

Improving Basic Volleyball Skills through Differentiated Learning among Fifth-Grade Students at SDN 2 Cakranegara

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Abstract

Objectives: This study aimed to improve students' basic volleyball skills through the implementation of differentiated learning among fifth-grade students at SDN 2 Cakranegara. The basic volleyball skills observed in this study included underhand service, overhand service, forearm passing, and overhead passing.

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 14 fifth-grade students at SDN 2 Cakranegara. Data were collected through observation, interviews, and basic volleyball skill tests. The data were analyzed using descriptive quantitative analysis by calculating the number and percentage of students who achieved the mastery criterion in the pre-cycle, Cycle I, and Cycle II.

Results: The results showed a gradual improvement in students' basic volleyball skill mastery across the research cycles. In the pre-cycle stage, only 5 students, or 35.7%, achieved the mastery criterion, while 9 students, or 64.3%, had not yet achieved mastery. In Cycle I, the number of students who achieved mastery increased to 8 students, or 57.1%, while 6 students, or 42.9%, remained incomplete. In Cycle II, students' mastery increased significantly to 12 students, or 85.7%, while only 2 students, or 14.3%, had not yet achieved mastery.

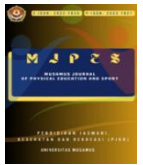
Conclusions: The implementation of differentiated learning improved students' basic volleyball skills among fifth-grade students at SDN 2 Cakranegara. The improvement was shown by the increase in mastery learning from 35.7% in the pre-cycle to 57.1% in Cycle I and 85.7% in Cycle II. Therefore, differentiated learning can be used as an effective instructional strategy in volleyball learning because it allows teachers to adjust learning activities according to students' readiness, interests, and learning profiles.

Keywords: basic volleyball skills; differentiated learning; physical education; elementary school students; classroom action research

Introduction

Physical Education, Sports, and Health is an educational process that uses physical activity to support students' holistic development. It does not only focus on physical ability, but also contributes to students' mental, emotional, cognitive, social, and affective development. Through physical education, students are expected to improve physical fitness, develop motor skills, understand healthy and active lifestyles, and demonstrate sportsmanship during learning activities (Syaukani et al., 2023).

Physical education in elementary schools plays an important role in providing students with meaningful movement experiences (Kuswoyo, 2018). The learning process should be designed to help students participate actively, develop basic movement skills, and understand values such as cooperation,



discipline, responsibility, confidence, and respect. Therefore, physical education teachers need to create a learning environment that is safe, enjoyable, inclusive, and suitable for students' abilities (Abduh et al., 2024).

Volleyball is one of the sports taught in physical education. It is a team sport that requires cooperation, communication, and mastery of basic techniques. Basic volleyball skills include underhand service, overhand service, forearm passing, overhead passing, and other movement patterns used in game situations. The mastery of these techniques is important because students need basic technical competence before they can participate effectively in volleyball games (Dwi Yulia Nur Mulyadi et al., 2023).

At SDN 2 Cakranegara, volleyball is one of the sports introduced to fifth-grade students. However, students have different levels of readiness, interests, and learning needs. Some students may already have adequate movement experience, while others may require more guidance, repetition, and modified learning tasks. These differences require teachers to use instructional strategies that can accommodate student diversity.

One instructional approach that can be used to respond to students' different learning needs is differentiated learning. Differentiated learning is a teaching approach that adjusts content, process, product, and learning environment based on students' readiness, interests, and learning profiles. In physical education, differentiated learning can help teachers provide movement tasks that match students' abilities, allowing each student to participate actively and experience progress.

Previous studies have shown that differentiated learning can optimize students' learning needs and improve learning outcomes. (Gheysens et al., 2022) stated that differentiated learning helps teachers respond to students' needs by considering readiness, interest, and learning profile. (Kotob & Abadi, 2019) also emphasized that differentiated instruction is designed to support students in mixed-ability classrooms by adapting the learning process to individual differences.

In volleyball learning, differentiated learning is relevant because students often show different levels of technical skill mastery. Some students may find it easier to perform basic passing, while others may struggle with service or ball control. Therefore, learning activities should be adjusted so that students can practice according to their ability level while still being encouraged to improve. Based on this background, this study aimed to improve students' basic volleyball skills through differentiated learning among fifth-grade students at SDN 2 Cakranegara.



