2024).

Research Stages

Planning; In the planning stage, researchers developed a PBL-based lesson plan containing authentic problem scenarios in football games, such as strategies for creating attacking space and maintaining a defensive formation. The tactical game understanding observation instrument was developed based on indicators of decision-making, positioning, support play, and teamwork coordination (Ospankulov et al., 2022; Nidomuddin et al., 2023). Two physical education experts consulted on the instrument's validity.

Action; The action stage implemented PBL through the following steps: (1) orientation to the game problem, (2) small group discussions, (3) exploration of strategies in the mini-game, (4) presentation of solutions, and (5) joint reflection. The teacher acts as a facilitator, not a source of information (Abbasi et al., 2022; Rahman et al., 2022). This approach aims to increase students' cognitive engagement and tactical awareness (Subyakto et al., 2024).

Observation; Observations were conducted using a game performance assessment sheet based on a 1–4 scale for tactical indicators. Additionally, video documentation was used to increase the objectivity of the assessment (Munir et al., 2022). Observations also recorded active participation, team communication, and decision-making skills in real-life game situations (Schlesselman-Tarango & Edgerton, 2023).

Reflection; The reflection stage was conducted with the teacher and students to analyze the results of the actions. Reflection aims to identify improvements and obstacles in learning and design improvements for the next cycle (Hasrion et al., 2020; Kristiyandaru, 2023).

Data analysis used quantitative descriptive techniques, calculating the percentage increase in the average tactical understanding score between cycles (Gumantan, 2022). The success of the intervention was determined when ≥75% of students achieved the "good" category (≥3 on a scale of 4).

Table 1.
Classroom Action Research Research Design

Stage	Main Activities	Measurement Indicators	Supporting Literature
Planning	Preparing PBL lesson plans and tactical instruments	Instrument Validity	Hasrion et al., 2020; Ospankulov et al., 2022
Action	Implementing problem-based mini-games	Tactical Decisions & Positioning	Abbasi et al., 2022; Bofosa et al., 2022
Observations	Performance observation and video documentation	Teamwork & Support Play	Munir et al., 2022; Nidomuddin et al., 2023
Reflections	Result evaluation and cycle improvement	Score Improvement ≥75%	Kristiyandaru, 2023; Rahman et al., 2022

This method is conceptually and empirically supported by research showing that PBL integration in sports learning effectively improves students' tactical game understanding, collaboration, and critical thinking skills (Abbasi et al., 2022; Subyakto et al., 2024; Fitrah et al., 2024). With a reflective cycle design, this study ensures that PBL implementation is not only theoretical but also tested in real-life learning practices in elementary schools.

RESULTS AND DISCUSSION

Result

Initial Data (Pre-Cycle)

Initial data was obtained before the implementation of Problem-Based Learning (PBL). The number of students was 30, with a Minimum Completion Criteria (KKM) of 70. The results of the football game tactical understanding test showed that most students had not yet achieved the completion standard. This finding aligns with research by Gumantan (2022) and Fitrah et al. (2024), which states that technique-centric learning tends to result in low tactical awareness.

Table 2.
Pre-Cycle Results of Football Game Tactical Understanding

Category	Value Range	Number of Students	Percentage
Excellent	85–100	2	6,7%
Good	70–84	8	26,7%
Fair	55–69	12	40%
Poor	<55	8	26,7%
Total		**30**	**100%**

Only 10 students (33.3%) achieved learning completion, while 20 students (66.7%) did not. This condition indicates low decision-making, positioning, and teamwork skills, as explained by Ospankulov et al. (2022), who stated that tactical understanding requires a learning approach based on real-life game contexts.

Cycle I Results

After implementing PBL through simple game scenarios (problem-based mini-games), there was a significant increase in students' tactical understanding. PBL encourages group discussions and analysis of game situations, which, according to Abbasi et al. (2022), effectively enhances critical thinking and game sense.

Table 2.
Results of Cycle I

Category	Value Range	Number of Students	Percentage
Excellent	85–100	5	16,7%
Good	70–84	12	40%
Fair	55–69	9	30%
Poor	<55	4	13,3%
Total		**30**	**100%**

Learning completion increased to 17 students (56.7%), while 13 students (43.3%) were incomplete. This represents a 23.4% increase from the initial level (33.3% → 56.7%). This improvement supports the findings of Rahman et al. (2022) and

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Kristiyandaru (2023) that the PBL model in Physical Education (PJOK) can gradually increase cognitive engagement and tactical understanding. However, reflections indicated that some students still struggled with consistent decision-making during offensive and defensive transitions.

