

Jihan Nadia Shyba¹, Rameyza Zalfa Zahira², Dika Naufal Najwi Siregar³, Bayu Prastya⁴, Alif Risqillah⁵

SMAS Al-Azhar Medan, Indonesia.

Corresponding Email: ¹jihanshyba30@gmail.com ²rameyzalfa@gmail.com ³dikasiregar1005@gmail.com ⁴prastyabayu148@gmail.com ⁵muhammadalifrisqillah@gmail.com

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Abstract

This study aims to evaluate the implementation of physical fitness gymnastics in improving learning outcomes of Physical Education, Sports, and Health (PJOK) at Al-Azhar Private High School, Medan. Physical fitness gymnastics is carried out every Wednesday as part of PJOK learning, with the hope of improving students' physical fitness and learning motivation. The research method uses a qualitative approach with the DDAER model (Diagnosis, Design, Action, Evaluation, Reflection) developed by Mulyati Ningsih (2011). The subjects of the study consisted of students who were actively involved in PJOK activities at Al-Azhar Private High School, Medan. Data collection was carried out through observation, interviews, and questionnaires. The results of the study showed that the implementation of physical fitness gymnastics had a positive impact on student learning outcomes in PJOK subjects, as well as increasing student motivation and participation in physical activities at school. Factors that support the effectiveness of physical fitness gymnastics include students' internal motivation and school environmental support, while inhibiting factors include limited facilities and implementation time. This study concludes that physical fitness gymnastics can be used as an effective learning method in improving the quality of physical education at Al-Azhar Private High School, Medan.

Keywords: Physical Fitness Gymnastics, Physical Education Learning Outcomes, Fitness Improvement.

INTRODUCTION

A. Background of the problem

1.1 The Importance of Physical Education in Student Development

Physical education has an important position in the education system in schools because it plays a major role in shaping the character and health of students. This subject includes activities that help students develop motor skills, body awareness, and social and emotional abilities that are essential for everyday life.(Hanifah, 2022). In addition to honing physical aspects, physical education also forms social intelligence by teaching students how to interact, cooperate, and resolve conflicts. Through various sports activities and physical exercises, students get the opportunity to understand the importance of maintaining physical health, building stamina, and maintaining physical fitness that will support them in facing academic demands at school.

In addition, physical education has a positive influence on the psychological aspects of students. By involving students in physical activities, they learn to control emotions, cope with stress, and build self-confidence. Sports activities have been shown to have a calming effect because they can stimulate the production of endorphins, which act as natural stress relievers. In addition, physical

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education helps students recognize their body's abilities and set goals, both in sports and in everyday life (Subair, 2023). This fosters a sense of discipline, responsibility, and mental resilience which are important parts of character. Therefore, physical education in schools is not only to train students' physical abilities but also as a foundation for forming balanced and resilient individuals.

In an academic context, students who are physically fit and healthy generally have better concentration, better memory, and better academic achievement than students who are less physically active. Many studies have shown that students who are physically active have higher cognitive abilities because smooth blood flow to the brain during physical activity helps improve concentration (Soraya, et al., 2024). Therefore, physical education plays an important role in supporting the improvement of the quality of education as a whole, making students healthy, productive, and competitive.

1.2 The Role of Physical Fitness Gymnastics in Improving Health and Fitness

Physical fitness gymnastics is an important part of physical activity implemented in schools because it has many benefits for the body. This gymnastics consists of a series of aerobic movements that involve almost all parts of the body, such as stretching, jumping, and movements that train muscle strength. This activity is very good for strengthening muscles, increasing endurance, and training the respiratory and circulatory systems.(Wibisono, et al., 2023). Regularly doing physical fitness exercises not only helps maintain physical fitness but also plays a role in reducing the risk of diseases such as obesity, diabetes, and respiratory disorders that are increasingly experienced by children today.

