



Efforts To Improve Dominant Movement Learning Outcomes Through Active Learning

Ahmad Rifa'i^{1A-E*}, Lazuardy Akbar Fauzan^{2B-D}, Suadmaji^{3B-D}, Arief Lukman^{4B-D}, Ahmad Rifa'i^{5B-D}

^{1,2} Universitas Lambung Mangkurat, Kalimantan Selatan, Indonesia

^{3,4,5} SDN 1 Landasan Ulin Selatan, Banjarbaru, Indonesia

rifaigg19@gmail.com^{1*}, lazuardy.fauzan@ulm.ac.id², suadmajiarjuna@gmail.com³,

arieflukman9314@gmail.com⁴, rifaiahmad96132@gmail.com⁵

ABSTRACT

This study aims to improve the learning outcomes of dominant movement combinations through the application of active learning models based on Inquiry Learning and Problem-Based Learning (PBL) in third-grade students of SD Negeri 1 Landasan Ulin Selatan. The research used the Classroom Action Research (CAR) method, conducted in two cycles, with each cycle consisting of planning, action implementation, observation, and reflection stages. The research subjects consisted of 28 third-grade students. Data collection techniques were carried out through observation, tests, and documentation. Data were then analysed using comparative descriptive analysis by comparing pre-cycle, Cycle I, and Cycle II results. The results clearly show that active learning models significantly improved student learning outcomes. In the pre-cycle stage, only 10 students (36%) achieved learning completeness with an average score of 65. After the application of the Inquiry Learning model in Cycle I, the number of students who achieved completeness increased to 19 students (68%). Furthermore, in Cycle II, through the application of the Problem-Based Learning (PBL) model, the number of students who achieved completeness increased to 26 students (93%). Besides improving learning outcomes in the psychomotor aspect, the application of active learning also improved students' affective and cognitive aspects, such as self-confidence, discipline, cooperation, and the ability to understand movement sequences. Thus, the application of active learning models based on Inquiry Learning and Problem-Based Learning (PBL) has been proven effective in improving dominant movement combination learning outcomes in third-grade students of SD Negeri 1 Landasan Ulin Selatan.

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INTRODUCTION

Physical Education, Sports, and Health (PJOK) is one of the subjects that plays an important role in developing students' physical abilities, movement skills, health, and social attitudes. At the elementary school level, PJOK serves as the main foundation in forming basic movement abilities that will support students' physical activities at subsequent



developmental stages. One of the important materials in PJOK learning at elementary schools is the dominant movement combination. The dominant movement combination includes supporting movements, balance, transfer, push, float, landing, and turning. This material aims to train students' body coordination, balance, agility, and courage in performing various movement activities. Ideally, learning dominant movement combinations should be carried out actively, enjoyably, and student-centred so that students are able to understand and practice movements sequentially and correctly. However, based on preliminary observations (pre-cycle) conducted in Class III of SDN 1 Landasan Ulin Selatan, several problems were found in the learning process. Most students still had difficulty performing dominant movement combinations sequentially and coordinately. The movements performed were still disjointed, and students lacked confidence when practising the movements. In addition, students' active participation in learning was still low because the learning process tended to be teacher-centred. Teachers mostly used lecture and simple demonstration methods so that students had limited opportunities to explore their movement abilities independently or in groups. These problems resulted in low student learning outcomes, both from the psychomotor, affective, and cognitive aspects. The low movement skills of students indicate that the learning process has not been running optimally. If this condition is not addressed immediately, it can hinder students' motor development and reduce their interest in PJOK learning.