Cycle II Results

Strategy improvements were implemented through more structured group discussions, mini-game simulations with a variety of tactical situations, and collective reflection after the game. This approach aligns with research by Subyakto et al. (2024), which states that systematic reflection strengthens conceptual understanding in physical education.

Table 3.
Cycle II Results

Category	Value Range	Number of Students	Percentage
Excellent	85–100	10	33,3%
Good	70–84	15	50%
Fair	55–69	5	16,7%
Poor	<55	0	0%
Total		**30**	**100%**

Learning completion increased significantly to 25 students (83.3%), while only 5 students (16.7%) did not reach the Minimum Competency (KKM). No students were categorized as "poor."

The increase from pre-cycle to cycle II reached 50% (33.3% → 83.3%). Empirically, these results support research by Bofosa et al. (2022), Nidomuddin et al. (2023), and Munir et al. (2022) that problem-based learning in a real-life game context can improve tactical performance, teamwork coordination, and decision-making ability.

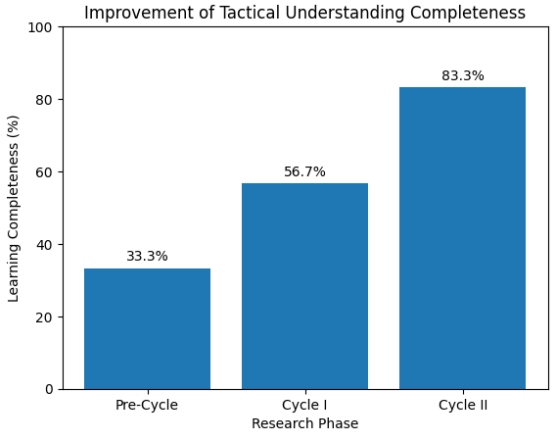

Figure 1.
Learning Completion Improvement Diagram

Comparative Analysis

Progressive improvement from cycle I to cycle II demonstrates the effectiveness of PBL as a student-centered learning model in Physical Education (PJOK) (Masgumelar & Mustafa, 2021). The implementation of authentic problem scenarios strengthens students' ability to read the game, anticipate opponent movements, and collaborate as a team (Schlesselman-Tarango & Edgerton, 2023).

Conceptually, these results confirm that tactical understanding does not develop solely through repetitive technical practice, but through problematic experiences that require analysis and reflection (Abbasi et al., 2022; Ospankulov et al., 2022). Thus, this study provides empirical evidence that PBL is effective in improving elementary school students' understanding of football tactics.

Discussion

The research results show that the systematic implementation of Problem-Based Learning (PBL) in football instruction at SDN 1 Pojok Dampit significantly improved students' understanding of game tactics. The increase in learning completion from 33.3% in the pre-cycle to 83.3% in the second cycle indicates that problem-based pedagogical interventions are effective in developing tactical game understanding. This finding aligns with research by Ospankulov et al. (2022), which states that a contextual problem-based learning approach improves game sense and the ability to read game situations.

Conceptually, tactical understanding in football relies not only on mastery of basic techniques but also on cognitive abilities such as decision-making, anticipation, spatial awareness, and teamwork coordination (Munir et al., 2022; Nidomuddin et al., 2023). In conventional learning contexts oriented toward technical drills, students tend to be cognitively passive and less engaged in analyzing game situations (Gumantan, 2022). Therefore, PBL presents itself as a student-centered learning approach that positions students as active problem solvers (Rahman et al., 2022). Significant improvements in cycle I indicate that when students are presented with simple problem-based game scenarios, they begin to develop critical and reflective thinking skills. Abbasi et al. (2022) explain that PBL stimulates higher-order thinking skills because students are required to analyze authentic problems and find solutions collaboratively. In this study, small group discussions before mini games were shown to improve team coordination and communication, which, according to Schlesselman Tarango & Edgerton (2023), are important indicators of developing social sports competency. However, improvements in cycle I did not reach maximum success because some students still experienced difficulty in consistent decision-making during game transitions. This is understandable, as developing tactical awareness requires an adaptive process and repeated playing experiences (Fitrah et al., 2024). Kristiyandaru (2023) emphasized that problem-based learning requires a continuous cycle of reflection to deeply internalize tactical concepts.

