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Efforts to Improve Floor Gymnastics Skills in the Form of Tiger Spring Using Rope-Assisted Media Among Grade XI Students at SMA Negeri 7 Malang

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Abstract

This study examines the interest of secondary school students in sports and physical activities. Adolescence is a critical period characterized by physical and psychological changes, affecting students' motivation and engagement in extracurricular activities, including sports. The study aims to analyze the level of participation in physical activities among students and identify the factors influencing their involvement. A questionnaire-based survey was conducted among 375 students (182 females, 193 males) aged 15–20 years from four secondary schools. The results indicate a declining trend in active sports participation with increasing age, with 82% of female students and 75% of male students engaging in at least one sport under professional supervision. However, 18% of females and 25% of males do not participate in organized sports. Additionally, 97% of females and 90% of males meet the recommended level of physical activity for a healthy lifestyle, including recreational activities. The findings highlight the importance of physical education teachers in motivating students and implementing innovative approaches to increase engagement. While male students predominantly prefer team sports such as football, female students favor individual activities like dance, fitness training, and swimming. The study suggests that enhancing physical education through attractive, diverse, and modern teaching methods could foster greater participation in sports and physical activities among adolescents.

Keywords: physical activity, motivation, secondary schools

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A. Introduction

Learning is an activity that supports and enhances human life by developing individual potential. Education aims to improve knowledge development from childhood to adulthood. In a conducive environment, development can occur optimally. Within the educational context, learning has pedagogical objectives; therefore, physical education, sports, and health play an essential role (Bates & Kerpan, 2025; Ourda et al., 2025). Physical education, sports, and health are integral parts of holistic education, aiming to improve physical abilities, motor skills, honesty, discipline, cooperation, social attitudes, moral behavior, and to promote healthy lifestyles while creating a healthy environment through physical education learning (Mahmuddin et al., 2025; Purnomo et al., 2025).

Supporting factors for achieving learning objectives include appropriate teaching methods and strategies (Pasaribu et al., 2025). Enjoyable learning, as perceived by students, helps teachers deliver material effectively (Riza et al., 2025). Therefore, teachers must create engaging learning environments. Additionally, student characteristics are important factors in creating a conducive learning atmosphere.

Floor gymnastics is one of the materials taught in physical education, particularly for Grade XI senior high school students. One of the topics taught is the tiger jump (tiger spring). Learning floor gymnastics, especially the tiger jump, aims to expand and enrich students' movement experiences. In this material, students are required to have confidence when performing the movement. Therefore, teachers need to apply innovative approaches in physical education learning to increase student motivation.

However, the tiger jump in floor gymnastics is often less favored by students. Many students are reluctant to participate and do not perform optimally during lessons. Various obstacles are encountered, including difficulties in movement and technique. Students often lack confidence when jumping from the take-off point to the mat, feel hesitant when performing the movement, experience fear when executing a forward roll after the jump, and sometimes feel dizzy after performing the movement. These challenges indicate the need for innovation in teaching the tiger jump in floor gymnastics.

The tiger jump is categorized as a floor gymnastics movement. In practice, students commonly experience difficulties and make errors in several stages, including the initial position, approach, take-off, forward roll execution, and landing position (Kurniawan & Hasan, 2024; Wahyudin et al., 2024). Common mistakes include incorrect chin position, improper knee positioning, lack of body compactness during the roll, incorrect hand placement during take-off, and improper rolling technique. Additionally, students often perceive this movement as dangerous and potentially causing injury.

Many students still fail to achieve the Minimum Mastery Criteria (KKM), which is set at 75.00. These difficulties are caused by students' inability to properly perform forward rolling movements and their fear of attempting the tiger jump, even when

using a mat (Winata et al., 2023). Therefore, teachers need to implement alternative strategies or methods in learning. One effective approach is modifying learning media to facilitate students in performing the movement and to increase their interest and motivation.

One such modification is the use of rope-assisted media placed on the mat to support the execution of the tiger jump. This rope functions as a manipulative aid adapted from a vaulting box setup, designed to help students perform the jump more easily and safely.

B. Methods

This study was conducted to address problems encountered in classroom learning, particularly in floor gymnastics lessons on the tiger jump (tiger spring). This research falls under the category of Classroom Action Research (CAR) (Nasution et al., 2025). Classroom action research consists of several stages, namely planning, action, observation, and reflection (Maharani Putri & Apriani, 2022). Problems identified in the classroom can be addressed through this type of research (Pujianto et al., 2024).

