Organization of Interaction Between Speech Therapists and Parents of Preschool Children With Multiple Complex Developmental Disorders Using Digital Education Technologies

Prikhodko O.G.[1], Pyankova A.V.[2], Filatova I.A.[2,*]

[1]*Moscow City University, Moscow 129226, Russia*
[2]*Ural State Pedagogical University, Yekaterinburg 620017, Russia*
[*]*Corresponding author. email: filatova@uspu.me*

ABSTRACT

The article describes the term "multiple complex developmental disorders". In most cases, this concept refers to a violation in which there are two or more severe defects in psychophysical development. The structure of the disorder and the degree of manifestation of developmental abnormalities may vary from mild to severe. One of the main disorders in the structure of multiple complex developmental disorders is a violation of intellectual development (mental retardation), which is usually combined with disorders in the motor, sensory, mental, and emotional spheres. The principles of correctional work with children with multiple complex developmental disorders are presented. The features of the organization of interaction between a speech therapist and parents of preschool children with this defect are outlined, and the directions of work are described. The main forms of interaction between a speech therapist and parents are direct consultations with them and classes with the child with their direct participation. The article describes the use of digital technologies in the formation of speech and communication skills in preschool children with multiple complex developmental disorders. Digital technologies can be used by a speech therapist at every stage of work with preschoolers, used in speech correction and mental processes, and in the formation of communication skills.

Keywords: digital technologies, information and communication technologies, preschool children, multiple complex developmental disorders, interaction with parents

1. INTRODUCTION

At the present stage of development of the education system, special attention is paid to the processes of upbringing and education of preschool children with multiple complex developmental disorders (MCDD): approaches to the definition of "multiple complex developmental disorders" are defined, as well as regulatory frameworks, research works and projects in the field of education of individuals with this category of violation are developed and implemented,.

Currently, there are quite fully developed programs and methods for teaching children with each of the categories of violations separately. However, children with multiple complex developmental disorders have a special defect structure and require comprehensive psychological, pedagogical, and medical and social support. According to the requirements of the Federal state educational standard (FSES) for students with mental retardation (intellectual disabilities) and MCDD, assistance programs are developed individually for each student, depending on their special educational needs and individual characteristics, including specialists of different profiles [9].

Meeting the special educational needs of students with MCDD is ensured by creating optimal conditions that promote their effective development.

All preschool children with MCDD have speech disorders of varying degrees of severity; therefore, a speech therapist becomes one of the key specialists in working with this category of students.

Parents (legal representatives) are of particular importance in the upbringing and education of preschool children with MCDD, since children of this category, in most cases, are taught at home. To achieve the best possible results in the child's development, it is important for the parents to cooperate with specialists, and for the parents to participate directly in the child's upbringing and development. To establish close interaction with the parents, the speech therapist uses distance and digital education technologies [1].

The use of computer technologies allows the speech therapist to organize interaction with the parents in the implementation of counseling on upbringing and education, the formation of the necessary speech and

communication skills in the child, the use of the most effective ways of interacting with preschoolers. The use of computer programs, applications and computer devices in direct interaction with a preschool child with MCDD ensures the availability of visual and speech material, its adaptation taking into account the structure of the disorder, and increases the effectiveness of speech therapy work.

2. METHODOLOGY

The term "multiple complex developmental disorders" refers to a combination of two or more complex psychophysical disorders (of hearing, vision, speech, musculoskeletal system, mental development, etc.) [7].

Violations of psychophysical development can be of various degrees of severity: mild, moderate, severe, most severe. According to N. M. Nazarova, children with combined developmental disorders can be divided into three groups according to the structure of the defect [5, 7]:

- the first group: children with two severe developmental disorders, each of which causes secondary abnormalities (deafblindness);

- the second group: children who have one leading disorder and a concomitant disorder that is manifested in a weak degree, but has a negative impact on overall development (mental retardation with reduced vision);

- the third group: children with multiple disorders, when there are three or more primary disorders of varying severity, which lead to significant developmental disabilities (mental retardation, blindness, mild hearing impairment).

According to A. M. Tsarev, the main defect in severe and multiple disorders is mental retardation [8], which can be combined with: motor disorders (cerebral palsy), severe speech disorders, violations of the functions of analyzers, autism spectrum disorders and disorders of emotional-volitional sphere.