Active learning is defined as an educational method used to encourage students' active contribution during the learning process, with motivation given to all students (Tindakan et al., 2026). Various previous studies show that the use of active learning models can improve students' movement skills and participation in PJOK learning. Research conducted by Suryadi (2022) shows that the application of active learning models is able to improve elementary school students' basic movement learning outcomes through direct involvement in learning activities. Research by Rahmawati and Nugroho (2023) also explains that the Problem-Based Learning (PBL) model can improve students' courage, cooperation, and critical thinking abilities in PJOK learning. In addition, Putra et al.'s (2024) research shows that activity-based learning provides a more enjoyable learning experience so that students become more active and confident in performing movements. Nevertheless, most previous research has focused more on improving certain basic movement learning outcomes, such as locomotor or large ball games, while research on improving dominant movement combination abilities in elementary school students is still limited. In addition, the application of active learning models to dominant movement combination material in Class III elementary schools has not been extensively examined in depth. Therefore, research that specifically discusses the application of active learning models in improving elementary school students' dominant movement combination abilities is needed. Based on these problems, this research aims to improve dominant movement combination learning outcomes through the application of activity-based active learning models for Class III students of SD Negeri 1 Landasan Ulin Selatan. This research is expected to provide a more active, enjoyable, and meaningful learning experience for students so that they are able to

perform dominant movement combinations sequentially, correctly, and confidently. The novelty of this research lies in the application of activity-based active learning models to dominant movement combination material in Class III elementary schools, which is focused not only on improving movement skills, but also on improving students' courage, active participation, and cooperation during the PJOK learning process.

Effective PJOK learning not only emphasises mastery of movement skills, but must also pay attention to students' overall learning process (Pelajaran & Negeri, 2026). PJOK learning not only emphasises motor skill aspects, but also character development such as discipline, responsibility, cooperation, confidence, and sportsmanship. Learning is a process of achieving a person from not knowing to becoming knowledgeable through experiences obtained both in the surrounding environment and in the school environment (Student et al., 2024). Learning is a process of behavioural change that occurs in individuals as a result of experience and interaction with the environment. This change includes aspects of knowledge (cognitive), attitude (affective), and skills (psychomotor). In the context of education, learning is not only oriented towards outcomes, but also on the process experienced by students during learning. Learning can also be interpreted as a conscious effort made by individuals to obtain changes in themselves comprehensively. These changes do not occur instantly, but through stages of practice, observation, understanding, and continuous experience. The essence of learning is a person's effort, either alone or together and assisted by others, to obtain new behaviour (Hartono et al., 2023). The essence of learning shows that learning is a process carried out consciously to obtain changes in a person. This change can be in the form of new knowledge, skills, attitudes, habits, or ways of thinking of individuals. In the learning process, a person not only receives information but also processes, understands, and uses that information in daily life. According to Saripudin (Adzhar, 2025), the essence of learning is usually understood as the method used by teachers to help students acquire knowledge and skills. The learning process can be considered effective if it is able to create a conducive learning environment, provide equal access to independence for students in understanding a concept, and encourage active involvement in learning activities. Thus, learning becomes more meaningful and not stagnant in the transfer of knowledge from the teacher to students.

Learning is a series of activities carried out by students to achieve certain learning outcomes under the guidance, direction, and motivation of a teacher (Media & Bahasa, 2022). Effective learning must be able to involve students actively so that they can build their own knowledge. Active learning is defined as a method in which various activities are carried out by students to explore various information and knowledge during the learning process in the classroom (Humam et al., 2025). Active learning is an educational approach that encourages students to participate actively in the learning process, with motivation given to all students. In this approach, students carry out various activities, such as listening actively to understand topics, writing short responses to lessons, and working on group projects to apply their knowledge to real-world situations. This method improves students' understanding and teaches them to think critically and creatively to

