



Increasing the Effectiveness of Floor Gymnastics Materials (Front Rolling) Using Oblique Field Media in Grade VIII Students of SMP 8 Banjarbaru

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Abstract

Although inclined plane media has been used in floor gymnastics learning, classroom action research that specifically describes how this media supports technical mastery and student confidence in performing forward rolls at the junior high school level is still limited. This study aims to improve the learning outcomes of class VIII students in forward rolls through the use of inclined plane media in floor gymnastics learning at SMP Negeri 8 Banjarbaru. This study uses Classroom Action Research (CAR) which is divided into 2 cycles. Data collection techniques use practical tests, observation, and documentation. Assessment of forward roll skills includes five technical indicators: initial position, head position, leg push, rolling movement, and final position, with a maximum score of 20 converted to a scale of 0–100. The subjects of the study were all 31 students in class VIII of SMP Negeri 8 Banjarbaru in the even semester of the 2025/2026 academic year. Based on the results of the study, in the pre-cycle there were only 4 students (13%) who achieved completion. In Cycle I, the number of students who completed the course increased to 21 people (68%). In Cycle II, 30 students (97%) were declared to have completed the program. This finding indicates that the inclined plane, combined with peer assistance and repeated practice, supported improvements in students' forward roll learning outcomes in the observed classroom context.

Keywords: Classroom Action Research; Forward Roll; Inclined Plane Media; Floor Gymnastics; Physical Education Learning.

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INTRODUCTION

Education is a fundamental human right and plays an important role in improving the quality of human resources. In Indonesia, education is implemented as a systematic process aimed at developing students' potential, knowledge, skills, and character in accordance with national educational objectives. Education is not only understood as a process of transferring knowledge but also as an integrated interaction that enables individuals to develop their abilities comprehensively (Mustafa, 2022). Therefore, educational activities should provide meaningful learning experiences that support students' intellectual, social, emotional, and physical development.

Physical education is an important component of the educational system because it contributes to students' development through structured physical activities. Physical education does not only focus on improving physical abilities but also integrates cognitive, affective, and psychomotor aspects through movement-based learning experiences. Through physical education, students can develop physical competence, teamwork, discipline, confidence, and responsibility. Rink (2014) emphasized that effective physical education learning requires appropriate instructional strategies that consider learning objectives, student characteristics, and the process of skill development. In Indonesia, Physical Education, Sports, and Health (PJOK) learning is recognized as an essential part of school education because it positively influences student development and supports the achievement of educational goals (Taqwim et al., 2020). Therefore, effective physical education learning requires instructional approaches that accommodate students' physical abilities, psychological conditions, and characteristics of the skills being taught.

One of the important materials in physical education is floor gymnastics, which requires students to master fundamental movement skills through systematic and coordinated body movements. Floor gymnastics is included in artistic gymnastics and is performed on a mat using predetermined movement patterns. At the junior high school level, the forward roll is one of the basic gymnastic movements that students are expected to master because it involves essential components of balance, coordination, flexibility, and body control (Ikhsan Nurdin Nuromadon et al., 2024). According to Fitts and Posner (1967), the acquisition of motor skills occurs through progressive stages, beginning from cognitive understanding, followed by refinement through practice, and eventually leading to automatic performance. Therefore, students require appropriate learning experiences and sufficient practice opportunities to achieve effective mastery of forward roll skills.

The forward roll requires accurate technical execution through several sequential movement phases. The initial phase begins with a squatting position, both hands placed on the mat at shoulder width, and the eyes directed forward. The execution phase involves rolling the body forward, beginning from the neck, followed by the back, waist, and pelvis, while both hands provide support to maintain balance. The movement is completed by returning to a stable squatting position or standing posture with both arms extended forward (Ilham, 2025). Although forward roll is considered a basic movement, its successful performance requires technical understanding, adequate motor control, and psychological readiness. Schmidt and Lee (2019) explained that motor skill learning depends on the interaction between practice conditions, feedback, and learners' ability to organize movement patterns. Therefore, effective instruction should provide learning conditions that facilitate gradual improvement and reduce unnecessary difficulties during skill acquisition.

