

PEDAGOGICAL APPROACHES TO THE CORRECTION OF PSYCHOMOTOR DISORDERS IN CHILDREN: A CRITICAL REVIEW OF THE LITERATURE

ABORDAGENS PEDAGÓGICAS PARA A CORREÇÃO DE DISTÚRBIOS PSICOMOTORES EM CRIANÇAS: UMA REVISÃO CRÍTICA DA LITERATURA

ENFOQUES PEDAGÓGICOS PARA LA CORRECCIÓN DE TRASTORNOS PSICOMOTORES EN NIÑOS: REVISIÓN CRÍTICA DE LA LITERATURA



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How to reference this paper:

BIESIEDA, V.; YEFYMENKO, M.; REVUTSKA, O.; MARCHUK, V.; BOCHKOV, P. Pedagogical approaches to the correction of psychomotor disorders in children: A critical review of the literature. **Revista on line de Política e Gestão Educacional**, Araraquara, v. 27, n. esp. 2, e023051, 2023. e-ISSN: 1519-9029. DOI: <https://doi.org/10.22633/rpge.v27iesp.2.18783>



| **Submitted:** 15/02/2023
| **Revisions required:** 21/04/2023
| **Approved:** 25/07/2023
| **Published:** 21/08/2023

Editor: Prof. Dr. Sebastião de Souza Lemes
Deputy Executive Editor: Prof. Dr. José Anderson Santos Cruz

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ABSTRACT: The study aims to analyze different pedagogical approaches and methods used to correct psychomotor disorders in children. The goal was achieved by using content analysis. The results emphasize that psychomotor abilities include various aspects, such as accuracy of control, coordination of movements of different body parts, reaction to stimuli, reaction speed, and speed and accuracy of movement, including micromovements. Psychomotor abilities reflect the ability to control and coordinate body movements by mental processes. Impairments can include a variety of problems related to motor skills, coordination, balance, and movement control. The causes of such disorders are diverse and can significantly impact a child's learning, development, and daily activities. The conclusions note that correction and rehabilitation of children with psychomotor disorders require the application of pedagogical and methodological principles aimed at improving their motor and mental skills.

KEYWORDS: Psychomotor abilities. Disorders. Pedagogical analysis. Pre-school children.

RESUMO: *O objetivo deste estudo é analisar distintas abordagens pedagógicas e métodos empregados na correção de distúrbios psicomotores em crianças. A meta foi atingida por meio da utilização da análise de conteúdo. Os resultados destacam que as habilidades psicomotoras abrangem diversos aspectos, tais como precisão de controle, coordenação de movimentos de diferentes partes do corpo, resposta a estímulos, velocidade de reação, assim como velocidade e precisão de movimento, inclusive micromovimentos. Tais habilidades refletem a capacidade de controlar e coordenar os movimentos corporais de acordo com os processos mentais. Os distúrbios podem englobar uma variedade de problemas relacionados às habilidades motoras, coordenação, equilíbrio e controle de movimento. As causas destes distúrbios são diversas e podem ter um impacto significativo na aprendizagem, desenvolvimento e atividades diárias da criança. As conclusões ressaltam que a correção e reabilitação de crianças com distúrbios psicomotores requerem a aplicação de princípios pedagógicos e metodológicos voltados para o aprimoramento de suas habilidades motoras e mentais.*

PALAVRAS-CHAVE: *Capacidades psicomotoras. Perturbações. Análise pedagógica. Crianças do pré-escolar.*

RESUMEN: *El objetivo del estudio es analizar diferentes enfoques y métodos pedagógicos utilizados para corregir los trastornos psicomotores en los niños. El objetivo se logró mediante el uso del análisis de contenido. Los resultados enfatizan que las habilidades psicomotoras incluyen diversos aspectos, como la precisión del control, la coordinación de los movimientos de diferentes partes del cuerpo, la reacción a los estímulos, la velocidad de reacción, así como la velocidad y precisión de los movimientos, incluidos los micromovimientos. Las habilidades psicomotoras reflejan la capacidad de controlar y coordinar los movimientos corporales de acuerdo con los procesos mentales. Las deficiencias pueden incluir una variedad de problemas relacionados con las habilidades motoras, la coordinación, el equilibrio y el control del movimiento. Las causas de estos trastornos son diversas y pueden tener un impacto significativo en el aprendizaje, el desarrollo y las actividades diarias de un niño. Las conclusiones señalan que la corrección y rehabilitación de niños con trastornos psicomotores requieren la aplicación de principios pedagógicos y metodológicos destinados a mejorar sus habilidades motoras y mentales.*

