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The Role of Physical Education Teachers in Detecting and Addressing Motor Development Delays in Elementary School Students

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ABSTRACT

Motor development is one of the key aspects of elementary school students' growth because it relates to their ability to perform daily activities and participate in the learning process. However, not all students exhibit motor development appropriate for their age level, necessitating attention from teachers particularly Physical Education, Sports, and Health (PJOK) teachers. This study aims to examine the motor development of elementary school students and the role of PE teachers in detecting and addressing delays in motor development. This study employs a literature review method with a qualitative descriptive approach through an analysis of various relevant journal articles and previous research. The results of the study indicate that motor development encompasses gross and fine motor skills, which can be developed through planned and varied physical activities. PJOK teachers play a role in observing students' motor skills, identifying their difficulties, monitoring their progress, providing age-appropriate exercises, modifying activities, and offering motivation and guidance. Support from teachers, parents, and the environment is also necessary to help students achieve optimal motor development.

Keywords: motor development, elementary school students, physical education teachers, motor delays

INTRODUCTION

Physical and motor development is one of the key aspects of growth in elementary school-aged children. Between the ages of 6 and 12, children undergo physical changes that include growth in body stature, increased strength, improved coordination, and the maturation of gross and fine motor skills. These developments not only affect children's ability to perform daily activities but are also closely linked to their success in the learning process at school. In the context of elementary education, gross motor skills such as running, jumping, maintaining balance, and coordinating movements are essential for sports and group games. Meanwhile, fine motor skills such as writing, drawing, using writing instruments, and shaping objects support the completion of various academic and artistic tasks. Therefore, differences in the level of motor development among children can affect their ability to participate in and complete learning activities.

However, students' physical and motor development does not always proceed uniformly. Some children may demonstrate age-appropriate motor development, while others still face challenges, particularly in terms of physical strength, flexibility, balance, and hand-eye coordination. These conditions can cause students to struggle with activities that require physical skills, such as sports, drawing, writing, and learning activities that use various tools or media. In fact, motor limitations can impact students' self-confidence, motivation, and engagement during the learning process. Findings from a study (Arya Dani Rushertanto1, 2024) of fifth-grade students at SDN 1 Bendosari in Boyolali indicate that the majority of students have gross motor skills appropriate for their developmental stage. They were able to

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perform activities such as running, jumping, maintaining balance, and throwing and catching objects. However, some students were still found to have difficulties with physical strength and flexibility. These differences affect students' ability to participate in physical education, art, and academic activities that require hand-eye coordination.

These differences in motor development indicate that the learning process must be designed to be responsive and inclusive. Teachers must not only focus on academic achievement but also identify each student's physical and motor abilities. Students with motor challenges can be provided with additional practice, individual guidance, assistive devices, and tasks tailored to their abilities. These strategies are essential to ensure that every student has an equal opportunity to participate and develop their full potential. Thus, an understanding of children's physical and motor development stages plays a crucial role in supporting effective learning in elementary school. Examining these aspects can help teachers determine learning methods, media, and activities that align with students' characteristics.

METHOD

This study employed a literature review method using a qualitative descriptive approach. This method was chosen because the research did not involve direct data collection in the field but rather involved reviewing and analyzing various relevant sources on the motor development of elementary school students and the role of Physical Education, Sports, and Health (PJOK) teachers in detecting and addressing motor development delays. The data in this study were obtained from various literature sources, such as scientific journal articles and previous research findings related to the motor development of elementary school-aged children, gross and fine motor skills, motor development delays, and the role of PE, Sports, and Health (PJOK) teachers. These sources were selected based on their relevance to the topic under discussion.

The research process consisted of several steps, namely (1) searching for and collecting relevant literature, (2) reading and understanding the content of the sources obtained, (3) identifying information related to students' motor development and delays, (4) grouping the information by topic, and (5) analyzing and compiling the findings in a descriptive manner.

