



## **CORRECTIONAL WORK WITH CHILDREN WHO HAVE SPEECH DISORDERS (DYSARTHRIA)**

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### **Abstract**

This article examines the methods, strategies, and pedagogical approaches used in the correctional work with children who have speech disorders, specifically dysarthria. It discusses the nature and causes of dysarthria, its impact on communication and learning, and the role of speech therapists and educators in overcoming speech difficulties. Special attention is given to individualized correctional programs, integration of speech therapy with educational activities, and collaboration between specialists, teachers, and parents. The article also highlights effective exercises and techniques for improving articulation, breathing, and phonation in children with dysarthria, aiming to enhance their overall communicative competence and social adaptation.

**Keywords:** Dysarthria, speech disorders, correctional work, speech therapy, special pedagogy, articulation development, communication skills, inclusive education, pedagogical support.

### **Introduction**

In both domestic and international science, the comprehensive study of dysarthria is a relevant aspect of interdisciplinary research, revealing the most significant manifestations of verbal and non-verbal disorders, as well as the features of planning and implementing effective methods to overcome the identified impairments in children with dysarthria [1–3]. In modern speech therapy, there remains a demand for in-depth study of the etiopathogenesis of dysarthria, for identifying the interrelation between speech, language, and motor disorders, and for the further development of high-tech methods that contribute to the construction of speech therapy interventions aimed at the gradual formation of impaired functions and processes, taking into account the potential and variable capabilities of children with dysarthria.



Equally important in science are the aspects of designing and testing special pedagogical conditions that are an integral part of organizing corrective and developmental interventions in preschool educational institutions and that meet the modern requirements of the Federal State Educational Standard for Preschool Education.

The study of defects in the phonetic structure of speech statements began in the second half of the 19th century. The founders of this scientific idea were well-known physicians of the time, who conducted in-depth clinical studies of the etiopathogenesis of dysarthria (G. Gutzmann, A. Kussmaul).

Dysarthria, as a separate area of speech therapy, is truly an interdisciplinary field of research, demonstrating intersystem connections between sciences of different profiles (linguistics, psychology, neurology, neuropathology). Dysarthria in children has distinctive manifestations compared to pronunciation defects in adults and, in the history of global speech therapy, required long-term, targeted study to identify its forms and features. At present, modern speech therapy theory and practice identify and scientifically justify mild pseudobulbar dysarthria as the most common form and degree of manifestation in childhood dysarthria.

In recent years, speech therapy has placed enormous emphasis on studying language and speech, their mutual influence, and using these findings for further research and for designing corrective and pedagogical work in modern educational settings.

## **LITERATURE REVIEW**

The study of pronunciation defects in dysarthria in science has been distinguished by a whole range of interdisciplinary theories and scientific approaches, including the use of instrumental methods, the determination of correlations between speech-auditory and speech-motor systems, the interconnection of speech and movement, and the dialectical unity of speech and language (V. I. Beltyukov, L. V. Belyakova, M. M. Koltsova, T. V. Tumanova, K. I. Chukovsky, G. V. Chirkina, L. V. Shcherba). In foreign scientific research, this area is also widely represented in the study of manifestations of impaired development in children with dysarthria. Children with dysarthria experience disorganized muscle weakness of the facial and articulatory musculature. In this speech pathology, the following components of the speech system are impaired: phonetics, phonology, physiological and phonatory breathing,



and prosody. The underlying cause of the speech disorder is neuromuscular impairment, which affects the precision and muscular coordination of the speech apparatus. The interconnection between impaired verbal and non-verbal disorders has been identified and experimentally proven, forming the basis for organizing speech therapy work [4].

Modern studies on kinetic apraxia in children with dysarthria in the United States have been carried out by a group of researchers, Jodi Kumar and Andrea Gellert [5]. Data have been obtained on the correlation between articulatory apraxia of varying degrees of severity and a deficit in neuromuscular stimulation. These difficulties lead to errors in recognizing phonemes of the native language and in prosody. As a result, a concept was developed for planning work with childhood apraxia and motor planning. The program is based on the use of tactile stimulation, the implementation of the most significant core vocabulary, and the development of phonemic processes [6].

The presented Russian and foreign scientific-theoretical concepts formed the basis of the research hypotheses on speech-language and motor processes in children with dysarthria, as outlined in this article.

Based on the study of interdisciplinary scientific sources in general and special literature, a number of issues significant for modern speech therapy theory and practice were identified and experimentally substantiated:

the need for in-depth research into the symptomatology of variable verbal and non-verbal disorders through the application of experimentally significant methods and techniques, including mathematical-statistical approaches and technologies operating on the basis of biofeedback, which provide fundamentally important scientific data revealing the specifics of the speech disorder under study—dysarthria;

the design and expansion of methodological and methodical tools for organizing speech therapy work with preschool children who have mild dysarthria [3].

## **DISCUSSION AND RESULTS**

In accordance with the identified needs of modern speech therapy theory and practice, an experimental study of speech-language and motor processes in children with mild pseudobulbar dysarthria was planned and carried out. The study was conducted over a period of 14 years (from 2006 to 2020) in preschool educational



institutions in Moscow. The experimental group included 450 children aged 6–7 years with the speech disorder under study—dysarthria. In addition to the speech disorder being studied, other speech-language impairments were identified in the preschoolers (phonetic-phonemic underdevelopment, general speech underdevelopment).