PALABRAS CLAVE: *Capacidades psicomotoras. Trastornos. Análisis pedagógico. Niños preescolares.*

Introduction

Research problem

In contemporary contexts, where the number of children affected by psychomotor disorders is constantly increasing, analyzing key pedagogical and didactic aspects of physical and mental development correction plays a fundamental role in formulating strategies and tactics for future corrective practical measures.

The introduction of innovative pedagogical forms and methods in the field of corrective psychopedagogy ensures the systematic formation of compensatory mechanisms in children with psychomotor disorders. Studies of the developmental stages of these disorders have demonstrated the importance of various forms of pedagogical work as a condition for overcoming the impact of these deficiencies on the mental, physical, and social development of children. Therefore, the emphasis on pedagogical approaches to correct psychomotor disorders in children is relevant, as it will assist teachers and child development professionals in better understand how to provide the necessary support and assistance to children.

This literature review is based on the desire to draw attention to the relevance of psychomotor disorders in children and explore various pedagogical approaches that can be used to correct them. Additionally, the study's primary focus is the analysis of psychomotor disorders and characterizing their general symptoms. Research in this area can contribute to improving children's quality of life and society's overall development.

Objectives and Research Questions

Consequently, the aim of the study is to provide a detailed analysis of various pedagogical approaches and methods used to correct psychomotor disorders in children. Therefore, the main research questions are as follows: 1) Identification of psychomotor problems in children. 2. Characterization of the process of correcting psychomotor disorders involving pedagogy based on literature analysis. 3. Analysis of the main pedagogical approaches to the correction of psychomotor disorders through the perspective of a critical literature review.

Methodology

General background

The adopted research methodology involves a comprehensive analysis of scientific sources to understand and summarize the knowledge and information available in this area. The research comprises several stages, requiring the application of scientific methods.

Stages and methods

Selection and Analysis of Scientific Sources: The first stage involves searching and selecting scientific publications related to pedagogical approaches for correcting psychomotor disorders in children. The article is based on the analysis of scientific articles and monographs, with selection criteria focusing on the sources' relevance, authority, and objectivity. **2. Critical Analysis of Literature:** In this stage, a detailed analysis of each selected source is carried out, studying the key concepts, methods, and research results related to the topic. The advantages and disadvantages of various pedagogical approaches to correcting psychomotor disorders are considered. **3. Generalization and Synthesis of Information:** In the third stage, the results of the literature analysis are summarized, identifying the main trends and development directions in correcting psychomotor disorders in children. **4. Preparation of a Literature Review:** The collected and analyzed information on modern pedagogical principles for correcting psychomotor disorders in children is formalized in the literature review. **5. Formulation of Conclusions and Recommendations:** The main conclusions and recommendations are outlined based on the critical literature review.

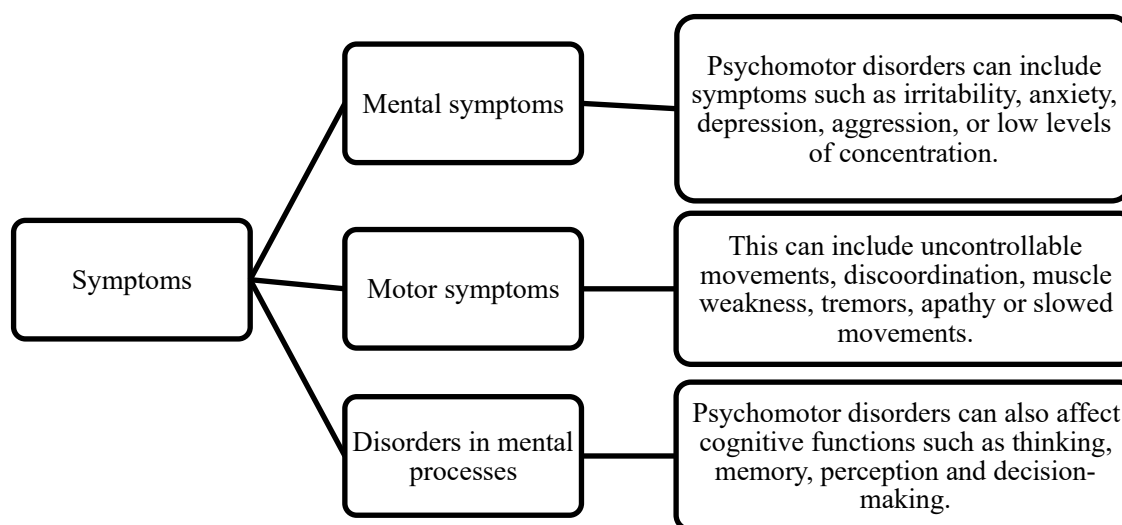
A similar step-wise methodology has been employed in studies such as Hordiichuk *et al.* (2022), Namestiuk (2022), and Biliuk, Stepanenko, and Kyrychenko (2023). In general, these works constitute the theoretical foundation of the research.