The data obtained were then analyzed qualitatively by summarizing, comparing, and interpreting information from various sources. The results of the analysis are presented in the form of descriptive narratives to provide an overview of the characteristics of elementary school students' motor development, the factors influencing motor delays, and the role of physical education teachers in detecting and addressing these conditions. Through this literature review, the study aims to provide a systematic understanding of the importance of physical education teachers' role in supporting the motor development of elementary school students based on the results of previous research and studies.

RESULTS AND DISCUSSION

Motor Development in Elementary School Students

1. Definition of Motor Development

Motor development is the process by which a child's motor skills gradually and purposefully improve, progressing from simple movements to more skilled ones. For elementary school-aged children, motor development serves as a crucial foundation for performing daily activities and supports their readiness to participate in various learning activities and physical exercises. In the context of elementary school, Physical Education (PJOK) is shown to contribute to the improvement of basic motor skills including balance, coordination, and control of fine and gross motor movements because its physical activities

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are planned and structured (Chandra Kurniawan1, 2026) . Furthermore, a review of the literature also confirms that Physical Education and Health (PJOK) has a positive effect on improving students' motor skills, particularly gross motor skills, through planned and varied physical activities.

2. Characteristics of Motor Development in Elementary School-Aged Children

During elementary school, motor development is generally marked by an increase in children's ability to perform more complex movements and improved body control while moving. Children become more active, better able to coordinate multiple movements simultaneously, and more engaged in challenging physical activities.

Characteristics observed during the elementary school period include:

a. Increased movement coordination: Children begin to better synchronize their body movements, such as coordinating the work of their legs, hands, and line of sight.
b. Improvement in basic motor skills: Skills such as running, jumping, catching, and hitting/kicking tend to develop rapidly when practiced through structured activities.
c. Structured physical activities improve the quality of movement: varied and engaging learning makes students more enthusiastic and actively involved, allowing the process of motor skill development to proceed more effectively.
d. Active participation boosts self-confidence: children who are more active in Physical Education and Health classes show increased self-confidence and courage in engaging in physical activities.

3. Gross Motor Skills (e.g., Running, Jumping, Throwing, Catching, Kicking, Maintaining Balance)

Gross motor skills are movement skills that involve large muscle groups (such as the legs, arms, and overall body coordination). For elementary school children, mastering gross motor skills is important because it relates to the ability to move effectively in various games, sports, and daily activities.

a. Running: The ability to run develops when children have the opportunity to practice with variations in distance, speed, and track layout. Studies indicate that Physical Education (PJOK) significantly contributes to the improvement of basic motor skills such as running.
b. Jumping: Jumping requires body coordination, balance control, and the ability to regulate force. In discussions of basic motor skills, jumping is identified as a skill that improves through Physical Education and Health (PJOK) programs involving varied movements.
c. Throwing and Catching: Throwing and catching skills are related to body movement coordination and the ability to predict the direction and speed of an object. Well-planned and varied Physical Education and Health (PJOK) programs have been shown to positively impact the development of basic motor skills, including throwing and catching.
d. Kicking: Kicking requires coordination of the legs, body orientation, and force control. Among the basic motor skills listed as developing through physical education, kicking is part of the overall development of motor skills through varied activities.
e. Maintaining balance: Balance is an important component of gross motor skills. Physical education is not merely physical in nature but also contributes to the improvement of basic motor skills such as balance and coordination. Furthermore, physical activities designed to match children's developmental stages can significantly improve motor coordination, balance, and agility.

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The Impact of Physical Education on Gross Motor Skills

Studies indicate that physical education has a positive impact on improving students' motor skills, particularly gross motor skills, through planned and varied physical activities. Physical education that incorporates a variety of movements and engaging methods (such as games and group activities) has also been shown to be more effective because students become more active and directly involved.