solve real-world problems. Students are seen as actively involved in learning. From their physical, mental, emotional, and intellectual involvement, as well as their strong desire to complete tasks quickly. In addition, students obtain direct knowledge through practice, group collaboration, and the use of various relevant learning bases. In addition, students participate actively in the learning process by asking questions, answering, solving problems, and interacting equally with teachers and peers. This creates a supportive learning environment. Learning outcomes are behavioural changes after going through teaching and learning that include cognitive, affective, and psychomotor domains (Gulo, 2022). Learning outcomes can be known by conducting certain assessments that show how far the assessment criteria have been achieved. This assessment is carried out by giving tests. Learning outcomes are used as an indicator of the success of a learning process. In PJOK learning, learning outcomes place more emphasis on the psychomotor aspect, namely skills in performing movements, but are still supported by students' conceptual understanding and attitudes. According to Wahyuni & Prasetyo (2022), student learning outcomes can improve if learning is carried out actively and involves direct experience. Meanwhile, Hidayat et al. (2024) state that the use of innovative learning models, such as Problem Based Learning, can significantly improve student learning outcomes.

Based on preliminary observation results and previous research studies, the research question of this study is: "Can the application of active learning models based on Inquiry Learning and Problem-Based Learning (PBL) improve dominant movement combination learning outcomes in Class III students of SD Negeri 1 Landasan Ulin Selatan?" The objectives of this research are to improve students' dominant movement combination learning outcomes through the application of active learning models based on Inquiry Learning and Problem-Based Learning (PBL), so that students become more active, confident, able to cooperate, and can perform movements sequentially and correctly. The novelty of this research lies in the application of a combination of Inquiry Learning and Problem-Based Learning (PBL) models in dominant movement combination learning for Class III elementary school students, which is not only focused on improving psychomotor aspects but also on developing students' affective and cognitive aspects through active, collaborative, and direct experience-based learning. The action research hypothesis of this study is: "The application of active learning models based on Inquiry Learning and Problem-Based Learning (PBL) can improve dominant movement combination learning outcomes in Class III students of SD Negeri 1 Landasan Ulin Selatan.

METHODS

This research uses the Classroom Action Research (CAR) type, which is carried out collaboratively and participatively. Classroom Action Research (CAR) can be defined as an intrinsic inquiry process that is controlled, cyclical, and self-reflective, carried out by a teacher/prospective teacher for the purpose of improving systems, work methods, processes, content, skills, or learning situations (Firdaus et al., 2023). Classroom action

research was chosen because it aims to improve the learning process and improve student learning outcomes on dominant movement combination material through the application of active learning models based on Inquiry Learning and Problem-Based Learning (PBL). The research was conducted at SDN 1 Landasan Ulin Selatan on Class III students in the even semester of the 2025/2026 academic year, totalling 28 students.

The research was carried out in two cycles, where each cycle consists of four stages, namely planning, acting, observing, and reflecting. Before implementing the action, a pre-cycle stage was carried out to determine the initial conditions of learning. At this stage, the researcher conducted observations on the PJOK learning process, identified the problems that arose, and collected initial data on student learning outcomes. The observation results showed that learning was still teacher-centred, students were less active, and dominant movement combination learning outcomes were still low.

In Cycle I, the researcher applied the Inquiry Learning model. The Inquiry Learning model is a learning model that emphasises the process of searching for and discovering knowledge independently through observing, asking questions, trying, and concluding activities. Inquiry-Based Learning (IBL) will encourage students to be actively involved in the learning activity process through discovery, experimentation, and independent reflection (Indrayani et al., 2024). In this model, students are actively involved in discovering learning concepts through direct experience. According to Contoh & Di (2024), it is a pedagogical approach that emphasises students' active involvement in the learning process. This approach encourages students to be intensively involved in investigating, exploring problems, and constructing their own knowledge, which significantly influences understanding and information processing. The planning stage was carried out by compiling teaching modules, preparing learning media in the form of dominant movement videos, compiling observation sheets, movement skill assessment rubrics, and preparing learning scenarios. In the implementation stage, students observe movement videos, practice movements individually, and then carry out a simple reflection on learning activities. The observation stage was carried out to observe student activities, courage, cooperation, and movement skills during learning. Furthermore, at the reflection stage, an evaluation of learning outcomes was carried out to determine the shortcomings that need to be improved in the next cycle.