The implementation of this study was carried out in the second semester during physical education, health, and sports lessons, specifically on floor gymnastics material. Overall, the research followed four stages forming a cyclical process that is structured systematically. The cycle continues if the identified problems have not yet been resolved. The research design is illustrated as follows:

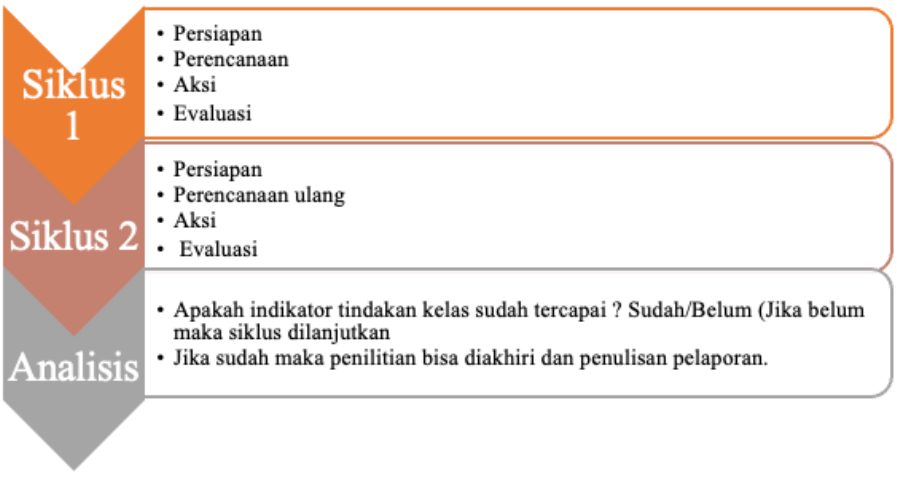

Figure 1. Classroom Action Research Cycle

In the structure of classroom action research, the process begins with the preparation stage, which involves identifying the problems encountered through initial data collection on students' performance in the tiger jump during previous learning sessions.

The next stage is planning, which involves developing learning scenarios or instructional steps tailored to achieve the intended objectives. After preparing the learning plan and aligning it with the targeted outcomes, the subsequent stage is implementation and evaluation, where the effectiveness of the learning process is assessed based on the achievement of predetermined targets.

The expected target in this classroom action research is for

students to achieve an average score of 75.00 in the tiger jump floor gymnastics material. If the target is not achieved in a given cycle, the process will continue to the next cycle. However, if the target has been achieved, the cycle will be terminated. The determination of this target is based on the school's minimum competency standards and the students' learning conditions, which set the minimum achievement criteria for each subject..

Table 1. Research Group

Age	Number of Girls	Number of Boys	Total	% Representation
15 years	44	28	72	19,2%
16 years	43	39	82	21,9%
17 years	41	43	84	22,4%
18 years	29	45	74	19,7%
19 years	17	29	46	12,3%
20 years	8	9	17	4,5%

For data collection, we used a questionnaire designed for students at the selected school. The questionnaire was completed electronically through Google Forms. Teachers at the school assisted us with distribution and supervision of students during completion. The questionnaire contained closed-ended questions investigating students' participation in any sports and other physical activities besides sports. Additionally, there were open-ended questions where students listed sports and physical activities they enjoy.

We initiated our research by creating a questionnaire and selecting a suitable school. We sent an electronic questionnaire to the school, which we designed according to our specific requirements. Student testing was conducted at the end of 2024, and data evaluation took place in 2025. All student responses were recorded using Google Forms and subsequently processed in Excel. From the responses, we analyzed students' attitudes toward sports and physical activity, as well as which sports activities could potentially interest them. This selection of sports activities is crucial for improving physical education and sports in schools.

Data recording and evaluation were performed using Excel software, primarily employing mathematical-statistical methods (arithmetic mean, median, percentage representation).

C. Result and Discussion

1. Pre-Cycle Assessment Data

Before conducting this study, the initial step involved performing a preliminary observation or pre-test. The initial data obtained from this pre-test consisted of students' skill performance scores in the tiger jump (tiger spring). The data collection at this stage was carried out without any intervention using the rope-assisted learning media.

The purpose of this initial assessment was to determine the baseline level of students' tiger jump skills, which would later be used to measure improvement across each research cycle. Based on the results of the initial observation of tiger jump learning at SMA Negeri 7

Malang, the learning process had been implemented; however, the outcomes had not yet reached optimal performance levels.