Complex assistance of a child is built and implemented taking into account his or her psychophysical characteristics. A. M. Tsarev divides children with multiple complex developmental disorders into three groups, depending on the characteristics of their development:

1. Children with severe disorders of the musculoskeletal system and those who do not move independently.

2. Children with severe disorders of emotional and volitional sphere and behavior.

3. Children with severe or moderate mental retardation in combination with other mild disorders.

The complex structure of the defect causes a special approach to providing correctional care for this category of children. It is necessary to implement comprehensive psychological, pedagogical and medical assistance of the child in close cooperation with the family [1, 5].

The content of the educational process of students with MCDD includes an academic component and a component of life competence, while the latter should significantly prevail, since it provides for mastering the skills necessary for the student in everyday life. Achieving a positive result in the formation of these components of the education program for students with MCDD contributes to the organization of an information environment that is adequate to the capabilities and needs of students, which will expand the area of educational space. In this regard, there is an increasing need to use information and communication technologies in various activities of children with MCDD. The formation of elementary information and communication technology competence of this category of students is a priority task of their education, since it allows them to master the available means of communication (verbal and non-verbal), learn to use alternative means of communication (the use of technical means), facilitate contact and maintain it [2,3,10]. It should be noted that children with multiple complex developmental disabilities require constant assistance in every aspect of life.

Correctional work with this category of children is based on the following principles [6, 7]:

- the principle of complex impact involves the inclusion of specialists of different profiles to achieve the overall goal of developing work;

- the principle of normalization, aimed at organizing the child's life as close as possible to the natural conditions of an ordinary person and creating a barrier-free environment;

- the principle of focusing on the formation of basic life competencies, aimed at the formation of skills necessary for everyday life and the prerequisites for basic work;

- the principle of social and practical orientation of comprehensive rehabilitation and habilitation involves preparing the child for independent life, without the need for help from others;

- the principle of differentiated and individual approach provides for the development of individual programs and the use of methods that take into account the individual characteristics of the child;

- the activity principle is aimed at developing skills based on the leading activity;

– the principle of the polysensory basis of learning involves relying on sensory analyzers and maximizing the enrichment of sensory experience;

- the principle of unity of diagnosis and implementation of rehabilitation and habilitation processes is aimed at a comprehensive and systematic diagnosis of a child with MCDD, in accordance with which a development program is drawn up and rehabilitation / habilitation is implemented;

- the principle of communication orientation involves the development of communication skills in various situations;

- the principle of social integration indicates the need to acquire social experience available to coevals (in kindergartens, on walks);

- the principle of respect for the child's personality, which is based on the acceptance of the child with all his or her features and needs, attentive attitude to their feelings, providing opportunities for free choice and personal independence;

- the principle of developing the child's own activity is to provide an opportunity to take initiative and participate in daily activities.

Modern methods of teaching children with MCDD involve a comprehensive impact on the development of residual functions (hearing, vision, intelligence, motor skills), taking into account the above mentioned principles, which makes it possible to maximize the potential of each child and involves the inclusion of specialists in the process of different profiles: medical, pedagogical, psychological, social, physical culture and health maintenance, and career guidance.

3. RESULTS

The cooperation of the speech therapist with the parents must be based on competent observation of psycho-pedagogical culture, both from the teacher and from the parents [12]. To do this, it is necessary to take into account the variability of types and forms of interaction with the family of preschool children with multiple complex developmental disorders.

The results of numerous studies have shown that consulting parents raising children with developmental problems must be accurate. It is important to conduct the consultation in a format that is accessible to parents so that they can apply their knowledge and skills and help their child.

When interacting with parents of preschool children with MCDD, the speech therapist sets the following *goal* - to establish partnerships with the parents and form an active position in the correctional process to overcome the child's developmental disabilities. To do this, it is important to create an atmosphere of community of interests, provide emotional support, arouse interest and desire to participate in the upbringing of the child [4, 11].

Work with parents of children with MCDD is carried out in the following forms:
- consultations;
- parent meeting;
- seminars;
- booklets;
- demonstration of techniques for working with the child during the lesson or after.