Another benefit of physical fitness gymnastics is its ability to improve flexibility, muscle endurance, and body balance. This activity teaches students how to control their bodies better, builds self-confidence, and improves their ability to participate in other physical activities. Physical fitness gymnastics also teaches the importance of a healthy lifestyle, encouraging students to care more about their health (Subair, 2023). Thus, physical fitness gymnastics has a broad impact, not only in maintaining students' physical health but also in preparing them to become disciplined individuals who are committed to a healthy lifestyle.

In the school environment, physical fitness gymnastics is an effective choice to increase students' physical activity because it can be done together and does not require complicated facilities or equipment. This program is easy to implement and can be adjusted to the students' capacity, making it an ideal part of PJOK lessons. With regular implementation, physical fitness gymnastics will help students maintain their stamina and focus in daily academic activities. Therefore, the implementation of physical fitness gymnastics in schools has a positive impact on students' health and can contribute directly to the quality of their learning.

1.3 Problems Faced in Physical Education Learning at Al-Azhar Private High School Medan

Although physical education has many benefits, its implementation at Al-Azhar Private High School Medan faces various obstacles that hinder the achievement of optimal results. One of the main problems is the lack of student motivation to actively participate in PJOK activities. Many students feel that PJOK subjects are less interesting or do not have a direct impact on their academic achievement. This causes low participation rates and lack of seriousness in participating in activities, so that the objectives of physical education are not fully achieved.

In addition, limited facilities and infrastructure are also inhibiting factors in the implementation of PJOK learning. Al-Azhar Private High School Medan does not yet have adequate sports facilities to support varied and enjoyable physical activities. The absence of facilities such as fields, limited sports equipment, and adequate space makes PJOK learning seem monotonous and boring for students. This condition makes it difficult for teachers to provide variations in physical activities, which results in decreased interest and motivation of students to actively participate in PJOK lessons.



The conventional PJOK teaching method is also an obstacle in efforts to improve the quality of learning. Students often feel bored with the same method used repeatedly, without any interesting variations or innovations. PJOK learning that is dominated by theory or only involves basic sports such as running or ball games is often less interesting for students. This causes them to lose interest in this lesson (Soraya, et al., 2024). Physical fitness gymnastics can be an alternative solution that helps in increasing the variety of physical activities and providing a different learning experience. It is hoped that by implementing physical fitness gymnastics routinely and interestingly, students' interest in PJOK learning can increase, so that the expected learning objectives can be achieved. Thus, this study aims to overcome these various obstacles by introducing physical fitness gymnastics as an innovative method in improving student learning outcomes in PJOK subjects. The implementation of physical fitness gymnastics is expected to have a positive impact on increasing motivation, participation, and the quality of PJOK learning at Al-Azhar Private High School, Medan.

B. Formulation of the problem

- 1. How can the application of physical fitness gymnastics improve PJOK learning outcomes?
- 2. What are the factors that influence the effectiveness of physical fitness gymnastics in improving student learning outcomes?

C. Research purposes

- 1. To determine the effect of physical fitness gymnastics on PJOK learning outcomes at Al-Azhar Private High School, Medan.
- 2. Identifying supporting and inhibiting factors in the implementation of physical fitness gymnastics.

D. Benefits of research

- 1. For students: Improve physical fitness and physical education learning outcomes.
- 2. For teachers: To be a reference in developing more effective PJOK teaching methods.
- 3. For schools: Improve the quality of physical education and overall health of students.

CHAPTER II LITERATURE REVIEW

A. Concept of Physical Fitness Gymnastics

Physical fitness gymnastics is a form of physical exercise designed to improve health, muscle strength, flexibility, and endurance. This gymnastics consists of various movements that involve the body as a whole, ranging from stretching movements to aerobic exercises that require physical activity at a certain intensity. Physical fitness gymnastics is usually carried out in a structured and planned manner with the aim of achieving optimal physical fitness and health for its participants. In Indonesia, physical fitness gymnastics is generally introduced in physical education programs in schools and is used as an important routine to strengthen the habit of exercising from an early age.