The suboptimal results were mainly due to students appearing hesitant and not performing the tiger jump movements maximally during the learning process. With the implementation of the proposed intervention, it is expected that students will be able to achieve the minimum mastery criterion (MMC) of 75, and that at least 75% of all students will reach mastery. The results of the initial observation are presented as follows:

Table 1. Percentage of Pre-Cycle Test Results on Tiger Jump Gymnastics Skills

Score Interval	Category	Frequency (n)	Percentage (%)
91–100	Very Good	0	0%
80–90	Good	0	0%
70–79	Fair	9	25%
60–69	Poor	0	0%
< 60	Very Poor	27	75%
Total		**36**	**100%**

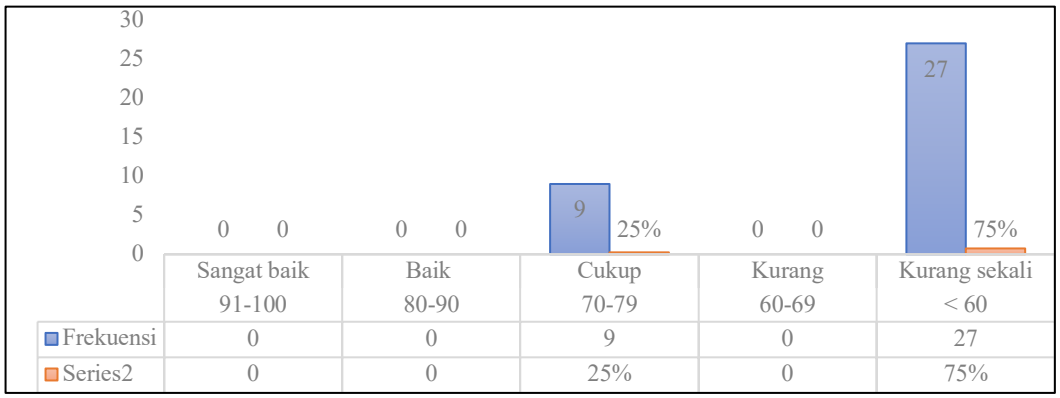

Figure 2. Diagram of Pre-Cycle Tiger Jump Gymnastics Skill Test Results

Based on the table and diagram above, it can be concluded that the initial observation data on the tiger jump (tiger spring) skills of students at SMA Negeri 7 Malang reached only 25% mastery. These initial observation data were obtained from the results of the pre-assessment. This indicates that the overall skill performance of students in class XI-8 at SMA Negeri 7 Malang has not yet achieved mastery.

The highest scores fell within the fair category, with a score of 75 obtained by 9 students (25%). For scores below 60, 10 students (28%) scored 37.5, and 17 students (47%) scored 25. Based on the data presented, the tiger jump gymnastics skills at the initial observation stage were not optimal, as reflected in the overall class mastery level of only 25%. The mean score in the pre-cycle phase was 42.13.

2. Cycle 1 Assessment Data

In Cycle 1, the teacher implemented an intervention by using a rope-assisted learning medium to facilitate students in performing the tiger jump movement. The planning stage included classroom conditioning, apperception (introductory activities), and

demonstration of the movement skills.

The learning session was conducted with enthusiasm from both the teacher and students. During this cycle, students showed improvement, becoming more confident and willing to perform the tiger jump movements. However, some corrections were still needed, particularly in transitioning from the take-off phase to the forward roll and landing phases.

At the end of the session, the teacher conducted a reflection and provided motivation to encourage students to be more confident in attempting and performing the tiger jump movements. The results of the tiger jump skill test in Cycle 1 are presented as follows:

Table 2. Percentage of Cycle 1 Tiger Jump Gymnastics Skill Test Results

Score Interval	Category	Frequency (n)	Percentage (%)
91–100	Very Good	0	0%
80–90	Good	9	25%
70–79	Fair	8	22%
60–69	Poor	5	14%
< 60	Very Poor	14	39%
Total		**36**	**100%**

