

Improving Students' Learning Outcomes in Forearm Passing and Underhand Service through the Innovative Physical Education Learning Model IU-07-01 among Seventh-Grade Students at SMPN 1 Praya Timur

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Abstract

Objectives: This study aimed to improve students' learning outcomes in forearm passing and underhand service in volleyball through the implementation of the Innovative Physical Education Learning Model IU-07-01 among seventh-grade students at SMPN 1 Praya Timur.

Materials and Methods: This study used classroom action research conducted in two cycles. Each cycle consisted of four stages: planning, action, observation, and reflection. The participants were 31 seventh-grade students at SMPN 1 Praya Timur. Data were collected through observation and learning outcome tests covering cognitive, affective, and psychomotor aspects. The data were analyzed using descriptive quantitative analysis by calculating the percentage of students who achieved the minimum mastery criterion.

Results: The findings showed that students' learning outcomes improved after the implementation of the Innovative Physical Education Learning Model IU-07-01. In the pre-cycle stage, only 10 students, or 32.3%, achieved the minimum mastery criterion, while 21 students, or 67.7%, had not yet achieved mastery. In Cycle I, students' learning outcomes improved, with an overall mastery percentage of 76%. However, the cognitive aspect still required improvement. After reflection and instructional improvement in Cycle II, students' mastery increased to 100%, indicating that all 31 students achieved the expected learning outcomes.

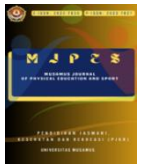
Conclusions: The Innovative Physical Education Learning Model IU-07-01 improved students' learning outcomes in forearm passing and underhand service in volleyball. The improvement was shown by the increase in mastery learning from 32.3% in the pre-cycle to 76% in Cycle I and 100% in Cycle II. Therefore, this model can be used as an effective learning approach to improve volleyball skills, student participation, and learning achievement in physical education.

Keywords: Innovative Physical Education Learning Model; forearm passing; underhand service; volleyball; classroom action research

Introduction

The quality of education is closely related to the quality of the learning process (Alp Christ et al., 2022). A good learning process should be designed to help students develop knowledge, attitudes, skills, and lifelong learning abilities. In physical education, learning outcomes are not limited to cognitive understanding, but also include affective and psychomotor development (Alp Christ et al., 2022).

Physical Education, Sports, and Health has a unique role in the school curriculum because it uses movement as the main medium for learning (Mustafa & Dwiyoogo, 2020). Through physical education, students are expected to improve physical fitness, develop motor skills, understand healthy lifestyles,



build self-confidence, and demonstrate positive values such as cooperation, sportsmanship, honesty, discipline, and responsibility (Jess et al., 2024).

However, in practice, physical education learning is often not implemented optimally. Some learning processes still focus mainly on teacher instruction and technical explanation, while students are not always given enough opportunities to actively practice, explore movement, and participate meaningfully. This condition can affect students' motivation and learning outcomes, especially in skill-based sport materials such as volleyball (Zhang et al., 2024).

Volleyball is one of the sports taught in junior high school physical education. It requires mastery of several basic techniques, including forearm passing and underhand service (Pereira et al., 2015). Forearm passing is important for receiving and controlling the ball, while underhand service is used to start the game and direct the ball to the opponent's area. These two techniques are fundamental skills that students need to master before participating effectively in volleyball games (Stojanović, 2014).

Based on the initial observation at SMPN 1 Praya Timur, students' learning outcomes in forearm passing and underhand service were still low. Many students had difficulty performing the correct movement patterns, especially in body position, arm contact, ball direction, and coordination. In addition, students' participation and confidence during learning activities were not yet optimal.

One approach that can be used to overcome this problem is the Innovative Physical Education Learning Model IU-07-01. This model emphasizes active, enjoyable, and meaningful physical education learning. It encourages students to participate more actively through demonstration, practice, feedback, correction, and game-based activities. Through this approach, students are expected to understand the movement techniques better and improve their volleyball learning outcomes.

