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Analysis of Front Roll Movement In Gymnastics: An Inquiry Approach Among Physical Education Students

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Abstract

This study describes the analysis of front roll movement skills in students using an inquiry approach, emphasizing active exploration and investigation by students. The research method utilized was quantitative descriptive. The research sample consisted of 63 physical education students from IKIP PGRI Pontianak. The research results indicate that students' activity in performing front roll movements in gymnastics with the inquiry method showed improvement. Initial data showed that for Morning Class A, 19 students, or 63.3% out of 30 students, obtained a Poor Category; for Afternoon Class, 24 students, or 80% out of 30 students, obtained a Poor Category. After implementing the inquiry method, there was an improvement in Morning Class students, with 24 students, or 80% out of 30 students achieving a Medium Category, and in Afternoon Class A, 28 students, or 93.3% out of 30 students achieving a Medium Category. This study concludes that using the inquiry method can enhance the skills of physical education students in performing front roll movements in gymnastics.

Keywords: Front Roll, Gymnastics, Inquiry, Learning Model

INTRODUCTION

Learning in Indonesia currently emphasizes collaborative learning to achieve a positive learning experience. Learning success can be achieved if the learning objectives are completed, students' understanding improves, and high interest in subsequent meetings. Well-managed management is the key to improving the quality of teaching so that the learning process can be well-received between teachers and students (Darsana, 2019). Understanding the concept of learning should be accompanied by abilities, attitudes, and active behavior in the learning process. Learning in formal education is more structured and organized than in non-formal education. However, students have flexible time in non-formal learning and can learn more intrinsically (Syaadah, Al, Ary, Silitonga, & Rangkuty, 2022). Formal education is defined as education that follows the educational

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direction in schools. In contrast, non-formal education learning is a learning process that individuals perceive as an addition, replacement, or supplement to formal education.

Physical education is inseparable from the national education system because physical education is not just about improving physical fitness but also encompasses physical and spiritual aspects. Physical education can serve as a means to shape behavior and improve attitudes (Tifal, 2023). Many processes are involved in physical education, including developing human resources quality. As an integral part of education, physical education aims to develop physical fitness, motor skills, social skills, moral actions, a healthy lifestyle, and awareness of a clean environment. Physical education is a learning process that prioritizes physical activity to develop students' motor skills and promote healthy behaviors both mentally, emotionally, and socially to acquire movement skills and healthy lifestyles (Wahyudi, Simanjuntak, Bafadal, & Wardhani, 2023).

Motor skills in physical movement embody the quality of coordination and control of body parts involved in movement. Skillful movement is crucial in physical education due to the quantity of basic movement learning. Hananingsih and Imran (2020) stated that motor skills focus on improving human movement in physical education. Motor skills refer to an individual's ability to perform actions related to sports activities. Each individual has different talents. Naturally, children have varying developments in intelligence, interests, talents, creativity, and personality (Putra, 2022).

Physical education students in IKIP PGRI Pontianak have experience performing front rolls in gymnastics during their college years. However, many students still need to be skilled or proficient in performing the front roll movement in gymnastics due to their anxiety. Each student has different skills; some are excellent at performing front rolls in gymnastics, while others need the skill to execute the front roll. Physical education students are not merely required to master one skill during their studies. However, they must also have various skills in different sports branches or mandatory subjects throughout their studies. Muhammad Muhyi (2023) stated that the fundamental problem is how to help students acquire skills in sports. Physical Education students face many challenges in mastering many skills in various sports. Often, they feel anxious because they have to master many skills in a short time. Gymnastics skills are basic skills that all Physical Education students must master, but their basic skills are often weak. This research utilizes an inquiry approach to examine the increase in front roll ability.

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Previous studies reveal that the inquiry method effectively increases students' confidence, so they will be more active in asking questions and finding ways to solve their learning problems (Eka Cahyadi, Agus Harianto, 2022). The goal of adopting the inquiry approach is for students to master the concept and develop skills in performing front-roll movements in gymnastics. Inquiry is a learning method where students are involved as scientists solve their problems (Ginanjar, 2015).

This research is focused on enhancing the learning of front roll in gymnastics using an inquiry approach. With the implementation of this inquiry approach, the researcher hopes to improve the learning of front roll in gymnastics among physical education students at IKIP PGRI Pontianak and provide a reference for academics, especially in sports education.