4. Fine Motor Skills (hand-eye coordination)

Fine motor skills involve small muscles and require precision of movement, particularly coordination. Hand-eye coordination is one of the key aspects of fine motor skills, as it involves synchronizing vision with hand movements. Studies indicate that Physical Education (PJOK) contributes to improved control of both fine and gross motor skills (not merely physical activity alone). This means that when Physical Education is conducted through activities that require precision (such as catching and throwing, as well as other controlled movements), the quality of coordination can also improve. Furthermore, because Physical Education involves varied movement experiences and encourages active student participation, the process of learning motor skills including the strengthening of motor control is likely to be more effective.

5. Factors Affecting Motor Development

A child's motor development is influenced by various interrelated factors. One of these is physical growth, as a child's physical condition determines their readiness to perform various motor activities. The development of muscles, bones, balance, and body coordination can help children perform movements more effectively. In addition, motor development is also influenced by regular physical activity and exercise. Opportunities to engage in various physical activities can help children develop their motor skills in accordance with their developmental stage.

Motor Development Delays in Elementary School Students

1. Definition of Motor Development Delays

A motor development delay (particularly in fine motor skills) is a condition in which a child is not yet able to perform motor skills appropriate for their age range. For elementary school children, fine motor skills are necessary for daily activities as well as learning activities, such as writing, drawing, or coloring. This delay can pose challenges in daily activities. For first-grade students, the transition from kindergarten to elementary school also requires adjustments in motor development closely related to writing skills (Syah et al., 2021).

2. Characteristics Observable by Teachers

Characteristics observable by teachers regarding fine motor delays can be seen in difficulties during writing activities or when using writing instruments. Examples of such indicators include:

a. Difficulty gripping a pencil (an improper grip can cause difficulty writing).
b. Difficulty forming letters, as well as inconsistent spacing between letters or words.
c. During learning or other activities, students may appear to have difficulty adapting to writing and require guidance and plenty of practice.

In addition, during other related motor activities, children may exhibit writing difficulties as well as "clumsiness" in other motor activities (for example, those requiring motor control).

3. Examples of students' difficulties in Physical Education activities

Delays in fine motor skills related to early writing; examples of difficulties in Physical Education activities (such as jumping, running, hitting, and gross motor coordination) are not specifically detailed. However, logically, fine motor delays will still affect Physical

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Education and Health (PJOK) activities that require fine motor control or coordination when holding equipment, for example:

a. Difficulty using or holding equipment properly due to underdeveloped hand muscle control (similar to difficulty gripping a pencil).
b. Difficulty following movement instructions that require precise hand positioning or coordination (which can be observed through patterns of difficulty in activities requiring precision control, such as writing).

4. Factors That Can Affect Motor Development

Delays in motor development can be influenced by both internal and external factors. The document states that delays in early writing (which is related to fine motor skills) can occur due to several factors, both external and internal.

In addition, a child's motor development is also influenced by:

a. Practice and support from teachers, parents, and the environment to ensure proper motor development.
b. During the transition from kindergarten to elementary school, children need support to adjust; if they are unable to adjust, they will require guidance and practice.

The Role of Physical Education Teachers in Detecting Motor Delays

Physical education teachers play a crucial role in helping to detect motor development delays in children because physical education classes directly provide opportunities for students to practice various motor skills. In this article, this role can be carried out through systematic steps, ranging from observation to communication with relevant parties. This role is also emphasized by an article that states the involvement of teachers and parents is a key factor in supporting the development of children's gross motor skills.(Utami Humaira et al., 2024)

1. Observation of Students' Motor Skills

The first step for Physical Education teachers is to observe students' motor skills during physical activities. Teachers can pay attention to gross motor skills that emerge in activities such as running, jumping, throwing, and catching, as these skills are a core component of Physical Education and are closely related to children's motor development. Furthermore, since motor skills develop with age and are influenced by the level of physical activity, teachers need to observe how well students perform the assigned movement tasks.