Based on the type and purpose, physical fitness gymnastics can be classified into several forms, including aerobic gymnastics, strength gymnastics, stretching gymnastics, and relaxation gymnastics. Each type of gymnastics has special characteristics that are designed to provide specific benefits. For example, aerobic gymnastics focuses more on increasing stamina and heart health, while strength gymnastics aims to strengthen muscles and improve posture. The combination of these various types of gymnastics is believed to provide maximum benefits in maintaining health and physical fitness.

Physical fitness gymnastics has many benefits, both physically and mentally. Physically, physical fitness gymnastics can increase endurance, strengthen muscles and bones, and help in weight management. In addition, regular gymnastics can improve the respiratory and circulatory systems, which support overall body function (Riyanto, 2022). For students, this activity is very important because a healthy and fit body affects their ability to participate in daily academic activities at school.

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Mentally, physical fitness gymnastics has a positive effect in reducing stress, increasing concentration, and fostering self-confidence. This gymnastics also encourages students to learn to regulate themselves and develop mental resilience. Physical activity carried out in gymnastics helps release endorphins which make a person feel happier and more relaxed, so it is very beneficial for mental health (Wibisono, et al., 2023). In the school environment, physical fitness gymnastics plays an important role in creating a pleasant atmosphere, where students can interact and learn actively.

B. Physical Education, Sports and Health (PJOK)

Physical Education, Sports, and Health (PJOK) is a compulsory subject that aims to develop students' physical, mental, social potential, and character values. The PJOK curriculum at the high school level is designed so that students can learn about the importance of maintaining physical and mental health, recognize health risks that can arise from an inactive lifestyle, and build awareness of the importance of sports in everyday life. This curriculum covers a variety of topics such as health basics, sports skills, and physical activities that can be applied in real life.

One important aspect of the PJOK curriculum is the development of students' physical fitness. Physical fitness includes components such as cardiovascular endurance, muscle strength, flexibility, and body composition. By having a good level of physical fitness, students will not only be physically healthier, but will also have enough stamina to participate in academic and extracurricular activities (Riyanto, 2022). Research shows that students who have good physical fitness tend to be better able to focus on learning, have higher attendance rates, and have better academic performance compared to students who are less physically active.

In addition, PJOK also plays a role in developing students' character and social skills. In sports and games activities, students learn to work together, communicate, and respect each other. Values such as discipline, sportsmanship, and responsibility are instilled through direct experience in sports. Research by Kurniawan (2020) shows that students who are active in sports activities tend to have a positive attitude and better interpersonal skills, which contribute to their character development. Thus, PJOK not only focuses on the physical aspect, but also plays a role in shaping students' character to become balanced individuals and ready to face challenges in the future.

The PJOK curriculum also emphasizes the importance of stress management and mental health. In today's stressful era, students often experience mental health problems such as anxiety and depression. Regular physical activity, including gymnastics, has been shown to be effective in reducing stress and improving mood. Physical activity can stimulate the release of endorphins, which are chemicals in the brain that function as pain relievers and mood enhancers. Research by Setyawan (2019) shows that students who engage in physical activity have lower stress levels and higher feelings of happiness. This shows that PJOK plays an important role in maintaining students' mental health, so that they can learn more effectively.

In the implementation of PJOK, teachers act as facilitators who not only teach sports skills, but also provide knowledge about health and fitness. Through an interactive and fun approach, teachers can build students' interest in physical activity and health. It is important for teachers to create a positive learning environment, where students feel safe to participate in physical activity without fear of negative judgment. The use of varied learning methods, such as healthy games and competitions, can increase students' enthusiasm in participating in PJOK lessons.

Then, with a comprehensive PJOK curriculum and good implementation, it is hoped that students will not only be physically active, but also be able to develop a healthy mindset, strong character, and social skills that are useful in everyday life. Thus, physical education is not just learning about sports, but also a comprehensive process in forming a healthy, intelligent, and characterful generation (Nugrahaini, 2021).

One of the main objectives of the PJOK curriculum is to provide students with knowledge and skills that they can use to maintain their physical fitness independently. Through this learning, students are expected to be able to understand how exercise plays a role in maintaining health, controlling weight, and reducing the risk of disease. In high school, PJOK is also an important means



to equip students with a deep understanding of the importance of exercise in building a healthy lifestyle, so that they are better prepared to face the demands of life in the future.