Based on this background, this study aimed to improve students' learning outcomes in forearm passing and underhand service through the Innovative Physical Education Learning Model IU-07-01 among seventh-grade students at SMPN 1 Praya Timur.

Materials and Methods

Study Design

This study used classroom action research. Classroom action research is a reflective approach conducted to improve learning practices and solve practical problems in the classroom. This study was implemented in two cycles. Each cycle consisted of planning, action, observation, and reflection. The classroom action research design was selected because the study aimed to improve students' volleyball learning outcomes through direct improvement of the learning process.



Study Participants

The participants were 31 seventh-grade students at SMPN 1 Praya Timur, Lombok Tengah Regency. The sample was selected using total sampling because all students in the class were involved in the study.

Study Organization

The action implemented in this study was the Innovative Physical Education Learning Model IU-07-01. The learning activities focused on improving students' forearm passing and underhand service skills in volleyball. The teacher provided demonstrations, explained the correct movement techniques, organized practice activities, guided students during learning, and gave feedback. The learning process was also designed to increase students' confidence, active participation, and cooperation during volleyball activities. Data were collected through observation and learning outcome tests. Observation was used to assess the learning process, teacher performance, and student participation. Learning outcome tests were used to measure students' achievement in cognitive, affective, and psychomotor aspects.

Statistical Analysis

The data were analyzed using descriptive quantitative analysis. Students' learning outcomes were presented in frequencies and percentages. Students were considered to have achieved mastery if their score met or exceeded the minimum mastery criterion of 65. The formula used to calculate mastery percentage was:

$$\text{Mastery Percentage} = \text{Number of Students Achieving Mastery} / \text{Total Number of Students} \times 100\%$$

The action was considered successful if students' learning outcomes improved and achieved the expected mastery level.

Results

Pre-Cycle

The pre-cycle assessment was conducted to determine students' initial learning outcomes in forearm passing and underhand service before the Innovative Physical Education Learning Model IU-07-01 was implemented. The pre-cycle results show that only 10 students, or 32.3%, achieved the minimum mastery criterion. Meanwhile, 21 students, or 67.7%, had not yet achieved mastery. These findings indicate that students' initial learning outcomes in forearm passing and underhand service were still low.

Observation also showed that teacher performance during the initial learning condition was still in the low category, with a performance score of 2.3. Several aspects needed improvement, including classroom management, motivation, interaction with students, learning media use, and the selection of effective learning methods.

**Table 1.** Students' Learning Outcomes in the Pre-Cycle

Description	Result
Number of students	31
Students achieving mastery	10
Students not achieving mastery	21
Mastery percentage	32.3%
Non-mastery percentage	67.7%
Minimum mastery criterion	65

Cycle I

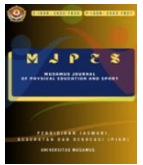
In Cycle I, the Innovative Physical Education Learning Model IU-07-01 was implemented to improve students' learning outcomes in forearm passing and underhand service. The results showed improvement compared with the pre-cycle stage. The results of Cycle I show that students' learning outcomes improved. Affective and psychomotor mastery reached 100%, indicating that students were active, confident, and able to perform the movement tasks. However, cognitive mastery was still 50%, showing that some students had not yet fully understood the theoretical aspects of forearm passing and underhand service. Because the cognitive aspect had not yet reached the expected level, the action was continued to Cycle II. Reflection was conducted to identify weaknesses and improve the next learning cycle.

Table 2. Students' Learning Outcomes in Cycle I

Description	Result
Number of students	31
Overall mastery percentage	76%
Affective mastery	100%
Psychomotor mastery	100%
Cognitive mastery	50%

Cycle II

In Cycle II, the learning process was improved based on the reflection from Cycle I. The teacher provided clearer instruction, repeated demonstrations, and more intensive guidance during practice. The results of Cycle II show that all 31 students achieved mastery. Cognitive, affective, and psychomotor learning outcomes all reached 100%. This indicates that the learning improvements made in Cycle II



successfully helped students understand and perform forearm passing and underhand service more effectively.