However, based on initial observations at SMP Negeri 8 Banjarbaru, the implementation of forward roll learning has not achieved optimal effectiveness. Many grade VIII students still experience difficulties in performing the movement correctly, particularly in maintaining balance, coordinating body movements, and initiating the rolling process. In addition to technical difficulties, psychological factors, especially low self-confidence, have become important barriers in learning activities. Several students showed fear of injury, hesitation, and reluctance to attempt the movement. This condition indicates that students require not only technical instruction but also supportive learning environments and appropriate learning media that can reduce anxiety and facilitate gradual skill development. Baumeister (1984) explained that excessive pressure and anxiety during performance situations may interfere with motor execution because individuals become overly focused on possible failure rather than performing learned skills naturally. Similarly, Nurulita et al. (2024) emphasized that limitations in learning media and insufficient instructional variation may affect students' understanding and performance in forward roll learning.

The use of appropriate learning media is considered an important strategy for improving the effectiveness of physical education learning. Learning media can provide direct assistance, simplify complex movements, and create safer learning conditions for students. In motor skill learning, external assistance and task modification can support the acquisition of movement skills by reducing task difficulty and allowing students to focus on essential movement components. Wulf and Lewthwaite (2016) proposed the OPTIMAL theory of motor learning, which highlights that enhanced motivation, learner autonomy, and appropriate attentional focus contribute significantly to improved motor performance. Therefore, learning environments that increase students' confidence and reduce fear are essential components in developing movement competence.

Previous studies have demonstrated that learning media can improve students' achievement in floor gymnastics, particularly forward roll skills. Sutoro and Nurhidayah (2023) reported that the implementation of direct learning supported by inclined plane media improved students' mastery of basic forward roll movements. Similarly, Rusmana et al. (2025) found that the use of inclined plane media significantly improved students' forward roll learning outcomes, as indicated by differences between pretest and posttest scores. Furthermore, Yulio Syahdan Siregar and Widowati (2022) showed that the application of learning media increased forward roll achievement from 54.55% to 80.5% and positively influenced students' confidence during learning activities. These findings indicate that inclined plane media has

potential benefits not only in improving technical performance but also in reducing psychological barriers during gymnastics learning.

Although previous studies have confirmed the effectiveness of inclined plane media, most studies have focused primarily on measuring differences in learning outcomes before and after intervention. Limited attention has been given to the learning process involving gradual assistance strategies that consider students' psychological readiness and technical development. In classroom situations, students who experience fear or difficulty in performing forward rolls may require progressive assistance before they are able to perform movements independently. According to Schmidt and Lee (2019), effective motor learning requires appropriate progression of task difficulty, repeated practice, and feedback mechanisms that allow learners to gradually refine movement patterns. Therefore, a structured learning approach that progressively reduces assistance while increasing students' confidence may provide a more effective strategy for improving movement mastery.

The novelty of this study lies in the implementation of a gradual assistance strategy consisting of three learning stages: independent forward roll practice during the pre-cycle, peer-assisted practice during Cycle I, and the use of oblique field media combined with peer assistance during Cycle II. This approach was designed to gradually reduce students' fear, improve confidence, and support better technical execution. The integration of peer assistance and oblique field media provides a learning model that accommodates both physical and psychological aspects of forward roll acquisition.

This study provides practical contributions for physical education teachers by offering an alternative instructional strategy to improve floor gymnastics learning, particularly forward roll materials. The implementation of oblique field media may help students understand movement techniques more easily, experience safer practice conditions, and increase their participation during learning activities. For schools, this research can serve as a reference for developing innovative learning media to improve student learning outcomes (Mukti et al., 2023). In addition, the findings may provide preliminary information for future studies investigating learning media effectiveness using different research designs, variables, and populations (Nugroho et al., 2024).