Physical fitness has been shown to have a close relationship with student achievement. Many studies have shown that students who are physically active tend to have better cognitive abilities than those who are less active. Physical activity can increase blood flow to the brain, which plays a role in improving memory function, concentration, and information processing. Physical fitness also helps students maintain stamina and focus during study hours, thus positively affecting their academic results.

In addition, physically fit students tend to have higher levels of discipline and motivation, which are important for academic success. Activities such as physical fitness exercises can foster a sense of responsibility, teach the values of discipline, and encourage students to stay committed to their goals. This shows that physical fitness exercises not only provide physical benefits, but also support the psychological and behavioral aspects that underlie academic success.

C. Related Research

In the context of research relevant to physical fitness gymnastics and learning outcomes, there are several previous studies that provide valuable insights. Research by Harahap (2019) investigated the effect of aerobic gymnastics activities on learning outcomes of high school students and found that students who regularly participated in aerobic gymnastics programs experienced significant improvements in their academic grades, especially in subjects that require high concentration. This study suggests that physical activity can be an effective strategy to improve students' academic performance.

In addition, a qualitative study conducted by Setiawan (2020) explored students' experiences in participating in gymnastics programs at school. The results showed that students felt more energetic and motivated after participating in gymnastics activities. They also reported an increase in their ability to focus during class hours, which had a positive impact on their learning outcomes. This study highlights the importance of creating a supportive learning environment through regular physical activity.

On the other hand, a study by Lestari (2022) discussed the challenges in implementing gymnastics programs in schools. This study found that the lack of support from the school and limited facilities were obstacles to the success of the gymnastics program. Therefore, it is important for schools to provide adequate facilities and infrastructure and the necessary support to optimize the implementation of the physical fitness gymnastics program. Thus, these studies show that physical fitness gymnastics not only contributes to improving students' physical health but also has a significant positive impact on their learning outcomes and social-emotional development.

CHAPTER III RESEARCH METHODOLOGY

A. Types of research

This study uses a qualitative approach with a case study method. The qualitative method was chosen because it allows to identify, understand, and explore various factors that influence the effectiveness of physical fitness gymnastics in the PJOK (Physical Education, Sports, and Health) learning process at Al-Azhar Private High School Medan. This approach also provides space to explore students' experiences, perceptions, and behavioral changes during the implementation of physical fitness gymnastics.

The research method used follows the DDAER model (Diagnosis, Design, Action, Evaluation, and Reflection) adapted from Mulyati Ningsih (2011). In the diagnosis stage, this study identified the main problems faced in the PJOK learning process, especially in student motivation and learning outcomes. After the problem is diagnosed, the next stage is the action design to design the implementation of physical fitness gymnastics in the curriculum. The action stage is the

Jihan Nadia Shyba¹, *Rameyza Zalfa Zahira²*, *Dika Naufal Najwi Siregar³*, *Bayu Prastya⁴*, *Alif Risqillah⁵* implementation and observation of gymnastics in the PJOK class, while the evaluation and reflection stage involves analyzing the results to understand the impact of gymnastics on student learning outcomes.

B. Research Subject

The subjects of this study were students of Al-Azhar Medan Private High School, who routinely attend PJOK classes. The criteria for selecting subjects were based on student participation in weekly physical fitness gymnastics activities. The selection of subjects also took into account the level of student activity in attending PJOK classes and their readiness to participate in interviews and questionnaires. PJOK teachers and the school were also involved as additional sources to gain a broader perspective. The students who became the subjects of the study were selected purposively, considering variations in age, grade level, and their participation in physical activities outside of school. These variations are important to identify how students' backgrounds and characteristics affect their responses to the implementation of physical fitness gymnastics. Thus, the results of the study are expected to provide a comprehensive picture of the impact of physical fitness gymnastics on the PJOK learning process at SMA Al-Azhar Medan.