In Cycle II, learning was improved by applying the Problem Based Learning (PBL) model. Problem Based Learning (PBL) is a learning model that uses real problems as the basis of learning to train students' critical thinking and problem-solving abilities. According to Hosnan (2014: 295), 2022), problem based learning (PBL) is a learning model that uses a learning approach to an authentic problem, so that students can construct their own knowledge, develop higher skills, make students more independent and make students confident. Improvements were made through the formation of heterogeneous study groups, the use of training zones, and the provision of movement problems that had to be solved in groups. Students practised dominant movement combinations in groups with the teacher as a facilitator. At this stage, students appeared more active, confident, and able to work together in completing the movement tasks given.

Data collection techniques in this research used observation, tests, and documentation. Observation was used to observe student activities during learning, including aspects of activeness, discipline, cooperation, courage, and movement skills. Tests were used to measure student learning outcomes in performing dominant movement combinations. Meanwhile, documentation was used to obtain data in the form of photos of learning activities, grade lists, and notes on action implementation.

According to Suharsimi Arikunto (Zayrin et al., 2025), data collection instruments are tools used by researchers to make the data collection process easier and more organised. This opinion is supported by Sumadi Suryabrata, who explains that instruments are tools for recording various conditions or activities related to a person's psychological aspects, usually in the form of numbers or quantitative data. The research instruments used include teaching modules, student activity observation sheets, performance assessment rubrics, and documentation. Rubrics were used to assess students' abilities in performing dominant movement combinations with an assessment scale of 1-4 based on aspects of movement accuracy, coordination, courage, and cooperation.

The data analysis technique used was comparative descriptive analysis, namely by comparing pre-cycle, Cycle I, and Cycle II results. Observation data were analysed descriptively to determine the increase in student activities during learning, while test data were analysed based on average scores and percentages of student learning completeness. The research was declared successful if at least 80% of students achieved learning completeness scores in accordance with the KKM (Minimum Completeness Criteria) that had been set, and student activities reached the good category.

RESULTS AND DISCUSSION

Result

This study aimed to improve dominant movement combination learning outcomes through the implementation of Active Learning models in third-grade students at SDN 1 Landasan Ulin Selatan. The research was conducted in two action cycles preceded by a pre-cycle observation stage. Learning outcomes were assessed through psychomotor performance tests, cognitive understanding, and affective observations.

Pre-Cycle Results

The initial observation revealed that the learning process was still teacher-centred, with limited student participation in practical movement activities. Students experienced difficulties in performing dominant movement combinations correctly and sequentially. Consequently, learning outcomes were relatively low.

Table 1.

Pre-Cycle Learning Outcomes

No	Description	Results
1	Number of Students	28
2	Students Achieving Mastery	10
3	Students Not Achieving Mastery	18
4	Average Score	65
5	Mastery Percentage	36%

The data indicate that only 10 out of 28 students achieved the minimum mastery criterion. The class average score was 65, and the mastery percentage reached only 36%. These findings demonstrated that improvements in instructional strategies were necessary.

Cycle I Results

After implementing Active Learning strategies during Cycle I, students showed greater participation in learning activities. Group discussions, demonstrations, and guided movement practices encouraged students to become more actively involved.

Table 2.
 Cycle I Learning Outcomes by Category

Category	Number of Students	Percentage
Good	3	11%
Fair	16	57%
Poor	9	32%
Total	28	100%

Student mastery achievement in Cycle I is presented in Table 3.

Table 3.
 Learning Mastery in Cycle I

Description	Results
Students Achieving Mastery	19
Students Not Achieving Mastery	9
Mastery Percentage	68%

The findings showed a substantial increase from the pre-cycle stage. Student mastery improved from 36% to 68%, indicating that the Active Learning approach positively influenced students' learning outcomes. However, the predetermined success criterion of at least 80% mastery had not yet been achieved.

Cycle II Results

Further improvements were made during Cycle II by optimising inquiry-based activities, collaborative learning, and movement problem-solving tasks. Students became more confident and demonstrated better movement coordination.