Results

The term "psychomotor skills" encompasses the precision of control, coordination of various body parts, reactive orientation, reaction speed, speed of specific movements (or micromovements), control of rhythm, restraint of hand movements, speed, precision of finger movements, etc. These skills reflect the ability to control and coordinate body movements according to mental processes, enabling the performance of tasks that require precision, coordination, and control.

The term "psychomotor disorders" refers to alterations or deviations in motor activity and mental state, encompassing various issues related to motor skills, coordination, balance, and movement control. These disorders can occur for various reasons, impacting the child's learning, development, and daily activities. Figure 1 presents a generalized structure of symptoms associated with psychomotor disorders.

Figure 1 - Structure of symptoms



Source: Compiled by the authors

Correcting psychomotor disorders may require an individualized approach, aiming to alleviate symptoms and improve the quality of life of the affected person. This approach seeks to facilitate daily activities and develop skills that the disorders may compromise. The correction of psychomotor development and the rehabilitation of children with psychomotor disorders require adherence to pedagogical and methodological principles aimed at improving their motor and mental spheres. These methodological principles encompass various aspects:

1. Search for the Formation of Correct Motor Stereotypes: Providing children with opportunities to develop correct motor skills and habits is crucial for the healthy development of their motor abilities.
2. Development of Customized Programs: It is essential to create rehabilitation, correction, and development programs based on an individual approach, taking into account the specific needs, capabilities, and limitations of each child.

3. **Adjustment of Rhythm and Movement Control:** During correction sessions, it is fundamental to create conditions that allow the child to be active and independent while providing the necessary support and control.

4. **Systematic Repetition and Application in Daily Life:** The skills acquired during correction sessions should be systematically repeated and applied in the child's daily life, strengthening and supporting their continuous use.

5. **Mandatory Cooperation with Parents:** Parents play a crucial role in correcting and rehabilitating the child. Close cooperation with them contributes to more effective results, as parents can support and continue corrective measures at home.

All these pedagogical and methodological principles aim to ensure the proper rehabilitation and correction of psychomotor disorders in children, contributing to the development of motor and mental skills essential for a more successful and independent life.

According to Yefymenko (2020), among the general modern approaches to correcting psychomotor disorders in children with delays in psychomotor development, the principle of interaction between two systems plays a significant role: "Child" and "Universe," based on the universal principles of systematicity and synergy. The systemic principle in this concept is manifested by understanding that the child and the world around them are separate systemic creations of different levels. For the child's effectiveness in the Universe, it is necessary to harmonize, based on relationships, the complex activity of these two systems to improve the overall desired result of the child's activity and the existence of both the child and their environment.

In the field of correctional pedagogy, Yefymenko (2014) established theoretical and methodological foundations for addressing psychomotor disorders in children through adapted physical education. This study emphasizes the importance of an integrated approach to preventing and correcting movement disorders based on scientifically grounded diagnosis. One notable contribution of Yefymenko (2014) in this area is the ability to combine the objectivity of clinical tests commonly used in neurology with the significant pedagogical potential of game-based assessment.

This approach is of great importance when working with children, especially those in early and primary school ages, who present psychomotor disorders (BIESIEDA, 2022). Creating a comfortable and engaging environment, including interactive games, is essential for obtaining reliable information about a child's physical development during tests (BIESIEDA,

2022). This method serves two main objectives: first, it establishes a positive relationship between the teacher and the child, allowing for the successful completion of the assessment task. Secondly, it promotes playful motivation, enhanced by a well-designed and dramatized test scenario, significantly increasing the child's enthusiasm to participate in movement and play activities.