Table 3. Students' Learning Outcomes in Cycle II

Description	Result
Number of students	31
Students achieving mastery	31
Students not achieving mastery	0
Overall mastery percentage	100%
Cognitive mastery	100%
Affective mastery	100%
Psychomotor mastery	100%

Discussion

The findings of this study show that the Innovative Physical Education Learning Model IU-07-01 improved students' learning outcomes in forearm passing and underhand service among seventh-grade students at SMPN 1 Praya Timur. Before the action was implemented, students' learning outcomes were still low. Only 32.3% of students achieved the minimum mastery criterion. This indicates that most students had difficulty understanding and performing basic volleyball techniques.

The low pre-cycle result may have been caused by several factors. First, students had limited understanding of the correct techniques for forearm passing and underhand service. Second, students had low confidence and participation during learning. Third, the learning process had not yet provided enough opportunities for repeated practice, feedback, and meaningful movement experience.

After the Innovative Physical Education Learning Model IU-07-01 was applied in Cycle I, students' learning outcomes improved to 76%. This improvement indicates that innovative and active learning activities helped students become more involved in the learning process. Students were more confident during practice and showed better performance in affective and psychomotor aspects.

However, the cognitive aspect in Cycle I still needed improvement. Some students were able to perform the movements but had not yet fully understood the concepts behind the techniques. This shows that physical education learning should not only emphasize movement practice, but also provide clear explanations of movement principles, rules, and technical understanding.

In Cycle II, the teacher improved the learning process by giving clearer explanations, repeated demonstrations, and more direct feedback. The teacher also adjusted the warm-up activities and gave



more attention to the arm and hand movements required in volleyball. As a result, students' mastery increased to 100%. This indicates that the learning improvements were effective in helping students achieve mastery in cognitive, affective, and psychomotor aspects.

These findings support (Dudley et al., 2022) view that physical education should provide meaningful movement experiences and develop students' physical, cognitive, affective, and social aspects. Volleyball learning should not be limited to technical drills, but should be conducted through enjoyable, active, and structured learning activities.

The findings are also consistent with the concept of classroom action research described by (Williamson, 2002) where learning improvement is achieved through repeated cycles of planning, action, observation, and reflection. In this study, reflection from Cycle I helped the teacher identify learning weaknesses and improve the learning process in Cycle II.

The improvement in students' learning outcomes also shows that innovative physical education learning can increase student motivation and participation. When students are given clear demonstrations, practice opportunities, and supportive feedback, they are more likely to understand the material and perform the skills correctly. This is especially important in volleyball learning because forearm passing and underhand service require coordination, timing, body position, and ball control.

Overall, the Innovative Physical Education Learning Model IU-07-01 can be considered effective in improving students' volleyball learning outcomes. The model helped students become more active, confident, and capable of performing forearm passing and underhand service. It also encouraged the teacher to reflect on learning practices and make instructional improvements based on students' needs.

Conclusions

Based on the results of the classroom action research, it can be concluded that the Innovative Physical Education Learning Model IU-07-01 improved students' learning outcomes in forearm passing and underhand service among seventh-grade students at SMPN 1 Praya Timur. The improvement was shown by the increase in students' mastery learning from 32.3% in the pre-cycle to 76% in Cycle I and 100% in Cycle II. In Cycle I, affective and psychomotor mastery reached 100%, but the cognitive aspect still needed improvement. After instructional improvement in Cycle II, all students achieved mastery in cognitive, affective, and psychomotor aspects.

Therefore, the Innovative Physical Education Learning Model IU-07-01 can be used as an effective learning approach in volleyball instruction. This model helps students become more active, confident, and successful in mastering basic volleyball skills, especially forearm passing and underhand service.



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