Table 4.
 Cycle II Learning Outcomes by Category

Category	Number of Students	Percentage
Very Good	1	4%
Good	19	68%
Fair	6	21%
Poor	2	7%
Total	28	100%

Student mastery achievement in Cycle II is shown in Table 5.

Table 5.
 Learning Mastery in Cycle II

Description	Results
Students Achieving Mastery	26
Students Not Achieving Mastery	2
Mastery Percentage	93%

The results demonstrated a very significant improvement compared to the previous cycle. Most students were able to perform dominant movement combinations correctly, sequentially, and confidently. The mastery percentage increased to 93%, exceeding the predetermined success criterion.

Comparison of Learning Mastery Across Research Stages

Table 6.
 Comparison of Learning Mastery

Stage	Students Achieving Mastery	Percentage
Pre-Cycle	10	36%
Cycle I	19	68%
Cycle II	26	93%

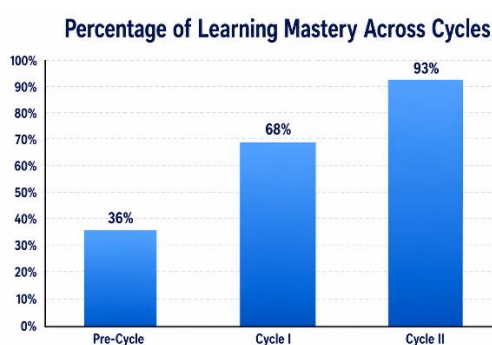


Figure 1.

Percentage of Learning Mastery Across Cycles

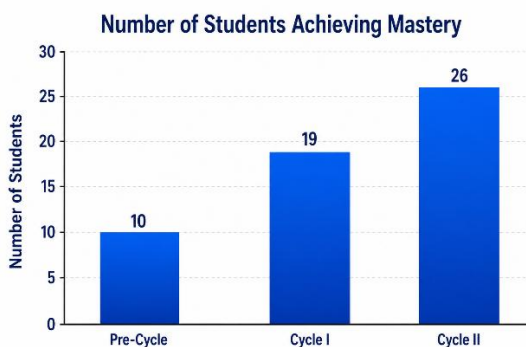


Figure 2.

Number of Students Achieving Mastery

The implementation of Active Learning significantly improved students' learning outcomes in the dominant movement combination material. The mastery percentage increased from 36% in the pre-cycle stage to 68% in Cycle I and further increased to 93% in Cycle II. In addition to psychomotor improvements, students demonstrated better cognitive understanding of movement sequences and enhanced affective characteristics such as confidence, discipline, cooperation, and active participation during learning activities.

These findings indicate that Active Learning approaches incorporating Inquiry Learning and Problem-Based Learning (PBL) provide meaningful learning experiences and effectively improve dominant movement learning outcomes among third-grade students at SDN 1 Landasan Ulin Selatan.

Discussion

The findings of this classroom action research demonstrate that the implementation of Active Learning through the integration of Inquiry Learning and Problem-Based Learning (PBL) significantly improved dominant movement combination learning outcomes among third-grade students at SDN 1 Landasan Ulin Selatan. The improvement was evident from the increase in learning mastery from 36% in the pre-cycle stage to 68% in Cycle I and finally 93% in Cycle II. These results indicate that active learning strategies can effectively address learning difficulties in Physical Education, Sports, and Health (PJOK), particularly in developing students' fundamental movement skills.

The low achievement observed during the pre-cycle stage can be attributed to the predominance of teacher-centred instruction. In conventional physical education settings, students often become passive recipients of information, resulting in limited opportunities to explore, practice, and refine motor skills independently. Contemporary educational theories emphasise that motor learning develops optimally when students actively engage in meaningful movement experiences rather than merely receiving verbal explanations. Studies conducted by Casey and Goodyear (2015), Dyson (2017), and Kirk (2019) revealed that active participation is a key factor influencing children's motor competence and physical literacy development. When students are given limited opportunities to practice movement combinations directly, their psychomotor performance tends to remain below expected standards.