Based on the identified problems and research gap, this study aims to improve the learning outcomes of forward roll movements among grade VIII students of SMP Negeri 8 Banjarbaru through the implementation of oblique field media in floor gymnastics learning. Specifically, this study aims to analyze changes in students' learning outcomes before and after implementing a gradual assistance strategy consisting of independent practice, peer-assisted learning, and oblique field media application.

METHOD

Research Design

This study employed a Classroom Action Research (CAR) design aimed at improving the learning process and students' learning outcomes in performing forward roll movements. Classroom Action Research was selected because it enables researchers to implement direct improvements in the learning process through systematic and iterative actions. The research was conducted in two cycles, with each cycle consisting of four stages: planning, action, observation, and reflection (Muslihin et al., 2022).

During the planning stage, the researcher prepared the learning implementation plan, learning activities, and assessment instruments. In the action stage, the teacher implemented the planned learning activities based on the designed intervention. During the observation stage, the researcher monitored the learning process and students' performance using observation sheets and assessment rubrics. In the reflection stage, the researcher analyzed the collected data to evaluate the effectiveness of the implemented action and determine improvements required for the subsequent cycle.

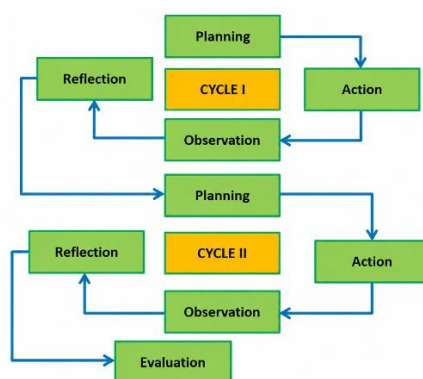


Figure 1. Stages of Classroom Action Research

Research Participants

The participants in this study were all eighth-grade students of SMP Negeri 8 Banjarbaru, consisting of 31 students (16 male students and 15 female students). The participants were selected based on initial observations indicating that students experienced difficulties in mastering forward roll movements. The classroom was selected as the research setting because students demonstrated low achievement in performing the technical components of forward roll movements.

Research Procedures

The research intervention was implemented through a gradual assistance strategy consisting of three stages: pre-cycle, Cycle I, and Cycle II. In the pre-cycle stage, students performed forward roll movements independently to obtain baseline data on their initial skill level. In Cycle I, students practiced forward rolls with peer assistance, where classmates provided physical support and encouragement to improve confidence and reduce hesitation during movement execution. In Cycle II, students performed forward rolls using a combination of peer assistance and inclined plane media. The inclined plane consisted of stacked mats arranged at an angle to utilize gravitational assistance, reduce movement difficulty, enhance students' confidence, and facilitate the achievement of correct forward roll techniques.

Data Collection Techniques

Data were collected using three techniques: practical tests, observation, and documentation. The practical test was conducted to measure students' mastery of forward roll movements before the intervention (pre-cycle), after Cycle I, and after Cycle II. The observation technique was used to assess students' confidence during learning activities. According to Hasanah (2017), observation is an appropriate technique for collecting qualitative information through systematic monitoring of participant behavior. In this study, observations focused on students' willingness to attempt movements, confidence during the initial position, and ability to maintain concentration during practice. Documentation was used as supporting evidence to strengthen the research findings, including records related to learning activities and research implementation.

Research Instrument and Assessment Procedure

The research instrument used in this study was a forward roll skill assessment rubric developed to evaluate students' technical performance during floor gymnastics learning. The rubric was designed based on the fundamental components required in performing a correct forward roll movement. To ensure the quality and suitability of the instrument, the assessment rubric was validated by two physical education experts. The validation process focused on the appropriateness of the assessment content, the relevance of technical indicators, and the suitability of the scoring criteria for measuring students' forward roll skills. The validation procedure was conducted to ensure that the instrument could accurately represent students' movement performance during the learning process.

