

Efforts of Physical Education Teacher in Enhancing the Psychomotor Abilities of Deaf Students in Physical Education Learning (A Case Study at SLB N Tegal City)

Ade Layda Enti^a, Bambang Priyono^b

^{ab}Pendidikan Jasmani Kesehatan dan Rekreasi, Universitas Negeri Semarang, Indonesia

Correspondence: adelayda@students.unnes.ac.id

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Abstract

Adaptive physical education is an essential component in developing the motor skills of children with special needs, including deaf students who experience limitations in understanding verbal instructions. Deaf children possess psychomotor potential comparable to that of typical children but require special teaching approaches. This study aims to describe the efforts of physical education teachers in enhancing the psychomotor abilities of deaf students at SLB N Tegal City. Using a qualitative approach and case study design, data were collected through observation, interviews, and documentation. The findings show that teachers apply demonstrative, visual, and non-verbal communication approaches, along with learning strategies based on educational games and motor skill repetition. The challenges faced by teachers include limited two-way communication, inadequate facilities, variations in student concentration, and a lack of specialized training. This study concludes that communicative, adaptive, and visual-based approaches are crucial in supporting the psychomotor development of deaf students. Teacher training and appropriate facilities are key to the success of physical education in special schools.

Keywords: physical education; deaf students; psychomotor skills; teaching approach; case study

1. Introduction

Education is one of the key supporting factors in the development of every country. Physical education is a systematic process of engaging students to promote a healthy lifestyle, develop physical fitness, and improve motoric (Effendi et al., 2022). Physical education is an integral part of national education, aimed at developing students' skills through physical activities. Therefore, physical education must be taught at all levels of education. (Paramitha & Anggara, 2018). One of the groups that should receive physical education is children with special needs (CWSN), as they have the same right to education as typically developing children (Duta et al., 2021). Adaptive physical education is a component of general education and is one form of overall education that aims to develop the potential of students with special needs in achieving educational goals through physical activities (Wijayanti et al., 2022).

Deaf children are individuals who experience permanent hearing loss, which results in difficulty fully receiving verbal information. According to the World Health Organization (WHO), significant hearing impairment affects the development of a child's communication and language skills. This limitation leads to delays in both receptive and expressive language development, which in turn impacts the child's social and cognitive aspects. (Tamburlini, 2018).

Deaf children often experience difficulties in two-way communication and social interaction within the school environment, which also affects their interest in learning and active participation in verbally-based instruction. Nevertheless, they possess intellectual potential equal to that of typically developing children, and with the right approach, they can demonstrate strong academic and psychomotor abilities. Some common characteristics of deaf children include These include limitations in understanding verbal instructions, a tendency to use sign language, and a reliance on visual media as the primary learning aid. By understanding these characteristics, physical education teachers can design more adaptive and inclusive learning strategies. Several studies have shown that active participation in structured physical activities can help improve motor coordination, self-confidence, and social interaction among deaf children. (Burhaein et al., 2024).

Physical education contributes to the development of psychomotor skills, especially for children with special needs such as those who are deaf. Deaf children generally have good physical potential, but their hearing limitations create challenges in communication and receiving instructions, making it necessary to use adaptive teaching approaches. (Syafrial & Nopiyanto, 2023). As research in inclusive education has advanced, it has been found that direct and visual demonstration-based learning is highly effective in helping deaf students understand and imitate movements (Putri & Pangastuti, 2025). Therefore, physical education teachers in special schools (SLB) need to implement appropriate teaching strategies to ensure educational goals are achieved.

Psychomotor skills involve the coordination between the central nervous system, muscles, and senses in performing structured movements. In children, this aspect develops progressively through stimulation provided by planned physical activities. (Darmanto et al., 2019). According to (Aliriad et al., 2023), The development of fundamental motor skills during childhood plays an important role in building readiness for lifelong physical activity. In deaf children, limitations in communication and sound perception present unique challenges in this process understanding verbal instructions; however, they still possess the same motor potential as hearing children. According to (Kusuma & Pustaka, 2025) showed that children with hearing impairments who participated in adaptive physical education programs demonstrated significant improvements in balance, coordination, and movement accuracy compared to those who did not receive the intervention. Furthermore, research conducted by Block and Obrusnikova in (Nilholm, 2021) emphasized the importance of a teaching approach that integrates rhythmic visual movements and visual aids to enhance psychomotor responses in children with special needs, including those who are deaf.