The pre-cycle findings also showed that many students lacked confidence and experienced difficulties performing dominant movement combinations sequentially and correctly. This condition is consistent with research by Lubans et al. (2016), Barnett et al. (2019), and Robinson et al. (2020), who reported that children with low motor competence frequently exhibit lower self-confidence and reduced participation in physical activity. The inability to perform movement patterns successfully often leads to hesitation and dependence on teacher instructions. Therefore, instructional interventions that encourage active exploration and repeated movement practice become essential in elementary school physical education.

The implementation of Inquiry Learning in Cycle I contributed significantly to improving students' learning engagement. Inquiry Learning emphasises observation, questioning, exploration, experimentation, and reflection. Through these processes, students become active participants in constructing knowledge and understanding movement concepts. The increase in learning mastery from 36% to 68% demonstrates that inquiry-based activities successfully enhanced students' involvement in the learning process. This finding aligns with previous studies by Hmelo-Silver (2017), Aditia et al. (2021), and Wibowo and Setiawan (2022), which found that inquiry-oriented physical education learning improves movement understanding, problem-solving abilities, and student participation.

From a motor learning perspective, Inquiry Learning supports the principles of experiential learning proposed by Kolb, where knowledge is developed through direct experience and reflection. During Cycle I, students were encouraged to observe

movement demonstrations, identify movement sequences, and practice independently. Such activities facilitate neural adaptation and motor coordination development. According to Schmidt and Lee (2019), repeated movement exploration strengthens motor programs stored in memory, thereby improving movement accuracy and consistency. This theoretical explanation supports the observed increase in student performance during Cycle I.

Nevertheless, the mastery level achieved in Cycle I had not yet reached the predetermined success criterion. Several challenges remained, including limited group collaboration and insufficient confidence among some students. These findings suggest that although Inquiry Learning successfully increased individual participation, additional instructional strategies were needed to foster social interaction and collaborative problem-solving. Similar observations were reported by Fernández-Río et al. (2017) and Casey et al. (2020), who emphasised that active learning approaches become more effective when combined with cooperative learning elements that encourage peer interaction and mutual support.

To address these limitations, Cycle II incorporated Problem-Based Learning (PBL). PBL places students in authentic learning situations where they collaboratively solve problems and develop practical solutions. In the context of dominant movement learning, students worked together to analyse movement tasks, identify difficulties, and determine appropriate movement strategies. This approach transformed the learning environment into one that was more interactive, student-centred, and engaging.

The substantial increase in learning mastery from 68% to 93% in Cycle II demonstrates the effectiveness of PBL in enhancing both learning outcomes and student participation. These findings corroborate studies conducted by Sulaiman et al. (2021), Pratama and Hidayat (2024), Fauzi (2021), and Nurhayati (2022), which reported that PBL significantly improves learning achievement, critical thinking skills, and self-confidence in physical education settings. By confronting real movement challenges, students become more motivated to participate actively and apply knowledge in practical situations.

From a constructivist learning perspective, PBL facilitates meaningful learning because students actively construct understanding through social interaction and problem-solving experiences. Vygotsky's social constructivism theory highlights the importance of collaborative learning environments in promoting cognitive and motor development. Through group discussions and cooperative movement tasks, students receive feedback from peers, compare movement strategies, and develop more effective performance techniques. This process likely contributed to the remarkable improvement observed in Cycle II.

The findings also demonstrate that active learning positively influenced students' psychomotor development. Dominant movement combinations require coordination, balance, agility, spatial awareness, and movement sequencing abilities. The repeated practice opportunities provided through Inquiry Learning and PBL enabled students to refine these motor components systematically. Research by Logan et al. (2018), Goodway

et al. (2021), and Hulteen et al. (2022) indicates that structured active learning experiences significantly enhance children's fundamental movement skills and motor competence. The improvement observed in this study reflects the successful development of these essential movement capacities.