The assessment of forward roll skills was based on five main technical indicators: initial position, head position, leg thrust, rolling motion, and final position. These indicators represent the sequential components of forward roll execution, beginning with body preparation, movement initiation, rolling coordination, and maintaining balance after completing the

movement. The initial position indicator assesses students' ability to establish a stable squatting posture with hands positioned appropriately before initiating the movement. The head position indicator evaluates whether students are able to lower the head correctly by positioning the chin toward the chest to support safe body rotation. The leg thrust indicator measures the strength and direction of the lower limb movement that initiates the rolling action. The rolling motion indicator evaluates the ability of students to maintain a rounded back posture and perform a smooth forward rotation. Meanwhile, the final position indicator assesses students' ability to regain balance after completing the roll. The detailed assessment indicators and scoring criteria are presented in Table 1.

Table 1. Assessment Indicators of Forward Roll Skills

No	Aspects Assessed	Assessment Criteria	Score			
1	Early Attitude	Balanced squat position, hands in front	1	2	3	4
2	Head Position	Head down (chin to chest)	1	2	3	4
3	Leg Thrust	Strong and directed drive	1	2	3	4
4	Rolling Motion	Rounded back, smooth movements	1	2	3	4
5	Final Attitude	Back in balance	1	2	3	4

Each assessment indicator was scored using a four-point rating scale. A score of **4** indicated excellent performance, meaning that students demonstrated correct movement execution according to the expected technical criteria. A score of **3** represented good performance, where students demonstrated appropriate movement execution with minor technical errors. A score of **2** indicated adequate performance, where students showed partial mastery of the movement but still required improvement. A score of **1** represented poor performance, where students had not demonstrated the expected technical components of the forward roll movement.

The maximum raw score obtained from the five assessment indicators was **20 points**, with each indicator receiving a maximum score of 4 points. The students' performance scores were converted into a scale of 0–100 to facilitate interpretation and comparison between research stages. The final score was calculated using the following formula:

$$\text{Final Score} = \frac{\sum \text{Score Obtained}}{\text{Maximum Score}} \times 100$$

where the Final Score represents the converted achievement score, $\sum$ Score Obtained represents the total score achieved by students across all assessment indicators, and Maximum Score represents the highest possible score based on the assessment rubric.

The success indicator of this study was determined based on the achievement of the minimum learning completion criterion (minimum mastery criterion/KKM) of 70. Students who achieved a score of ≥ 70 were categorized as having achieved learning completeness, whereas students who obtained scores below 70 were categorized as incomplete. This criterion was used to evaluate the effectiveness of the implemented learning intervention by comparing students' achievement levels across the pre-cycle, Cycle I, and Cycle II stages.

Data Analysis

The collected data were analyzed using descriptive analytical techniques to describe changes in students' forward roll performance throughout the research cycles. The analysis was conducted based on the results of practical tests obtained during the pre-cycle, Cycle I, and Cycle II. The analyzed data included frequency distribution, percentage of students achieving learning completeness, mean score, highest score, lowest score, and standard deviation. These descriptive statistical parameters were used to identify patterns of improvement in students' learning outcomes after the implementation of each intervention stage.

The improvement of students' performance was analyzed by comparing the results obtained in each research stage, starting from the pre-cycle condition, followed by Cycle I after the implementation of peer assistance, and Cycle II after the integration of peer assistance and inclined plane media. The effectiveness of the intervention was determined based on the increase in the number of students achieving the minimum learning completion criterion, which

was a score of 70. In addition, students' achievement levels were interpreted using predetermined rating categories to classify their forward roll performance.

The score classification was divided into four categories: Excellent, Good, Enough, and Less. Students who obtained scores ranging from 85–100 were categorized as having excellent performance, scores of 70–84 were categorized as good performance, scores of 55–69 were categorized as enough performance, and scores below 55 were categorized as less performance. These categories were used to facilitate the interpretation of students' skill development and to describe the distribution of learning outcomes in each research cycle.