METHOD

The research method is quantitative descriptive and uses a simple qualitative approach. Quantitative descriptive research could provide valuable insights into the observed phenomena and is frequently used as an initial step for further research (Yuliani, 2018). Putra (2015) expressed that quantitative descriptive research involves examining the reviewed object in numbers, presenting the data, and drawing conclusions based on the observed phenomena. The population in the study consists of 63 physical education students from IKIP PGRI Pontianak, batch 2022, from Morning Class and Afternoon Class. The research took place in the sports hall of IKIP PGRI Pontianak. Conducting research at this location is due to its relevance to the research topic, ease of access for direct interaction, and adequate facilities for conducting research. The initial data collection involves direct observation by accomplishing tests on front roll movements in gymnastics using a calculation scale of 0-100. After obtaining the data, it is analyzed using percentage calculation. The initial and final data are compared to determine the level of change in student abilities. Problem-solving analysis utilizes percentage calculation formulas (Zulkarnain & Sarassanti, 2022). The formula for calculating the percentage of completeness is as follows:

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$$P = \frac{F}{N} x100\%$$

P = Percentage

F = Frequency

N = Number of respondents

The front roll involves several steps, including a balanced squat position, placing the head on the mat, rolling with the nape as support, hands hugging both knees and ending with a balanced squat position (Dini Aji Permatasari, Bambang Priyono, 2012). The front roll movement is a body rotation over the mat, facing forward (Fresa Dera Ramdani, Muhammad Mury Syafei, 2022). The front roll is defined as a continuous forward-moving motion out of the five stages of the front roll movement. These steps serve as the basis for assessing the basic technique of gymnastics. The front roll will be accomplished with an inquiry approach to develop students' confidence in performing the movement. The analysis technique utilizes quantitative description by presenting the front roll movement results.

RESULT

The implementation was carried out directly with students performing the front roll movement on the mat. The students were divided into two groups: Group 1 was from the Morning Class, and Group 2 was from the Afternoon Class. Both groups practiced the gymnastics front roll movement on the mat using the inquiry method. The activity was conducted for 4 meetings. The results are presented in the form of categorization and percentage results. Each result corresponds to the given instrument, which is then analyzed and explained in detail. The explanation of the data collected and the range of front roll assessment is presented in Table 1.

Table 1. Score Range for Floor Gymnastics Front Roll

Score Range	Description
>95	Excellent
85-94	Good
75-84	Medium
65-74	Poor
<65	Bad

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1. Front Roll Test

Table 2. Front Roll Test Results for Class A. Morning and A. Afternoon Before Treatment

Category	Result		Percentage	
	Morning Class	Afternoon Class	Morning Class	Afternoon Class
Excellent	0	0	0	0
Good	0	0	0	0
Medium	11	6	36,7	20
Poor	19	24	63,3	80
Bad	0	0	0	0
Total	**30**	**30**	**100**	**100**

Table 2 presents the data on students' proficiency in Morning Class and Afternoon Class in performing front rolls before implementing an inquiry method. The "Medium" category for Morning Class is 36.7%, and the "Poor" category is 63.3%, while for Afternoon Class, the "Medium" category is 20%, and the "Poor" category is 80%. Based on the results, it is concluded that the ability of students in Morning Class and Afternoon Class to perform front rolls before implementing inquiry treatment is in the "Poor" category. Due to the result of the initial data, the researcher uses the inquiry method to improve front roll skills. After the treatment, there was an improvement in front-roll skills among students. The improvement of students' front roll ability is presented in Table 3.

2. Front Roll Test

Table 3. Front Roll Test Results for Morning Class and Afternoon Class After Treatment

Category	Result		Percentage	
	Morning Class	Afternoon Class	Morning Class	Afternoon Class
Excellent	0	0	0	0
Good	0	0	0	0
Medium	24	28	80	93,3

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Poor	6	2	20	6,7
Bad	0	0	0	0
Total	**30**	**30**	**100**	**100**

Table 3 shows students' proficiency in Morning Class and Afternoon Class in performing front rolls after implementing an inquiry method. The results show that the "Medium" category for Morning Class consists of 80% of students, and the "Poor" category is 20% of the students. In contrast, for the Afternoon Class, the "Medium" category comprises 93.3% of students, and the "Poor" category got 6.7%. Based on the results, it is concluded that the ability of students in Morning Class and Afternoon Class to perform front rolls after implementing inquiry treatment has improved into the "Medium" category.

After obtaining the results of front roll skills among students before and after implementing inquiry treatment, there is an improvement based on the percentage results with a "Medium" category. The data of the percentage improvement results is presented in Table 4:

Table 4. Percentage Improvement Results

Class	Category				Percentage			
	Before treatment		After treatment		Before Treatment		After Treatment	
	Poor	Medium	Poor	Medium	Poor	Medium	Poor	Medium
Morning Class	19	11	6	24	63,3	36,7	20	80
Afternoon Class	24	6	2	28	80	20	6,7	93,3

The graphical chart depicting the percentage improvement results based on Table 4 is presented in Figure 1:

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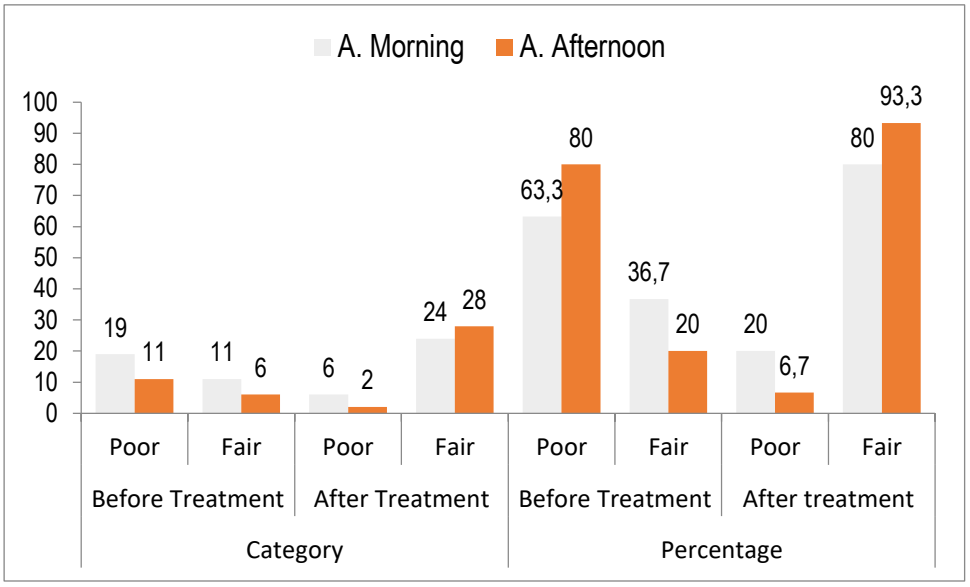

Figure 1. The Improvement Front-roll Skill after Implementing Inquiry Method

Improving the ability to perform front roll gymnastics is accomplished using various methods. The research results reveal that the inquiry method supports students performing in front-roll gymnastics. The inquiry method offers a student-centered perspective, as students are directly involved in learning (Wahyuni & Witarsa, 2023). Inquiry-based learning can discover concepts and principles through the learning experience (Suprianto, 2020). Applying inquiry in the learning process can develop creative thinking skills in students. Inquiries are continually used during learning because they encourage students to think independently and creatively when solving or answering their problems.

DISCUSSION

Physical education is a process of physical activity obtained under prerequisites of individual physical experiences and spiritual changes (Rhiskita, Beauty, Rachman, & Tuasikal, 2020). Through physical education, students undergo an educational process by acquiring character and exercise patterns. Physical education has a very constructive goal for individuals to develop positive values by adopting a healthy lifestyle. Healthy living habits through healthy lifestyle management can be combined with sports activities (Erta, Hapsari Shinta Citra Puspita Dewi, 2023). The role of lecturers is crucial for students; with the guidance provided, students feel coached and confident. Besides teaching, lecturers have a role in nurturing students because every individual has a different level of self-confidence (Ariana Asri, Muhammad Akbar Syafruddin, 2021).

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Several studies have been conducted on enhancing physical education learning through an inquiry-based approach. An example of previous studies is "Application of the Contextual Approach to Increase Interest in Students Learning on Physical Education Learning in Elementary School (Mulyani, 2021). The results of this research discuss overcoming students' lack of interest in physical education by using an inquiry strategy. The results indicate that implementing the inquiry method will improve students' critical thinking. Furthermore, students attain the ability to analyze a problem encountered, resulting in improved success in physical education learning by achieving minimum mastery criteria scores. Another inquiry method study was conducted by Suryaman (2019), focusing on implementing the inquiry model in soccer-like games learning to increase the amount of students' active learning time." The result stated that students' activity and close relationship with the teacher in physical education learning is very low, and by choosing the inquiry model, more effective information can be obtained from the students.

The results of this research with the inquiry model show increased student learning activity, as evidenced by their expression and skills. The research of Hakim et al. (2003), titled "Improving student's self-efficacy through inquiry learning model and modeling in physical education," noted that physical education learning utilizing physical activity media and movement skills gives students self-efficacy. Moreover, few studies reveal the impact of the inquiry learning model on self-efficacy in physical education learning. The research results indicate that the inquiry learning model can enhance students' self-efficacy, and the study proves that multiple-coping is more effective in improving students' self-efficacy than single-mastery.

As mentioned above, the researchers' findings indicate the importance of enhancing front roll skills in gymnastics for physical education by utilizing the inquiry method because its application increases student activity, confidence, and effectiveness when accompanied by instructors.

CONCLUSION

Based on the research results conducted by the researcher, student activity in performing front rolls gymnastics employing the inquiry method can improve the front rolls skill. The inquiry method allows students to build knowledge, not just accept learning without critical analysis. Inquiry-based methods allow students to interact with their

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surrounding environment and enable them to see abstract phenomena in real terms. This method facilitates a deep understanding of scientific content rather than memorizing or cramming. Inquiry as a learning strategy emphasizes cognitive, affective, and psychomotor development, so learning with this strategy is considered more meaningful.

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