Beyond psychomotor outcomes, the intervention positively influenced students' affective development. Observational data indicated improvements in confidence, cooperation, discipline, responsibility, and willingness to participate. These findings support the notion that physical education serves not only as a medium for physical skill development but also as a vehicle for character education. Research by Bailey et al. (2018), Whitehead (2019), and Opstoel et al. (2020) demonstrated that active and collaborative learning environments contribute significantly to the development of social-emotional competencies and positive character traits among school-aged children.

The increase in students' confidence observed during Cycle II deserves particular attention. Self-confidence plays a crucial role in children's willingness to attempt new movements and engage in physical activities. According to Bandura's self-efficacy theory, successful experiences strengthen individuals' beliefs in their capabilities. Through repeated success in solving movement challenges and receiving positive peer feedback, students gradually developed greater confidence in their abilities. Similar findings have been reported by Ntoumanis et al. (2021) and Beni et al. (2022), who found that active learning environments enhance students' self-efficacy and intrinsic motivation.

Overall, the comparative analysis across research cycles confirms that active learning effectively addressed the initial learning problems experienced by students. The consistent increase in learning mastery from 36% in the pre-cycle to 68% in Cycle I, and finally 93% in Cycle II, demonstrates the effectiveness of combining Inquiry Learning and Problem-Based Learning in elementary school physical education. These findings reinforce contemporary educational perspectives that advocate student-centred pedagogies as effective approaches for promoting motor skill acquisition, cognitive engagement, and character development simultaneously.

Therefore, the results of this study provide strong empirical evidence that Active Learning based on Inquiry Learning and Problem-Based Learning is an effective instructional strategy for improving dominant movement combination learning outcomes among elementary school students. In addition to enhancing psychomotor competence, this approach contributes to the development of cognitive understanding, social interaction skills, self-confidence, discipline, responsibility, and collaborative behaviour, thereby supporting holistic student development in physical education learning contexts.

CONCLUSION

Based on the results of the classroom action research conducted through two cycles, it can be concluded that the implementation of Active Learning models based on Inquiry Learning and Problem-Based Learning (PBL) effectively improved dominant

movement combination learning outcomes among third-grade students at SDN 1 Landasan Ulin Selatan. The intervention successfully enhanced students' participation, confidence, cooperation, and ability to perform dominant movement combinations sequentially and correctly during Physical Education, Sports, and Health (PJOK) learning activities.

Empirically, the research findings demonstrated a substantial improvement in student learning achievement across the research stages. In the pre-cycle phase, student learning mastery reached only 36%, with an average score of 65, indicating that most students had not yet achieved the predetermined Minimum Completeness Criteria (KKM). Following the implementation of the Inquiry Learning model in Cycle I, learning mastery increased significantly to 68%, reflecting greater student engagement and active participation in the learning process. Furthermore, after refining the learning strategy through the application of the Problem-Based Learning (PBL) model in Cycle II, learning mastery increased to 93%, exceeding the predetermined success indicator of 80%. These findings confirm that active learning approaches are highly effective in improving students' dominant movement skills.

Conceptually, the success of the intervention can be attributed to the student-centred nature of active learning, which provides opportunities for students to observe, explore, practice, discuss, and collaboratively solve movement-related problems. Such learning experiences not only improve psychomotor competence but also foster cognitive understanding and positive affective characteristics, including discipline, responsibility, self-confidence, and teamwork.

Despite the positive outcomes, this study has several limitations, including a relatively short research duration, a limited number of participants from a single class, and constraints related to school facilities and infrastructure. Therefore, the findings should be interpreted cautiously and may not be generalized to all elementary school contexts.

Future studies are recommended to involve larger samples, longer intervention periods, and diverse educational settings. Meanwhile, PJOK teachers are encouraged to integrate Inquiry Learning and Problem-Based Learning into their instructional practices, while schools should provide adequate support and facilities to sustain innovative and active learning environments.

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