Based on initial observations at SLB N Kota Tegal, a special needs school established in 1983, the institution has four educational levels: Preparation, Primary (SDLB), Junior High (SMPLB), and Senior High (SMALB), which serve various categories of children with special needs (CWSN). These categories include: (1) Category A for the visually impaired, (2) Category B for the hearing impaired (deaf), (3) Category C for those with intellectual disabilities, (4) children with physical disabilities, and (5) children with autism. Physical education at SLB N Kota Tegal is taught by two physical education teachers. According to data gathered during the initial observation, the PE teachers at SLB N Kota Tegal are graduates of physical education programs. The teacher begins the PE lesson with a warm-up, followed by students responding to commands that are both instructed and demonstrated by the teacher. Some students are able to follow the lessons well. However, for deaf students, the teacher must give instructions very clearly. The teacher also needs

to demonstrate each movement in the PE material in great detail. For deaf students, the teacher places more emphasis on nonverbal communication, because if the teacher relies heavily on verbal communication, deaf students will have difficulty understanding the material being presented.

Based on the observation results above, the role of a physical education teacher is crucial in determining effective strategies during the learning process. Therefore, the researcher is interested in conducting a study with the title “Efforts of Physical Education Teachers in Enhancing the Psychomotor Abilities of Deaf Students at SLB N Tegal City (A Case Study at SLB N Tegal City).”

2. Method

This study uses a qualitative approach with a case study design. The qualitative approach is employed to gain an in-depth understanding of social phenomena in a natural context, particularly in the teaching practices of physical education (PE) teachers toward deaf students. This method allows the researcher to explore meanings, patterns, and dynamics that cannot be revealed through a quantitative approach. According to (Moleong, 2019), Qualitative research emphasizes data depth through direct interaction with subjects, participatory observation, and contextual analysis.

The case study design was chosen because the main focus of this research is to explore a specific case in depth namely, the teaching approach used by the physical education teacher at SLB Negeri Kota Tegal. A case study allows for a comprehensive exploration of the social context, teaching strategies, and student experiences within a unique educational setting. As stated by (Welmince Vian Tukly et al., 2025), A case study is highly suitable for addressing practical issues in the field of education that are contextual and complex in nature. Data collection was carried out through non-participant observation, semi-structured interviews, and documentation, which were then analyzed qualitatively using data reduction, categorization, and conclusion drawing techniques. Source and method triangulation were used to ensure the validity and reliability of the data obtained.

The qualitative research method was chosen for this study because it allows the researcher to gain an in-depth understanding of the phenomena occurring in the field from the perspective of the research subjects. In this approach, the researcher acts as the main instrument, directly observing, interviewing, and reflecting on data obtained from a naturalistic environment.

A case study design was used because the focus of this research is on a specific case: the efforts of the physical education teacher at SLB N Tegal City in enhancing the psychomotor abilities of deaf students. The case study enables a comprehensive exploration of the learning dynamics, teacher-student interactions, and the learning environment in a detailed and contextual manner. This method is highly relevant for illustrating teaching strategies that are complex and uniquely adapted to the characteristics and limitations of the students. Data were collected using triangulation techniques, namely observation, in-depth interviews, and documentation, to strengthen the validity of the findings. Interviews were conducted in a semi-structured manner to allow the researcher to explore information more deeply and flexibly adapt the direction of questions based on the informants' responses. Observation was conducted in a participatory way, in which the researcher directly observed the teaching and learning process in the deaf classroom to understand the context and interactions taking place. Documentation, such as photos of student activities, field notes, and teaching materials, was also analyzed to support the findings data

triangulation. The results of this approach are expected to provide a comprehensive and realistic depiction of adaptive physical education practices in special schools.

3. Result & Discussion

The results of the study show that the efforts of physical education teachers to improve the psychomotor skills of deaf children are carried out through the implementation of adaptive and participatory learning principles.

Teacher's efforts in physical education (PE) learning

The teacher designs a physical activity program that emphasizes the repetition of fundamental motor movements such as walking, jumping, throwing, and catching through various simple games. Each activity is adapted to the students' sensory-motor abilities and focuses on improving coordination, balance, and movement control. According to a research by (Halimatussakdiah, 2024), A rhythm-based and kinesthetic learning approach is effective in enhancing the self-confidence and gross motor skills of deaf students. The teacher also uses an instructional approach that emphasizes direct demonstration, visual contact, and simple sign language to explain the objectives and techniques of each movement. In a research by (Ishak et al., 2025), It was found that the use of visual feedback and positive reinforcement in adaptive physical education contributes to the motor development of students with special needs. The key to success lies in the teacher's consistency, patience, and emotional engagement in building positive relationships with students, creating a more inclusive and supportive learning environment.

The approach used by the physical education (PE) teacher in teaching deaf students relies heavily on the principles of active engagement, non-verbal communication, and adaptation to the individual needs of the students. The teacher uses body language, facial expressions, and eye contact to convey instructions and ensures that the message is clearly understood. An educational game-based approach is also used to maintain student interest and make the learning process enjoyable. For example, the teacher incorporates activities such as simple relay games or balance competitions adapted to the abilities of deaf students. In addition, the teacher modifies the rules and equipment used in PE activities to make them easier to understand and more accessible for the students, such as using softer, lighter balls or adding visual markers on the field.