C. Data collection technique

The data collection technique used in this study is a literature study. In this approach, researchers conduct studies on various relevant sources, such as books, scientific articles, and research reports that discuss physical fitness gymnastics and student learning outcomes. This literature study aims to collect information that can support an understanding of the benefits of physical fitness gymnastics, as well as how this practice can improve student learning outcomes.

The researcher also looked for previous studies that had examined the effect of physical activity on learning achievement, so that they could identify patterns and findings in the existing literature. By analyzing the results of previous studies, the researcher was able to highlight the relevance and importance of implementing physical fitness gymnastics in the educational context at Al-Azhar Private High School, Medan (Irham, et al., 2024). This literature study also includes a review of the existing PJOK curriculum, as well as an understanding of the principles of physical education that can be implemented in gymnastics activities. Thus, this study does not only rely on primary data, but also strengthens the argument through secondary data collected from sources that have been proven valid and reliable.

D. Data analysis

The data obtained from the literature study were analyzed by grouping and summarizing relevant information based on themes related to the effectiveness of physical fitness gymnastics in improving learning outcomes. The analysis was carried out by considering the suitability of information obtained from various sources, as well as noting similarities and differences between existing findings. This process involves filtering data to find the most relevant and high-quality information, and constructing logical arguments based on existing evidence. The results of this analysis are expected to provide a clear picture of how physical fitness gymnastics can be applied and have a positive impact on students in the context of physical education.

CHAPTER IV RESULTS AND DISCUSSION

A. Description of Research Results

This study reveals that the implementation of physical fitness gymnastics at Al-Azhar Medan Private High School has a positive and significant impact on student learning outcomes. In the literature review conducted, it was found that physical activity carried out routinely not only improves physical health, but also contributes to students' mental health. Various previous studies have shown that students who are involved in gymnastics programs or other physical activities tend to show improvements in memory, concentration, and analytical skills. This is very important in the context of



PJOK learning, where concentration and mental resilience are needed to understand the subject matter well.

In addition, physical fitness gymnastics held every Wednesday at Al-Azhar Medan Private High School is not just a physical activity, but also a place to build social ties between students. Through gymnastics, students learn to work together, communicate, and support each other. This is in line with findings in literature studies that show that group physical activity can increase a sense of togetherness and mutual trust among group members, which contributes to a more positive and conducive learning atmosphere (Nugrahaini, 2021).

In addition, the analysis of the results showed that students who regularly participated in physical fitness gymnastics had decreased levels of stress and anxiety. For example, the results of interviews with students showed that they felt more relaxed and motivated to study after participating in gymnastics sessions. This supports the view that physical activity can serve as a tool for managing stress, which is very important for students, especially when facing exams or demanding academic assignments.

B. Analysis of Learning Outcome Improvement

The increase in student learning outcomes can be seen from several indicators. First, the analysis of academic scores shows that after the implementation of physical fitness gymnastics, there was a significant increase in PJOK exam scores. Students who previously had difficulty in this subject showed remarkable progress, with some of them managing to improve their final scores by more than 20%. Previous studies have also shown a positive relationship between physical fitness and academic achievement, indicating that students who are more physically active tend to have better learning outcomes.

Second, observations during the implementation of gymnastics showed that students became more enthusiastic and actively participated in class activities. This positive attitude contributed to increased interaction during PJOK lessons (Amin, 2023). For example, students who were previously less courageous in participating in group discussions now showed a desire to contribute, explain their opinions, and discuss with their classmates (Iwandana and Stiyapranomo, 2022). This increase in self-confidence serves as a catalyst to further increase student engagement in learning, which ultimately leads to improved learning outcomes.

In addition, analysis of factors influencing improved learning outcomes shows that teacher support also plays an important role. Teachers who actively encourage students to engage in gymnastics and provide positive feedback make students feel valued and cared for. This creates a supportive learning environment, where students feel comfortable asking questions, learning, and interacting. The combination of physical activity and social support in schools creates an ideal atmosphere for effective learning (Amin, 2023).