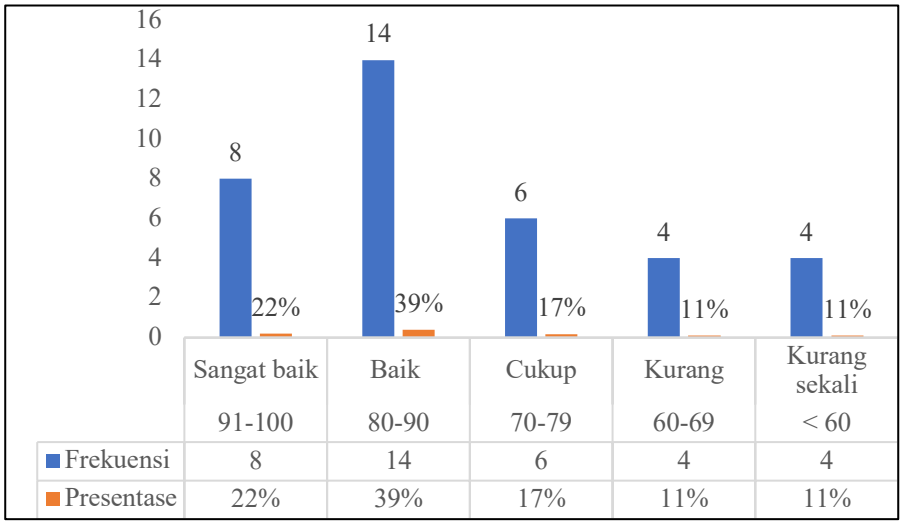

Figure 3. Diagram of Cycle 1 Tiger Jump Gymnastics Skill Test Results

Based on the table and diagram above, in Cycle 1, students were given an intervention by the teacher using a rope-assisted learning medium. Students showed improvement in their practical performance of tiger jump gymnastics skills. The results indicate that 25% of students were in the good category, 22% in the fair category, 14% in the poor category, and 39% in the very poor category.

Based on these percentages, the proportion of students who achieved mastery was 47% overall. In Cycle 1, the highest score was 87.5 obtained by 9 students (25%), while the lowest score was 25 obtained by 1 student (3%). Students in the fair category scored 75 (8 students; 22%), while those in the poor category consisted of 5 students (14%). Scores below 60 included 50 (8 students; 22%), 37.5 (5 students; 14%), and the lowest score of 25 (1 student; 3%).

From the percentage data of Cycle

1 results, it can be concluded that the overall mastery level of students in class XI-8 had not yet reached the target of 75%, as the mastery level in Cycle 1 was only 47%. The mean score of the class in this cycle was 64.24.

3. Cycle 2 Assessment Data

The learning process was continued to Cycle 2 because the mastery level of tiger jump gymnastics skills in class XI-8 had not yet reached the target of 75% in Cycle 1. After planning, students were given the same intervention as in Cycle 1. However, in Cycle 2, the teacher provided more intensive guidance to increase students' confidence and courage in performing the tiger jump movements, especially among female students. The results of the skill test in Cycle 2 are presented as follows:

Table 3. Percentage Distribution of Cycle 2 Tiger Jump Gymnastics Skill Test Results

Score Interval	Category	Frequency (n)	Percentage (%)
91–100	Very Good	8	22%
80–90	Good	14	39%
70–79	Fair	6	17%
60–69	Poor	4	11%
< 60	Very Poor	4	11%
Total		**36**	**100%**

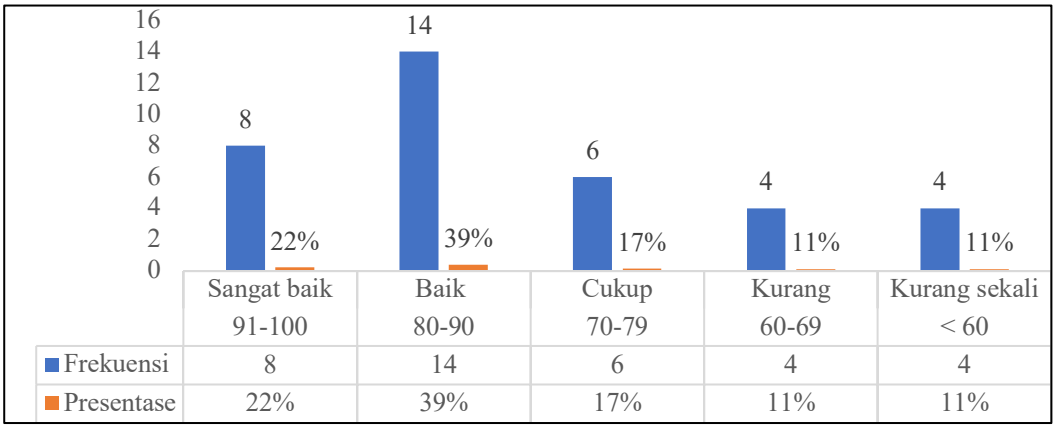

Figure 4. Diagram of Cycle 2 Tiger Jump Gymnastics Skill Test Results

Based on the table and diagram above, the total number of students in class XI-8 at SMA Negeri 7 Malang was 36 students. Cycle 2 was implemented effectively by both the teacher and the students. In this cycle, the highest score achieved was 100, while the lowest score was 50. These results indicate that students experienced a significant improvement in performance during Cycle 2.