For comparative analysis, a control group was formed. It included the same number of children without any psychophysical developmental disorders. The aim of the study was to examine the characteristics of speech-language and motor processes and to identify the presence of their interdependencies within the framework of the research conducted.

The study program was modified based on an analysis of traditional speech therapy techniques accumulated in Russian speech therapy by L. I. Belyakova, E. N. Vinarskaya, G. V. Gurovets, L. A. Danilova, L. V. Lopatina, N. V. Serebryakova, O. G. Prikhodko, T. V. Tumanova, G. V. Chirkina, and T. B. Filicheva. The program included a variety of play-based assessment techniques and allowed flexible changes in the choice of linguistic-didactic materials and the number of diagnostic tasks depending on the course of the assessment [6].

Some of the diagnostic tasks were accompanied by audio recordings of the study. Repeated or prolonged listening to both others' and one's own speech during task performance made it possible to take a comprehensive approach to understanding the mechanisms of speech-language development in children with dysarthria, to correctly and accurately classify the structure of the disorders, and to choose the optimal directions for corrective and developmental intervention.

An innovative component in the study of children's motor abilities was the use of modern computer-assisted solutions—Pablo System—which made it possible to examine the characteristics of movement strength and range in the frontal and sagittal planes. In addition, the study of motor processes was conducted through a number of diagnostic tests well known in speech therapy and related scientific fields (neuropsychology, neurology), including the study of kinesthetic and kinetic analysis of movement performance under various experimental conditions (visual, tactile, and logically complicated situations) [5].

In the implementation of the empirical part of the study, methods traditional for modern speech therapy theory and practice were used: theoretical, organizational, empirical methods, quantitative and qualitative analysis methods, etc. The analysis



of speech-language and motor processes in children with dysarthria was carried out through statistical analysis of the results obtained in the experimental group. The determination of comorbidity levels was performed according to generally accepted methods developed in domestic and international medicine: the CIRS (Cumulative Illness Rating Scale) system and the Kaplan–Feinstein index.

An essential aspect of organizing a pedagogical model for the formation of speech-language and motor processes in children with a mild degree of pseudobulbar dysarthria was the development of special pedagogical conditions. These included: an interdisciplinary analysis of scientific and theoretical sources on the research problem, the development of linguistic-didactic and motor tools, the use of modern information-technological and computer-assisted means, and the creation of personalized methods of speech therapy [4].

The methodological basis of the pedagogical model for the formation of speech-language and motor processes consisted of principles and methods well established in pedagogy, including special (correctional) pedagogy, and was supplemented with fundamentally new content obtained as a result of a detailed experimental study.

The scientific and theoretical content of the pedagogical model was based on the development of a level-based organization for planning speech therapy work, identified through the implementation of an extended experimental study program, analysis of its results, and clarification of the structure of the selected speech disorder—dysarthria [3].

Within the pedagogical model, pedagogical conditions, stages, methods, and techniques for the effective formation of speech-language and motor processes in children with mild pseudobulbar dysarthria were specially developed. A key element was the application of modern computer-assisted and information-technological tools to address verbal and non-verbal disorders. This was necessary for organizing a comprehensive approach that has a profound impact on all components of speech-language and motor processes, helps prevent secondary disorders, and allows for personalization in selecting special linguistic-didactic materials, game modules, interactive programs, and methodological techniques for speech therapy.

The pedagogical model for forming speech-language and motor processes consisted of several logically interconnected blocks of speech therapy work:



diagnostic, analytical, and content-organizational. The diagnostic block contained a program for studying speech-language and motor processes.

The analytical block presented a qualitative review of the study of speech-language and motor processes in children with dysarthria, as well as a correlation and cluster analysis of verbal and non-verbal disorders. Levels of comorbidity of the studied parameters (micro-, meso-, and macro-comorbidity) were identified and mathematically substantiated [1].

The content-organizational block included: principles, methods, techniques, and the content of speech therapy work. The organization of speech therapy aimed at forming speech-language and motor processes in children with dysarthria was based on general and specific methodological principles developed in national pedagogy, including correctional pedagogy. These principles were supplemented with the results of experimental research on children with dysarthria.

Speech therapy work consisted of three interrelated stages: preparatory, main, and summarizing. During speech therapy sessions with the experimental group of children, both general and specific directions of correctional and developmental impact were planned and implemented [2].

General directions of speech therapy included the selection of methods and techniques for correctional and developmental impact aimed at eliminating disorders found in all preschool children with dysarthria. Specific directions were identified based on a comparative analysis of experimental data on children with dysarthria who had specific difficulties.

## **CONCLUSION**

Correctional work with children who have speech disorders, particularly dysarthria, requires a comprehensive, individualized, and multidisciplinary approach. Successful intervention involves collaboration between speech therapists, special educators, psychologists, and parents to create a supportive environment for the child's communication development. Early diagnosis and systematic correctional programs significantly improve speech clarity, motor coordination, and social adaptation. The use of modern pedagogical techniques, combined with continuous monitoring and adaptation of methods, ensures sustained progress and maximizes the child's potential for integration into society.



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