Consequently, the results obtained under these conditions tend to be more objective as they are driven by appropriate motivation, compared to results achieved without the same level of playful engagement (BIESIEDA, 2021). For this reason, using certain pedagogical methods based on games is believed to be an essential component of the system for correcting psychomotor disorders in children. Play is a natural form of learning and development, especially for children, as it stimulates activity, creativity, and interest.

Table 1 – Key Aspects of Using Playful Methods in Correcting Psychomotor Disorders

Aspect	Explanation
Attracting attention and motivation	Games can engage children and stimulate their attention. This is especially important in the correction of psychomotor disorders when it can be difficult for children to focus on routine exercises or tasks.
Development of motor skills	Games can include motor tasks that promote the development of motor skills, coordination, and body control.
Social development	Group play helps children develop social skills such as communication, cooperation, and peer interaction. This is especially useful for children with psychomotor disorders who may need additional support in this area.
Psychological comfort	Play helps create a positive and relaxed atmosphere for children, which is especially important in psychomotor disorders, where children may feel stressed or uncomfortable.
Individualization	Teachers can adapt games and tasks to the needs of each child, providing an individualized approach to correction.
Systematic and consistent	Games can be used to create a sequence of exercises that promotes the gradual development of psychomotor skills.
Evaluation and monitoring	The game can include tools for assessing and monitoring the child's progress in correcting psychomotor disorders.

Source: Compiled by the authors

Comprehensively, game-based methods prove to be an effective and natural way to support the development of children with psychomotor disorders. These methods create

favorable conditions for learning, helping children overcome difficulties while maintaining a positive and motivated attitude (YEFYMENKO, 2020).

For this reason, another significant approach to correcting psychomotor disorders is the individual (person-oriented) approach (ZINCHENKO; DOROSHEVA; MOSIY, 2023). Simultaneously, a crucial role in the system of correcting psychomotor disorders in children is played by the approach of improving the life skills and social adaptation of children (CHRISTY, 2018; BILIUK; STEPANENKO; KYRYCHENKO, 2023). This approach proposes to expand and enrich health-promoting content through various children's activities, such as motor, speech, playful, thematic, natural, artistic, musical, literary, theatrical, and sociocultural activities. The primary goal is to strengthen and enhance life skills that contribute to the preservation of children's mental and physical health (YEFYMENKO, 2020). This approach is crucial, considering that children's development should be comprehensive. Children with diverse needs require opportunities to develop different aspects of their lives (MUSIYENKO; CHOPYK; KIZLO, 2020).

Therefore, it is imperative that education and training be more inclusive and centered on the individual needs of each child, especially those with psychomotor impairments (HSIEH, 2020). Another relevant principle related to enablement and corrective and compensatory approaches underscores the importance of building the educational process and physical education, considering the maximum utilization of the child's preserved functions and systems. This approach assumes that the education and development of a child with a disability should be based on their specific natural abilities and capacities (CHEPKA, 2022; FERHAN, 2020). This perspective is especially crucial for children whose musculoskeletal system has not developed properly for certain reasons, requiring pedagogical conditions that cater to the child's age-specific characteristics (WARNIER; LAMBREGTS; PORT, 2019).

It is essential to remember that each child has their own pace of development and needs, requiring pedagogical approaches to be adapted to these individual characteristics. For this reason, it is crucial to create a conducive environment for children to develop their skills in the best possible way, regardless of their limitations or characteristics. Pedagogical methods and approaches should be aimed at supporting each child in their development and learning, focusing on the positive aspects of their individuality.

Discussion

A comprehensive analysis of scientific research, including relevant articles, reveals that the development of psychophysical skills in preschool children is intrinsically linked to their lifestyle and activities (GATECEL, 2012; YEFYMENKO, 2020). According to Liakhova and Baryshnikov (2023), pedagogically oriented physical activity emerges as a significant factor impacting the cognitive skills of these children. Additionally, even in children with typical development, physical activity plays an essential role in normal growth and development, as corroborated by Folkmanis, Vasilonoks e Tzivian (2018).