2. Identifying Students Who Are Struggling

After observation, the teacher identifies students who are experiencing difficulties. Identification can be done by observing students who:

a. have difficulty performing basic movements (e.g., locomotor movements such as walking, running, or jumping),
b. have difficulty with non-locomotor movements (e.g., bending or twisting),
c. or have difficulty with manipulative movements (e.g., throwing or catching).

Categorizing basic movements into locomotor, non-locomotor, and manipulative can help teachers map out motor issues more clearly.

3. Simple Motor Skills Assessment

To ensure more accurate identification, teachers can conduct a simple motor skills assessment relevant to the basic movements frequently used in Physical Education. This assessment does not have to be complicated, but it should be sufficient to identify progress or challenges in specific areas, such as:

a. accuracy in performing movement patterns,
b. body control,
c. coordination during activities,

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d. success in performing manipulative movements (catching/throwing) or locomotor movements (running/jumping).

This approach aligns with the idea that variations in basic movements in Physical Education are expected to enhance students' motor skills and enable teachers to identify students' needs as learning unfolds.

4. Monitoring Student Progress

Teachers also need to continuously monitor student progress. This monitoring can involve recording the results of movement exercises and assignments over time so that teachers can see whether students are making progress or have plateaued. Well-planned and structured physical education activities can significantly improve motor skills, making monitoring a crucial component of the training program's effectiveness.

5. Communication with Homeroom Teachers and Parents

A crucial final step is communication with homeroom teachers and parents. Teachers need to clearly convey their findings (such as the types of motor difficulties observed) and coordinate the necessary support both at school and at home. The article emphasizes the need to involve parents through support and effective communication regarding the benefits of physical activity for children's development. Through this communication, parents can provide support and encouragement to help their children practice gross motor skills, while teachers adapt their interventions in physical education activities.

The Role of Teachers in Addressing Motor Delays

According to (Nurdin et al., 2024) , teachers play several roles in addressing motor delays

1. Providing exercises tailored to students' abilities

Physical Education teachers can guide students who are struggling by providing specialized, step-by-step instruction until they are able to perform movements that were previously difficult for them correctly. This approach adapts to students' current abilities (rather than demanding maximum results from the start).

2. Modifying Physical Education activities

Teachers prepare and modify basic motor skills instruction by using appropriate media/equipment and activity designs, such as incorporating simple and fun games into the learning process. Instruction can also be delivered through movement demonstrations (pictures/videos) and hands-on practice to help students better understand the movements.

3. Providing Gradual Practice

Exercises are repeated until students become accustomed to performing basic motor skills. This aligns with the principle of gradual practice: reinforcement continues until students' abilities improve and their movements become more accurate.

4. Using Engaging Games

Teachers encourage student engagement and interest by presenting learning activities in the form of games. If students are less active, the teacher takes a persuasive approach and re-energizes them. In this way, motor skills practice is more easily accepted by students who may be at risk of developmental delays.

5. Providing motivation and guidance

Teachers provide encouragement in the form of motivation so that students are active in basic motor skills learning. When students face challenges or difficulties, teachers also provide guidance by teaching them until they are able to perform difficult movements.

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CONCLUSION

Based on the results of a literature review, motor development is an important aspect of elementary school students' growth, encompassing both gross and fine motor skills. This development can be influenced by physical growth, physical activity, practice, and environmental support. Physical education instruction that is well-planned, varied, and tailored to students' abilities can help improve motor skills and increase student engagement in learning activities.

Physical Education teachers play a crucial role in detecting and addressing delays in motor development through observation of motor skills, identification of difficulties, simple assessments, and monitoring of student progress. In addressing these issues, teachers can provide progressive exercises, modify learning activities, use engaging games, and offer motivation and guidance. Additionally, communication and collaboration among teachers, homeroom teachers, and parents are essential to ensure continuous support for students' motor development. Thus, Physical Education and Health (PJOK) instruction serves not only as a physical activity but also as a vital component in supporting the motor development of elementary school students.

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