In order to interact with parents and provide speech therapy, we have organized an advisory service. As part of this work, parents of preschool children with multiple complex developmental disabilities receive consultations either remotely using the platforms "Skype", "ZOOM", or in person.

In most cases, remote interaction is used. Consultations are conducted by a speech therapist in two forms:

1) group: in accordance with the pre-established schedule and topics of consultations that are declared by the specialist. During the consultation, the speech therapist reveals the stated topic, demonstrates techniques for working with the child to eliminate a specific lack of speech development or the formation of communication skills. During or at the end of the meeting, parents can ask all the questions they are interested in;

2) individual: the speech therapist interacts with the parent of a particular child with MCDD. Within the framework of this consultation, all areas of the speech therapist's activity are carried out: diagnostic, educational, correctional and developmental. Interaction with parents in this case is prolonged, the specialist supervises the family throughout the entire period of correction and elimination of existing speech deficiencies.

During the consultations, the speech therapist solves a variety of problems:

- carrying out diagnostic measures to establish the existing disorders of speech development in a preschool child with MCDD, the structure, causes and time of their occurrence, and the features of the child's speech development. As a result of this consultation, the specialist can give a preliminary forecast of speech development, recommendations for further correctional work, and indicate approximate terms of work on one or another side of speech. They can use presentations for diagnostics or speech therapy games;

- improving the competence of parents in the field of speech development of their child (describing the causes and features of speech disorders in the child, the dynamics of learning communication skills, work prospects), and the speech therapist helps the parents learn to communicate with their own child, taking into account the features of his or her development, and build constructive relationships with the child [10, 12]. Booklets, presentations, and videos are actively used;

- teaching parents how to eliminate speech deficiencies in children (for the development of articulatory motor skills, breathing, formation of speech skills, accumulation and expansion of vocabulary, stimulating speech in various everyday and social situations). Explanation and demonstration of specific techniques are used, and video files are also shown;

- formation of positive motivation and interest in correctional work and interaction with a speech therapist. Here they use tables and graphs of "child's success", examples of achievements of other students with similar developmental disabilities (especially at the beginning, when parents do not believe in the result).

In the course of working with the child and parents, monitoring is carried out in two directions:

1) determining the degree and quality of the child's acquisition of the skills being formed, the effectiveness of the methods and techniques used, and the prospects for further work;

2) study and analysis of the position of parents in relation to classes, the child, their defect, the degree of initiative and cooperation of the parent, the quality of learning and applying practical techniques of working with the child, analysis of the quality of interaction with parents in general.

The role of parents in the correctional and developmental work of preschool children with MCDD is indisputable, therefore, a properly organized system of interaction between a speech therapist and parents allows parents to

become more competent in the development of speech and the formation of communication skills, and take part in the learning and upbringing process consciously.

4. DISCUSSION

Due to the complexity of the defect in preschool children with MCDD and their limited ability to interact directly with a specialist when performing tasks, the work of a speech therapist is carried out in close relationship with parents, which is organized using information and communication technologies. Meetings with parents are held repeatedly throughout the entire process of providing correctional aid. For consultations, such applications as "Skype" and "ZOOM" are actively used, and speech therapy multimedia applications, excerpts from fairy tales, and videos are additionally used in the classroom.

At the first meeting, the speech therapist has the opportunity to communicate directly with the parent, find out their request (what result the parent wants to get as a result of the meeting / complex of activities), establish contact with the parent, conduct primary diagnostics, study anamnestic data, the speech therapist gives feedback (what shortcomings are identified, where to start correctional work, indicates the preliminary terms of correction). The examination is carried out with the help of a parent: according to the instructions of the speech therapist, the parent presents a task to the child under the supervision of the speech therapist. If the child is able to perceive a visual image on a computer monitor, then subject, story images, various presentations are used to diagnose each side of speech, or the presentation of the material is performed by ear (if there is a visual impairment).

Speech therapy classes are also conducted with the direct participation of a parent of a preschool child with MCDD. The development of oral speech and the formation of communication skills are extremely important for any child, including those with MCDD. Various methods and techniques are used depending on the individual capabilities of the student.