Table 2. Rating Categories of Forward Roll Performance

Value	Category
85-100	Excellent
70-84	Good
55-69	Enough
<55	Less

RESULTS AND DISCUSSION

Results

Based on the results of the research on the first test (pre-cycle) of students' frontal rolling ability shown in the figure below, before conducting research, the researcher first conducts preliminary survey activities to find out the actual conditions in the field:

Table 3. Pre-Cycle Research Results

Value	Frequency	Percentage	Categories	Remarks
85-100	1	3%	Excellent	Complete
70-84	3	10%	Good	Complete
55-69	21	68%	Fair	Incomplete
<55	6	19%	Less	Incomplete
Quantity	31	100%		

Based on the data obtained in the pre-cycle stage, where students carried out the front roll movement independently without any assistance, there were only 4 students (13%) who achieved completeness, while the other 27 students (87%) were declared incomplete. Details of grades in the pre-cycle showed that 1 student (3%) obtained a score of 85–100 in the very good category, 3 students (10%) obtained a score of 70–84 in the good category, 21 students (68%) obtained a score of 55–69 in the adequate category, and 6 students (19%) obtained a score below 55 in the poor category. The average grade point in the pre-cycle was 56.8 with a high score of 90 and a low score of 40, as well as a standard deviation of 10.3.

Table 4. Research Results Cycle 1

Value	Frequency	Percentage	Categories	Remarks
85-100	1	3%	Excellent	Complete
70-84	20	65%	Good	Complete
55-69	9	29%	Fair	Incomplete
<55	1	3%	Less	Incomplete
Quantity	31	100%		

In Cycle I, where students do front rolls with the help of peers, there is a significant increase. The number of students who completed increased to 21 people (68%), while students who did not complete decreased to 10 people (32%). The details of the scores showed that 1 student (3%) obtained a score of 85–100 in the excellent category, 20 students (65%) obtained a score of 70–84 in the good category, 9 students (29%) obtained a score of 55–69 in the adequate category, and 1 student (3%) obtained a score below 55 in the less category. The average grade point in Cycle I increased to 72.4 with a high score of 90 and a low score of 50, as well as a standard deviation of 8.6.

Table 5. Results of Research Cycle 2

Value	Frequency	Percentage	Categories	Remarks
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85-100	24	77%	Excellent	Complete
70-84	6	19%	Good	Complete
55-69	1	3%	Fair	Incomplete
<55	0	0%	Less	Incomplete
Quantity	31	100%		

In Cycle II, where students carried out front rolls with a combination of peer help and slanted field media, the results achieved were very satisfactory. A total of 30 students (97%) were declared complete, and only 1 student (3%) was still incomplete. The score details showed that 24 students (77%) obtained a score of 85–100 in the very good category, 6 students (19%) obtained a score of 70–84 in the good category, 1 student (3%) obtained a score of 55–69 in the adequate category, and none of the students obtained a score below 55. The average grade point in Cycle II increased to 87.1 with a high score of 100 and a low score of 65, as well as a standard deviation of 6.2. The percentage increase in completeness from pre-cycle to Cycle I is 55 percentage points, while from Cycle I to Cycle II is 29 percentage points.

Discussion

The results of this study indicate a gradual improvement in the effectiveness of forward roll learning through the implementation of progressive learning assistance strategies. Student learning completeness increased from 13% in the pre-cycle stage, to 68% in Cycle I, and reached 97% in Cycle II. This improvement demonstrates that the learning intervention implemented in this study supported students' ability to perform forward roll movements. However, because this study employed a Classroom Action Research design without a control group, the improvement should be interpreted as the result of a combination of several factors, including peer assistance, inclined plane media, repeated practice, teacher guidance, and increased student familiarity with the movement process.