Strategy improvements in cycle II through more structured discussions, mini-game variations, and collective reflection resulted in more optimal improvements. These results support the findings of Bofosa et al. (2022) that strengthening reflection in PBL accelerates the process of conceptualizing game tactics. When students are given the opportunity to evaluate positional and strategic errors, they better understand the relationship between individual decisions and team effectiveness.

Empirically, the increase from 33.3% to 83.3% demonstrates a strong pedagogical transformation effect. Subyakto et al. (2024) found in their research that game-based learning improves tactical performance by more than 40% compared to traditional

methods. The results of this study even showed an increase of 50%, indicating that the PBL approach is highly relevant for elementary school students.

From a constructivist perspective, PBL allows students to build understanding through direct experience and social interaction (Masgumelar & Mustafa, 2021). Students not only receive teacher instructions but also construct tactical meaning through problem-solving in real-life game situations. This reinforces the experiential learning theory, which states that direct experience improves knowledge retention and transfer (Rahman et al., 2022). Furthermore, the increase in the "Very Good" category from 6.7% to 33.3% indicates that PBL not only improves students in the middle category but also encourages high-achieving students to achieve higher tactical performance. Nidomuddin et al. (2023) emphasized that tactical intelligence develops optimally when students are trained in varied and challenging game situations. In addition to cognitive aspects, the results of this study also showed improvements in teamwork and communication. Munir et al. (2022) explained that football, as a team game, demands effective coordination and communication. PBL, based on group discussions, strengthens these soft skills. Thus, the implementation of PBL not only impacts cognitive aspects but also socio-emotional ones, in line with the holistic goals of Physical Education (PJOK) (Ospankulov et al., 2022).

The findings of this study also support the results of international studies that suggest that problem-based learning models are more effective than drill approaches in improving tactical understanding (Abbasi et al., 2022; Bofosa et al., 2022). In the Indonesian context, research by Gumantan (2022) and Fitrah et al. (2024) indicates that pedagogical innovation in Physical Education (PJOK) still needs to be expanded, particularly in developing tactical aspects of the game.

Therefore, this study fills an empirical gap regarding the implementation of Problem-Based Learning (PBL) in elementary school football instruction. The results indicate that a problem-based approach can be a strategic solution for improving the quality of tactical learning. Practical implications: Physical Education (PJOK) teachers need to integrate authentic game scenarios, reflective discussions, and performance-based evaluations into every football lesson. This approach aligns with the demands of 21st-century education, which emphasizes critical thinking, collaboration, communication, and creativity (Rahman et al., 2022). Overall, the implementation of PBL has proven effective in improving students' understanding of football tactics at SDN 1 Pojok Dampit. Significant improvements in each cycle indicate that problem-based pedagogical transformation can improve the quality of PJOK learning sustainably and based on empirical evidence.

CONCLUSION

The implementation of the Problem-Based Learning (PBL) model has proven effective in improving students' understanding of football tactics at SDN 1 Pojok Dampit. In the pre-cycle phase, the learning completion rate was only 33.3% (10 out of 30 students), indicating students' low ability to understand attacking, defensive, and

decision-making strategies in the game. Previous technique-centric learning failed to encourage cognitive engagement and reflective discussion.

After implementing PBL in Cycle I, the completion rate increased to 56.7% (17 students), a 23.4% increase. Students began to actively engage in discussions, were able to identify simple attack and defense patterns, and demonstrated increased participation in problem-based mini-games.

Strategy improvements in Cycle II through more varied game simulations, collaborative reflection, and clear role assignments resulted in a significant increase of 83.3% (25 students), a total increase of 50% from the initial level. There were no longer any students in the "poor" category.

Conceptually, these findings confirm that PBL effectively develops tactical awareness, critical thinking, and collaboration in physical education (PJOK) learning. Therefore, PBL is worthy of recommendation as an innovative strategy for improving the quality of team games learning in elementary schools.

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