Materials and Methods

Study Design

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

Study Participants

The participants of this study were 14 fifth-grade students at SDN 2 Cakranegara. The students were involved in physical education learning activities on basic volleyball skills. All participants followed the learning process from the pre-cycle stage to Cycle I and Cycle II.

Study Organization

The action implemented in this study was differentiated learning. The teacher adjusted learning activities based on students' readiness, interests, and learning profiles. The learning process included explanation, demonstration, guided practice, flexible grouping, feedback, and skill assessment. Differentiated learning was applied by providing different levels of task difficulty, modifying practice activities, grouping students based on their skill level, and giving additional support to students who needed more guidance. Students who had lower skill mastery were given simpler tasks and closer guidance, while students with better skill mastery were given more challenging activities. The volleyball skills practiced in this study included underhand service, overhand service, forearm passing, and overhead passing. These skills were selected because they are fundamental techniques that students need to master before participating in volleyball games.

Data were collected through observation, interviews, and basic volleyball skill tests. Observation was used to monitor teacher and student activities during the learning process. Interviews were used to obtain information about students' learning difficulties and responses to the learning activities. Skill tests were used to assess students' mastery of basic volleyball techniques.

Statistical Analysis

The data were analyzed using descriptive quantitative analysis. Students' learning outcomes were presented in the form of frequency and percentage of mastery learning. The results from the pre-cycle, Cycle I, and Cycle II were compared to determine the improvement in students' basic volleyball skills. The success indicator of this classroom action research was determined based on classical mastery. The action was considered successful if at least 75% of students achieved the mastery criterion.

Results

Pre-Cycle

Table 1. Students' Basic Volleyball Skill Outcomes in the Pre-Cycle

Description	Result
Number of students	14
Students achieving mastery	5
Students not achieving mastery	9
Percentage of mastery	35.7%
Percentage of non-mastery	64.3%

The pre-cycle assessment was conducted to determine students' initial ability in performing basic volleyball skills before differentiated learning was implemented. The results showed that only 5 students achieved the mastery criterion, while 9 students had not yet achieved mastery. The pre-cycle results indicate that students' initial mastery of basic volleyball skills was still low. Most students had difficulty performing basic volleyball techniques correctly, especially in controlling the ball, directing the ball accurately, and coordinating body movement during service and passing.

Cycle I

Table 2. Students' Learning Outcomes in Cycle I

Description	Result
Total score	582.2
Mean score	22.4
Highest score	25.2
Lowest score	18
Students achieving mastery	11
Students not achieving mastery	15
Percentage of mastery	42%
Percentage of non-mastery	58%

After the implementation of differentiated learning in Cycle I, students' learning outcomes improved. The number of students who achieved mastery increased from 5 students in the pre-cycle to 8 students in Cycle I. The results of Cycle I showed that 8 students, or 57.1%, achieved mastery, while 6 students, or 42.9%, had not yet achieved mastery. This indicates that differentiated learning began to improve students' basic volleyball skill performance. However, the percentage of mastery had not yet reached the expected classical mastery criterion of 75%. Therefore, the action was continued to Cycle II.

Cycle II**Table 3.** Students' Basic Volleyball Skill Outcomes in Cycle II

Description	Result
Number of students	14
Students achieving mastery	12
Students not achieving mastery	2
Percentage of mastery	85.7%
Percentage of non-mastery	14.3%

In Cycle II, the learning process was improved by providing more structured differentiated activities, clearer demonstrations, flexible grouping, and more intensive feedback. The results showed a significant increase in students' learning outcomes. The results of Cycle II showed that 12 students, or 85.7%, achieved the mastery criterion, while only 2 students, or 14.3%, had not yet achieved mastery. Since the percentage of mastery exceeded the success indicator of 75%, the classroom action research was considered successful.

Summary of Learning Outcome Improvement**Table 4.** Improvement in Students' Basic Volleyball Skill Outcomes across Cycles

Stage	Number of Students	Students Achieving Mastery	Students Not Achieving Mastery	Mastery Percentage
Pre-cycle	14	5	9	35.7%
Cycle I	14	8	6	57.1%
Cycle II	14	12	2	85.7%

The results show a clear improvement in students' basic volleyball skill mastery across the three stages. The percentage of mastery increased from 35.7% in the pre-cycle to 57.1% in Cycle I and 85.7% in Cycle II. This improvement indicates that differentiated learning was effective in improving students' basic volleyball skills.