In the pre-cycle stage, students showed limited mastery of forward roll skills, as indicated by the low learning completeness percentage of 13%. This condition occurred because many students had not yet mastered the fundamental components required for performing forward rolls, including body balance, hand placement, head position, movement coordination, and body control during rotation. Forward roll is a basic gymnastic skill that requires integration between physical coordination and motor control. According to Fitts and Posner (1967), motor skill acquisition occurs through gradual stages, beginning with understanding the movement concept, followed by repeated practice to refine performance. Therefore, students who have limited previous experience with gymnastics movements may require structured guidance and appropriate learning conditions before achieving stable movement performance.

The difficulties observed during the pre-cycle stage were also influenced by psychological factors, particularly students' fear and low confidence when performing the movement. Several students were hesitant to attempt forward rolls because they were concerned about falling or experiencing injury. Psychological readiness is an important component of movement learning because anxiety can interfere with performance execution. Baumeister (1984) explained that pressure and anxiety during performance situations may disrupt motor execution because individuals become overly focused on potential errors. In this study, students' fear of performing forward rolls reduced their willingness to practice independently, resulting in limited opportunities to improve their technical skills. This finding is consistent with Lukmanto and Setiawan (2024), who emphasized that forward roll skills cannot be effectively mastered through verbal instruction alone but require direct practice supported by appropriate learning strategies.

The implementation of peer assistance in Cycle I resulted in a substantial improvement, with learning completeness increasing to 68%. This finding suggests that peer support provided both technical and psychological benefits during the learning process. Through peer assistance, students received direct support in maintaining body position and overcoming hesitation during movement execution. In addition, peer feedback may have been easier for students to understand because it was delivered through communication patterns similar to their daily interactions. Collaborative learning approaches in physical education have been

shown to improve student engagement, interaction, and opportunities for feedback during skill development (Casey & Goodyear, 2015).

Although peer assistance improved students' performance, 10 students (32%) remained incomplete in Cycle I. This indicates that peer support alone was not sufficient for all students, particularly those with greater technical difficulties or higher levels of movement anxiety. The effectiveness of peer assistance may depend on the ability of peers to provide appropriate support and the willingness of students to accept assistance during practice. Mukti et al. (2023) also reported that assistance-based learning strategies can improve forward roll performance; however, some students may still require additional instructional support due to differences in motor ability and confidence levels. Therefore, additional learning media were needed to provide more structured physical assistance.

In Cycle II, the combination of peer assistance and inclined plane media resulted in the highest improvement, with learning completeness reaching 97%. This finding indicates that the use of inclined plane media provided additional support that facilitated students' forward roll performance. The inclined plane reduced the difficulty of initiating the rolling movement by utilizing gravitational assistance, allowing students to focus more on body positioning, movement sequence, and balance control. According to Schmidt and Lee (2019), effective motor learning requires appropriate practice conditions that allow learners to gradually develop movement patterns through repetition, feedback, and adjustment. The inclined plane media in this study functioned as an external support mechanism that simplified task demands and enabled students to perform the movement with greater confidence.

The improvement in Cycle II may also be explained through psychological mechanisms. The inclined plane provided students with a safer learning environment because the sloping surface reduced the perceived risk of failure during movement execution. A safer environment may increase students' confidence and motivation to participate actively in practice. Wulf and Lewthwaite (2016) emphasized that motor learning is enhanced when learning environments support motivation, confidence, and appropriate attentional focus. In this study, the reduction of movement anxiety allowed students to concentrate more effectively on technical aspects of forward roll performance.

The findings of this study are consistent with previous research regarding the effectiveness of inclined plane media in gymnastics learning. Sutoro and Nurhidayah (2023) reported that the application of direct learning supported by slanted plane media improved students' mastery of basic forward roll movements. Similarly, Rusmana et al. (2025) found significant improvements in forward roll learning outcomes after the implementation of inclined plane media. Yulio Syahdan Siregar and Widowati (2022) also demonstrated that the use of oblique field media improved forward roll learning outcomes and positively influenced students' confidence. Furthermore, Mukti et al. (2023) and Djoko Nugroho et al. (2024) reported that the use of inclined mat assistance media contributed to improving students' forward roll abilities. These findings strengthen the evidence that inclined plane media can support forward roll learning by reducing movement difficulty and increasing students' learning confidence.