C. Discussion

The results of this study provide a deeper understanding of the importance of physical fitness gymnastics in the context of physical education in high school. In this analysis, the application of the DDAER model (Diagnosis, Design, Action, Evaluation, and Reflection) provides a clear and systematic structure in understanding how physical fitness gymnastics can be implemented and evaluated in the classroom.

In the Diagnosis stage, researchers identify the main problems faced by students, namely low motivation and student involvement in PJOK learning. This diagnosis is important because it helps researchers understand the context and challenges that exist, so that they can design appropriate interventions. Without an in-depth diagnosis step, the actions taken may not be in accordance with the needs of students.

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Next, the Design stage involves planning a physical fitness gymnastics program that not only considers the physical aspects, but also compiles interesting and diverse activities to maintain student interest. This design also takes into account the time and resources available, so that activities can be carried out regularly and continuously.

In the Action stage, the implementation of gymnastics is carried out regularly every Wednesday. Researchers conduct observations to record the process and development of students during the activity. These observations not only help in understanding how students interact and participate, but also provide valuable data for further evaluation. Success in this stage is highly dependent on the commitment of teachers and students to carry out activities consistently. After implementation, the Evaluation stage is carried out to assess the effectiveness of the exercise program. Data collected from observations, interviews, and academic scores are used to determine whether the goals set in the diagnosis stage have been achieved. This evaluation also helps in identifying factors that contribute to the success or failure of the program, so that necessary improvements can be made. Finally, the Reflection stage provides an opportunity for researchers to reflect on the entire process. This reflection includes an analysis of the results obtained, challenges faced during implementation, and lessons learned for further development (Hanifah, 2022). By conducting reflection, researchers can recommend improvements and innovations in the implementation of physical fitness gymnastics in the future, as well as consider the possibility of expanding this program into other learning activities in schools.

This whole process shows that the implementation of structured and sustainable physical fitness exercises can provide great benefits for students, both in terms of physical health and learning outcomes. This study emphasizes the importance of integrating physical activity into education, and encourages educators to pay more attention to developing programs that combine physical fitness with academic learning. Thus, the results of this study not only provide evidence that physical fitness exercises improve learning outcomes, but also show that the DDAER model can be used as a tool to design, implement, and evaluate more effective and impactful physical education programs.

CHAPTER V CONCLUSION AND SUGGESTIONS

A. Conclusion

This study has shown that the implementation of physical fitness gymnastics in Al-Azhar Private High School Medan has a significant impact on improving student learning outcomes in Physical Education, Sports, and Health (PJOK) subjects. The results of the study revealed that students who routinely participate in physical fitness gymnastics experienced a significant increase in their academic grades, which are closely related to increased physical fitness, concentration, and students' ability to manage stress. Physical activity that is carried out regularly not only contributes to physical health but also to students' mental health, which is very important in the learning process. In addition, physical fitness gymnastics serves as a forum to increase social and emotional involvement among students. Through interaction during gymnastics, students feel more motivated to participate in the learning process, which has a positive impact on their self-confidence and enthusiasm for learning. The use of the DDAER model (Diagnosis, Design, Action, Evaluation, and Reflection) in this study proved effective, where each stage contributed significantly to the design and evaluation of the gymnastics program. Thus, it can be concluded that physical fitness gymnastics is an important component in the learning process that can improve student learning outcomes in high school.

B. Suggestion

Based on the results of this study, there are several suggestions that can be given. First, for PJOK teachers, it is recommended to continue integrating physical fitness gymnastics into the learning curriculum as an effective method to improve student learning outcomes. Teachers also need to encourage active student participation in physical activities and provide positive feedback to increase their motivation. Second, for schools, it is important to provide adequate facilities and resources to support the implementation of physical fitness gymnastics programs (Lestari, 2022). This includes providing sufficient space for physical activities, necessary equipment, and sufficient time in



the school schedule. Third, for further research, it is recommended that this study can be expanded by involving more schools and looking at the long-term impact of implementing physical fitness gymnastics on learning outcomes and overall student development.

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