For example, if a child has a decrease in auditory function, it is necessary to work on its training and development, which is carried out using various technical means. Information technologies allow the therapist to vary the volume of speech material playback, change the frequency of audio signals, which helps to increase the availability of education and increase the socialization of preschool children [9].

If there are visual impairments, the digital technologies used make it possible to increase the size of the image, focus on the preserved analyzer systems (hearing, tactile sensations), use settings for playing and reading Braille, audiobooks, tactile books, and visibility.

Depending on the capabilities of the child with MCDD, it is possible to present a visual image and an audio accompaniment of the declared object or phenomenon, supplemented by a text comment simultaneously.

When learning new material, it is important to form the child's full understanding of the subject being studied, its characteristics, and properties (for example, the lexical topic "Transport"). The preschooler is shown different images of the same object, toys, presentations, video and audio files depicting cars in motion, with signals, and they discuss how they move, where they are needed, and what they are for.

The use of computer technology helps to compare different items: find similarities and differences, draw an analogy.

When working on a phrase and developing coherent speech, sentence diagrams and reference images are used to compose and produce speech material. With the help of visual objects, it becomes possible to train the algorithm for constructing a speech utterance and stimulate their speech activity [11].

While working on sound correction, sound profiles are presented, animations of their correct articulation, images for fixing the sound in all positions, and speech material for automating and differentiating sounds.

There are various programs and applications for the formation of all components of speech, including the development of phonemic hearing and sound analysis skills: "Speech Viewer", "More Slovesnosti", games from "Mersibo". The speech therapist can choose ready-made applications for the perception of non-speech sounds (animals, transport, and others) in PlayMarket or AppleStore. The preschooler is asked to correlate the perceived sound with the subject, and the computer allows them to change the frequency and strength of the stimulus, make word schemes, and correlate sounds with letters.

Digital technologies can be used by a speech therapist at every stage of training: examination, skills formation, and their automation. In many programs, the correct answers are counted, which enables the therapist to assess the dynamics of task completion and skill formation objectively. At the end of the lesson, the speech therapist can fill out a protocol for completing tasks and identify what causes the child the greatest difficulties and then focus on similar tasks.

Information and communication technologies make it possible to implement a person-oriented approach to learning, which is realized in the ability to vary the volume of the material being studied, repeat it many times, and change the form of presentation.

Digital technologies help speech therapists create their own didactic material taking into account the specific educational needs and individual characteristics of students with multiple complex developmental disorders, vary the volume of didactic material, its complexity, select and build the material, affecting all components of speech and other mental processes of preschool children with MCDD, which increases the effectiveness of correctional and developmental work.

In each session the parents are actively involved, they play the role of "transmitter" from the speech therapist to the child and back, help with the child's perception of the stimulus material, while performing the given tasks: to take a comfortable position for the perception of the task, to reword the instruction in an accessible form, to provide the necessary assistance to respond. Also, during the

lesson, the parent sees what tasks are offered to the child, together with the speech therapist assesses the remaining difficulties and can repeat similar exercises after the lesson, and consults a specialist on how to consolidate the acquired knowledge and skills in everyday life.

Thus, digital technologies are actively used in the work of a speech therapist:

- in direct interaction with parents who have children with multiple complex developmental disabilities in the framework of consultations;

- in indirect interaction with students with MCDD in classes where the parent is an active participant in the correctional and developmental process.

5. CONCLUSION

The results show that the use of digital interaction and education technologies by the speech therapist when organizing work with parents of preschool children with MCDD enhanced the interest of parents in cooperation with the specialist. The opportunity to get individual or group consultation and master the techniques of working with children increased the competence of parents in the speech development of children. Having mastered the skills of interaction with their child, they were even more involved in the correctional and educational process, and were not afraid to ask questions.

When using various computer programs and applications in the classroom, the speech therapist clearly demonstrated to parents the methods of organizing the personal space of a child with MCDD at home, in everyday life, on a walk. Parents began to apply a visual schedule of the child's day independently, offered ideas of manuals and techniques for working with children on the example of their own.

The increased activity of parents in correctional and developmental work and interaction with a child with MCDD increased the effectiveness of speech therapy and build a corrective impact and life environment of the child, taking into account their individual characteristics and needs.

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