The gradual intervention strategy applied in this study also supports the principles of progressive motor learning. The transition from independent practice in the pre-cycle, peer assistance in Cycle I, and inclined plane media implementation in Cycle II allowed students to experience increasing levels of support according to their learning needs. This approach is consistent with effective physical education teaching principles, where instructional strategies should be adapted to students' abilities and gradually adjusted as students develop competence (Rink, 2014). Therefore, the improvement observed in this study may not only be attributed to the use of inclined plane media but also to the systematic learning progression implemented throughout the research cycles.

Despite the positive findings, several limitations should be considered. First, this research was conducted in only one class at SMP Negeri 8 Banjarbaru, meaning that the findings cannot be generalized to other schools, student populations, or educational levels. Second, the study did not include a control group; therefore, the specific contribution of inclined plane media cannot be completely separated from other factors, such as peer assistance, repeated practice, and teacher feedback. Third, the intervention was conducted within only two cycles, limiting the ability to evaluate long-term effects. Fourth, although the

assessment rubric had been validated by physical education experts, practical skill assessment may still involve subjective judgment. Finally, students' confidence was observed qualitatively and was not measured using standardized psychological instruments.

CONCLUSION

Based on the results of the class action study entitled "Increasing the Effectiveness of Floor Gymnastics Materials (Front Bolster) Using Oblique Field Media in Grade VIII Students of SMP 8 Banjarbaru", it can be concluded that the use of oblique media combined with peer help and repeated exercises supports the gradual improvement of students' front roll learning outcomes in the context of the observed classroom. Learning completeness increased from 13% in pre-cycle to 68% in Cycle I, and reached 97% in Cycle II. The average grade point increased from 56.8 in the pre-cycle to 72.4 in Cycle I, and 87.1 in Cycle II. These findings show that a gradual learning strategy starting from independent exercise, followed by peer help, and coupled with slanted field media can support improving the quality of the process and future rolling learning outcomes. However, because this study was a Classroom Action Study with no comparison group, these findings cannot be interpreted as rigorous evidence of causality. Further research with a more controlled design is needed to confirm the specific effectiveness of oblique field media regardless of other intervention factors.

RECOMMENDATIONS

Based on the findings and limitations of this study, several recommendations can be proposed. For physical education teachers, the use of inclined plane media combined with gradual learning assistance strategies is recommended as an alternative approach for teaching forward roll movements, particularly for students who experience technical difficulties and low confidence during gymnastics activities. Teachers are encouraged to implement progressive learning stages, beginning with independent practice, followed by peer assistance, and continued with media-supported practice to ensure that students receive appropriate support according to their learning needs.

For schools, the provision and utilization of innovative learning media, such as inclined plane equipment, should be considered as part of efforts to improve the quality of physical education learning. Adequate facilities and instructional resources may help teachers create safer and more engaging learning environments, particularly for movement-based activities that require students' confidence and technical mastery.

For future researchers, further studies are recommended to investigate the specific contribution of inclined plane media using more rigorous research designs, such as quasi-experimental or experimental approaches with control groups. Future research may also involve larger samples, different educational levels, and quantitative measurements of psychological variables, such as movement anxiety, self-confidence, and motivation, to better understand the mechanisms underlying improvements in gymnastics learning outcomes.

In addition, future studies may examine variations in instructional strategies, types of learning media, and longer intervention periods to determine the sustainability of improvements in students' motor skill development. Such investigations would provide stronger evidence regarding the effectiveness of inclined plane media and its application in broader physical education contexts.

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