A total of 8 students (22%) achieved a score of 100, 14 students (39%) scored 87.5, 6 students (17%) scored 75, 4 students (11%) scored 62.5, and 4 students (11%) scored 50. Overall, the percentage of students who achieved mastery reached 78% in class XI-8. The mean score of the class in Cycle 2 was 81.25, indicating that the learning outcomes had met the predetermined target criteria.

Discussion

The results of this study indicate a progressive and significant improvement in students' tiger jump (tiger spring) gymnastics skills across each cycle of the Classroom Action Research (CAR). As presented in Table 4, the level of mastery increased from 14% in the pre-cycle to 47% in Cycle 1, and ultimately reached 78% in Cycle 2, exceeding the predetermined success criterion of 75%. This improvement demonstrates that the intervention using rope-assisted learning media was effective in enhancing students' motor skill performance. The increase in performance can be attributed to the role of instructional scaffolding provided by the rope media, which helped reduce students' fear and hesitation when performing complex movements such as the tiger jump. In line with motor learning theory, gradual task simplification and guided practice are essential in facilitating skill acquisition and improving movement confidence (Phadke et al., 2026)

Furthermore, the iterative process inherent in Classroom Action Research, consisting of planning, action, observation, and reflection, enabled continuous refinement of teaching strategies. The improvements observed from Cycle 1 to Cycle 2 were driven by the correction of fundamental technical errors, increased student confidence, and modifications to instructional approaches following reflective evaluation. This finding supports previous research emphasizing that reflective teaching practices contribute significantly to improved learning outcomes (Navidinia & Gholizadeh, 2025; Ning et al., 2026; O'Toole et al., 2026). The results of this study are also consistent with prior studies indicating that the use of modified and innovative learning media can enhance student engagement and motor performance in physical education. For example, (Amri-Dardari et al., 2022; Trabelsi et al., 2025) reported that learning modifications in gymnastics significantly improve students' confidence and technical execution, while Winata et al. (2023) highlighted that structured and assisted learning approaches are effective in reducing fear when performing forward rolling movements (Prasetyo et al., 2025). Additionally, research on structured training and objective performance measurement has shown that systematic guidance improves movement accuracy and consistency (Hosciuc Rendi et al., 2025; Korhonen et al., 2023; Naing & Fang, 2025), which aligns with the improvements observed in this study.

However, this study offers a distinct contribution compared to previous research by integrating a low-cost and practical rope-assisted learning medium within a Classroom Action Research framework, making it highly applicable in real classroom settings. The novelty of this study lies in its focus on addressing psychomotor barriers such as fear, hesitation, and lack of confidence through simple instructional modifications, which are often overlooked in traditional physical education approaches. By combining pedagogical innovation with iterative teaching strategies, this study provides a contextual solution that is both effective and accessible, particularly for schools with limited resources.

Despite these positive findings, several limitations should be

acknowledged. The study was conducted in a single class consisting of 36 students, which may limit the generalizability of the results. In addition, the research focused only on one type of movement, namely the tiger jump, and did not include a control group, making it difficult to isolate the specific effects of the intervention. Moreover, the analysis relied primarily on descriptive statistics without deeper inferential analysis.

Nevertheless, this study contributes both theoretically and practically to the field of physical education. Theoretically, it reinforces the importance of scaffolded learning and guided practice in motor skill acquisition. Practically, it provides a simple, low-cost instructional innovation that can be easily implemented by teachers to improve student performance and confidence in gymnastics learning. The findings suggest that the use of modified learning media combined with reflective and iterative teaching strategies can create a more effective, safe, and engaging learning environment, particularly for complex motor skills such as the tiger jump.

D. Conclusion

Based on the table above, students demonstrated a significant improvement as the teacher provided targeted interventions for those who were unable to perform the movement directly. Students were given sufficient time to learn each stage of the movement, ensuring that the techniques were executed correctly and safely.

E. Acknowledgment

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F. Conflict of Interest

No conflict of interest.

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