Discussion

The findings of this study show that differentiated learning improved students' basic volleyball skills among fifth-grade students at SDN 2 Cakranegara. Before the action was implemented, only 35.7% of students achieved mastery. This indicates that most students still had difficulty performing basic volleyball techniques, particularly in controlling the ball, directing the ball accurately, and coordinating their movements during service and passing.



After the implementation of differentiated learning in Cycle I, the percentage of mastery increased to 57.1%. This improvement indicates that the learning activities began to help students understand and practice basic volleyball skills more effectively. Differentiated learning gave students opportunities to learn according to their readiness and ability level. Students who needed more support received simpler tasks and teacher guidance, while students with better skills were given more challenging activities.

However, the results of Cycle I had not yet reached the expected success indicator. Several students still needed more practice and correction. This shows that differentiated learning requires careful planning, continuous observation, and appropriate adjustment during the learning process. In classroom action research, reflection is important because it allows teachers to identify weaknesses in the learning process and improve the next cycle.

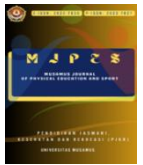
In Cycle II, the percentage of mastery increased significantly to 85.7%. This improvement shows that the revised learning strategy was more effective. The teacher provided clearer demonstrations, more structured practice, flexible grouping, and more direct feedback. These improvements helped students become more confident and more capable of performing basic volleyball skills.

These findings are in line with (Gheysens et al., 2022), who stated that differentiated learning can optimize students' learning needs and improve learning outcomes by considering students' readiness, interests, and learning profiles. In the context of physical education, this approach is important because students often have different levels of motor ability and sport-specific skill mastery.

The findings also support (Langelaan et al., 2024) concept of differentiated instruction, which emphasizes that teachers should adjust learning activities in mixed-ability classrooms. In this study, differentiated learning allowed the teacher to modify volleyball learning activities so that students could learn through tasks that were suitable for their ability level. This helped reduce learning barriers and increased students' participation.

In volleyball learning, repeated practice and task modification are essential. Basic volleyball skills such as service and passing require coordination, timing, accuracy, and movement control. Students who are not familiar with volleyball movements need more opportunities to practice in a supportive environment. (Astuti, 2018) found that drill and play methods influenced students' mini volleyball playing skills. This supports the idea that structured and repeated practice can help students improve volleyball performance.

Similarly, (Mileniva et al., 2024) reported that wall-assisted passing practice using target lines improved forearm passing ability. This finding is relevant to the present study because differentiated learning can include modified practice tasks, learning media, and target-based exercises to support



students with different skill levels. Students who have difficulty with passing can be given simpler exercises, such as passing against a wall or passing to a close target, before moving to more complex game situations.

The improvement from the pre-cycle to Cycle II also shows that classroom action research is effective for improving physical education learning. Through the stages of planning, action, observation, and reflection, the teacher was able to identify students' difficulties and improve the learning strategy. As a result, students' mastery increased from 35.7% to 85.7%.

Overall, the findings suggest that differentiated learning can create a more inclusive and effective volleyball learning environment. By adjusting learning activities to students' readiness, interests, and learning profiles, teachers can help students participate more actively and improve their basic volleyball skills. Therefore, differentiated learning is recommended as an instructional strategy in elementary school physical education, especially for sport skills that require gradual practice and movement adaptation.

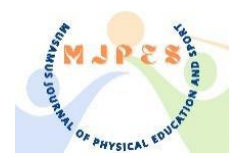
Conclusions

Based on the results of the study, it can be concluded that differentiated learning improved students' basic volleyball skills among fifth-grade students at SDN 2 Cakranegara. The improvement was shown by the increase in students' mastery learning across the research stages. In the pre-cycle stage, only 5 students, or 35.7%, achieved mastery. In Cycle I, the number increased to 8 students, or 57.1%. In Cycle II, the number increased significantly to 12 students, or 85.7%. Since the mastery percentage in Cycle II exceeded the expected classical mastery criterion of 75%, the classroom action research was considered successful.

Therefore, differentiated learning can be used as an effective instructional strategy in volleyball learning. This approach allows teachers to adjust learning activities according to students' readiness, interests, and learning profiles. Through flexible grouping, modified tasks, structured practice, and continuous feedback, students can improve their basic volleyball skills more effectively.

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