The diagnosis of psychomotor skills presents complexities as there is no single overarching factor for psychomotor giftedness. This complexity results in identifying new and independent factors representing distinct psychomotor skills. Notably, a low level of correlation is observed between the results of different diagnostic tests of psychomotor skills, sometimes lacking correlation (HASIUK *et al.*, 2022; HORDIICHUK *et al.*, 2022). The expansion in the number of tests to measure psychomotor development does not translate into an improvement in reliability and may even induce a training effect when solving identical tasks, as highlighted by Moghaddas, Edwards, and Snodgrass (2022).

As argued by Mohsen and Hegazy (2021), the need for correction in children with organic cognitive disorders is evident, as the formation of psychomotor skills in this group is always individual and limited. Simultaneously, the functional components of psychomotor skills in childhood remain notably plastic, as indicated by research from other scientists (NIANKOVSKYY *et al.*, 2022; RIX *et al.*, 2009). The approach to this problem has roots in studies that conceive psychomotor skills as a complex hierarchical system with various degrees of movement construction.

Additionally, Willis *et al.* (2012) and Simko and Simko (2015) emphasize the importance of posture, particularly for children with psychomotor disorders, as it broadly reflects their overall physical development and associated motor disorders. It is crucial to note that, in the preschool age, children should experience natural and complete development of the eight fundamental motor skills: lying down, crawling, sitting, standing, walking, climbing, running, and jumping. Timely and complete mastery of these basic movements serves as foundations for the physical development of preschool children, stimulating essential motor skills such as strength, flexibility, speed, agility, and endurance (NOWAK, 2021).

Children's motor development not only determines their overall physical and biological progress but also plays a crucial role in shaping the morphological and functional components

of the musculoskeletal system. In this context, Xin *et al.* (2020) highlight that they are in a critical phase for acquiring basic motor skills intrinsically linked to physical activity. Children with psychomotor disorders face limitations in physical activity due to unique challenges associated with their mental development as well as gross motor and communication skills. The discussed study remains highly relevant in this scenario and provides a valuable foundation for further research and practical application.

An approach focused on enhancing life skills and social adaptation in children is an essential component of the system for correcting psychomotor disorders in children (BIESIEDA, 2022; NAMESTIUK, 2022; HALIUK, 2022). At the same time, despite advances in identifying postural features in children with special educational needs and implementing methods to improve their physical development and overall social adaptation, there is still a need for a more in-depth and comprehensive study of the correction system for physical development in preschool and early years children with psychomotor disorders.

In families raising a child with psychophysical disabilities, some authors consider the parent-child relationship as an object of psychoanalytic therapy. However, despite the large number of modern scientific studies, the issue of providing professional assistance to parents of children with psychomotor disorders is not sufficiently grounded.

Final considerations

Psychomotor skills encompass various aspects, such as precision of control, coordination of movements from different body parts, response to stimuli, reaction speed, and precision of movement, including micro-movements. An integral part of psychomotor skills is control over the rhythm of movements and restraint of hand and finger movements. The term "psychomotor disorders" refers to disturbances or deviations in an individual's motor activity and mental state.

In children, these disorders can encompass various issues related to motor skills, coordination, balance, and movement control. The causes of these disorders are diverse and can significantly impact a child's learning, development, and daily activities. The correction and rehabilitation of children with psychomotor disorders require adherence to pedagogical and methodological principles aimed at enhancing their motor and mental skills. This includes, in particular, the development of correct motor stereotypes, the use of playful methods, an individualized approach, etc.

It is essential to highlight the person-centered approach, which helps consider each child's individual and psychological characteristics to organize an effective correction process. At the same time, the study has shown that analyzing digitization and online tools is a promising area for future consideration. Thanks to the full integration of digital technologies, it has become possible to reassess the capability of digital tools to be useful in formulating special pedagogical tasks that assist patients.

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CRediT Author Statement

Acknowledgements: Not applicable.

Funding: There is no funding from any institution.

Conflicts of interest: There is no conflict of interest.

Ethical approval: Yes, ethics were followed during the study. All scientists carried out ethical approval.

Data and material availability: The data and materials used in the work are publicly available.

Authors' contributions: Each author's contribution to this work is one-fifth, 20%.

Processing and editing: Editora Ibero-Americana de Educação.
Proofreading, formatting, normalization and translation.