The teacher serves as both a facilitator and a role model, directly demonstrating the desired movements and providing close guidance. One innovative approach implemented is a visual-based rhythmic movement technique, in which the teacher uses hand signals or picture cards as substitutes for musical rhythms to regulate the students' movement tempo. Learning reflection is carried out through brief discussions with a supporting teacher or through periodic observation of students' motor development, in order to adjust future teaching strategies. With this communicative, multisensory, and adaptive approach, the PE teacher is able to create an inclusive learning environment that empowers deaf students to develop optimally in the psychomotor domain.

Physical education teachers play a key role in developing the psychomotor skills of deaf students through a systematic and empathetic approach. One commonly used method is the visual-auditory approach, in which the teacher combines direct demonstrations with the use of visual aids such as pictures, videos, or concrete teaching tools. This strategy is effective because deaf students rely

heavily on visual input to understand instructions. The teacher also applies a repetitive learning strategy, in which specific movements are taught gradually and repeatedly to help develop motor habits.

The 'modeling' technique, or direct demonstration by the teacher, is one of the most dominant methods because it allows students to imitate movements directly without the need for extensive verbal communication. In addition, the teacher needs to create an inclusive and supportive learning environment by paying attention to each student's individual responses. Consistent positive feedback has been shown to increase students' motivation to participate more actively in physical education classes (Nasdin et al., 2022). In some cases, collaboration with support teachers or classroom teachers is also highly beneficial, especially in optimizing communication between the PE teacher and the students. Teachers are also encouraged to attend adaptive physical education training to develop a more contextual curriculum tailored to the characteristics of deaf students.

The PE teacher uses a hands-on practice method with picture-based media to deliver fundamental movement material. This aligns with the findings of (Edu L. et al., 2025) that visual strategies are highly effective in teaching physical education to deaf students, as they help them understand instructions in a concrete manner. In addition, the teacher also adapts the methods to the students' characteristics by using demonstrative approaches, non-verbal communication, and repetition. (Sumarsono & Anisa, 2019) emphasizes the importance of repetition and visualization in physical education to enhance the motor responses of deaf children.

Challenges in learning

In addition to the previously mentioned approaches, in practice, PE teachers also face several significant challenges in the process of enhancing the psychomotor abilities of deaf students. The first challenge involves two-way communication, where both teachers and students face limitations in sign language proficiency, which hinders effective communication. The teacher reported that when students have questions or feel confused during the lesson, they struggle to express themselves clearly. Conversely, the teacher also sometimes finds it difficult to convey the meaning of complex movements or instructions.

The second challenge is the limited facilities and infrastructure that support the physical education learning process. SLB N Kota Tegal does not yet have specialized sports facilities adapted for children with special needs. The lack of visual aids, educational play equipment, and safe open spaces restricts both movement and the variety of learning activities. The third challenge is the varying levels of activity and concentration among deaf students. Some are highly active and difficult to manage, while others are passive and easily lose focus. The teacher must manage the class with different approaches tailored to each individual. The final challenge is the lack of specialized training for PE teachers in special schools. Many PE teachers come from a general physical education background and have not received specific training in working with students with sensory disabilities such as deafness. This affects the effectiveness of content delivery and the ability to manage inclusive learning effectively.

4. Conclusion and Recommendation

This study shows that the efforts of physical education teachers to improve the psychomotor abilities of deaf students are carried out through adaptive, visual, and participatory approaches.

The PE teacher uses demonstrative methods, non-verbal communication, and instructional strategies tailored to the students' characteristics, such as repetition, educational games, and modified learning aids. The visual-auditory approach, modeling technique, and hands-on practice have proven effective in helping students understand and imitate movements in a concrete manner.

The challenges faced by teachers include: (1) limited two-way communication due to the fact that not all teachers and students are proficient in sign language, (2) lack of facilities and infrastructure to support adaptive physical education, (3) varying levels of concentration and activity among deaf students, and (4) insufficient specialized training for PE teachers in special education schools.

Based on the above conclusions, several suggestions can be offered, including: (1) Special Training: PE teachers need to receive intensive training in adaptive physical education and sign language to communicate more effectively and deliver instructional content efficiently. (2) Improvement of Facilities and Infrastructure: The government and schools are expected to provide sports facilities that are friendly to children with special needs, including visual aids, educational play media, and safe spaces for physical activities. (3) Teacher Team Collaboration: Collaboration between the physical education teacher, classroom teacher, and support teacher is essential to support the success of inclusive learning. (4) Regular Evaluation: Teachers need to conduct regular evaluations of students' psychomotor development so that learning strategies can be adjusted to each student's individual needs.

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