

USING THE GAME APPROACHES FOR DEVELOPING THE SPEECH OF CHILDREN WITH MODERATE MENTAL RETARDATION

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ABSTRACT

The aim of the study was to explore the role of game-based approaches for developing speech in children with moderate mental retardation. More than 40 scientific journals, articles, and educational materials were analyzed in pedagogical and psychological fields to explore the advantages and challenges of using game-based approaches in the process of developing the speech of children with moderate mental retardation.

A literature review methodology was used for collecting and synthesizing the existing scientific theoretical bases of game-based approaches for developing speech of children with moderate mental retardation since this research method created a firm foundation for advancing knowledge and facilitating theory development (Webster & Watson, 2002). The use of the literature review method helped the author learn about the history and nature of the selected topic, and identify research gaps and problems, so the results of a literature review may be presented as an entire report or article (Torracro, 2005).

The current study results have shown that the effectiveness of communication skills and speech formation and development of children with moderate mental retardation was based on the approach of gradually involving children in verbal communication through play activities. As well as the specification and elaboration of the content and tools of game activities provide such pedagogical conditions, which contributed to the expansion of children's communication field, the activation of preserved opportunities, and the demand for verbal communication.

Keywords: moderate mental retardation, play activity, game-based approach, activation of mental function, corrective-pedagogical education.

INTRODUCTION

Among the problems of modern special pedagogy, the issues of improving the effectiveness of the

processes of correcting or overcoming disorders of a child's learning, upbringing, and psychophysical development were still essential. Therefore, the methods and means that were considered tools for their realization played a decisive role (Makarova, Pkhamov, 2020; Pkhamov, 2021; Huda, 2021). Both in national and foreign pedagogy and psychology, the role of play activity had been emphasized as a main manner of preparing the child for life. It was considered to be the most affordable and pleasant way to transfer social experience, create prerequisites for psychophysical development, organize children's education and upbringing, correct difficulties arising during psychophysical development, etc (Sato, et., al 2012; Saratikyan, Harutyunyan, 2017).

In the XXI century, the role of games had grown so much that in the system of modern gaming technologies, high-tech games aimed at optimizing the processes of child development, learning, and socialization were no longer new.

Conducted research studies had shown that highly technologically developed and scientifically based game simulations for children with psychophysical development disorders were still missing in the Republic of Armenia. Despite the opinion of Western researchers that the effectiveness of digital games for organizing learning processes was higher than that of educational games (Alaswad, & Nadolny, 2015), in the correctional education of children with psychophysical developmental disorders, the advantage was given to "**Live games**", those games during which there was social, tactile, non-verbal and verbal communication.

Applying game activities, it was possible to activate children's senses, social drives, communication needs, etc. (Makaryan, & Kosacheva, 2014; Colpani, & Homem, 2015). This was explained by the fact that play activity was directly related to the development of the psycho-emotional and psychomotor spheres of a person. Based on the above, many scientific-pedagogical and psychopedagogical sources were studied in the framework of this research, in which the close connections between games and child's activity were fundamentally revealed, as well as the foundations of the theory of play activity were investigated.

Accordingly, the games were considered not from the point of view of instincts, but from the point of view of the higher mental processes of children, confirming that they were of the utmost importance in the formation and development of physical, mental, and personal qualities of a person (Elkonin, 1996; Telnova, 2003). It should be noted that this research did not aim to re-analyze the origins of the above-mentioned problem in general pedagogy and psychology, because many monographs, works, dissertations, etc. were devoted to the coverage of the mentioned issue.

In this research, just the application of games was analyzed, especially in the field of special pedagogy and psychology. The well-known theory of Vygotsky L.S (1956) was emphasized, according to which, children with normal development and those with psychophysical development characteristics

used to develop in the same patterns, only the last ones' development proceeds on a damaged biological basis.

LITERATURE REVIEW

Explored studies confirmed that children with psychophysical developmental disorders were distinguished by their loneliness, various features in the emotional sphere, passivity to perform an activity, retardation of speech, and cognitive processes. Based on the above, many researchers believe that differentiated methods, means, and techniques in the system of correctional work for these children should be used to increase their interest and attract their attention. It has been confirmed that the importance of games in activating the mental processes of children with psychophysical developmental disorders was mentioned in the works of many special educators (Makaryan, & Kosacheva, 2014; Colpani, & Homem, 2015; Bravo, Ojeda-Castelo, & Piedra-Fernandez 2017).

Conducted literature review revealed the effectiveness of game activities from the perspectives of the child's cognitive and emotional development. According to them, children's emotions were directly related to toys. The toy was the means by which a child communicates with an adult at an early age, then with peers and the surrounding world. Mostly, "Game-based learning or game model of learning" was distinguished in foreign literature ("**GBL (Game-based Learning)**"), "**Serious games: computer video games**", and the concept of "**Educational games**". Performing comparative analysis among them, from the point of view of efficiency, the advantage was given to digital games (Stancin, Hoic-Bozic, Mihic 2020; Sari, et., al 2020).

Meanwhile, general and special psychological comparative analyzes confirmed that if a toy surprises a normally developing child and pushes him to play, a child with developmental disorders remained indifferent to the latter for a long time (Gavrilushkina, 1990; Van Dayk, 1990).

According to the phenomenon, this was the reason that the specialists working with children with various physical development disorders used the wide opportunities provided by play activity: tempering, and adapting to the environment for developmental purposes.

Considering the importance of mobile games for improving physical development recently it was started to be actively used with children with musculoskeletal disorders and various diseases having the purpose to restore their motor abilities, improving health, develop the ability to adapt to environmental conditions (Laleva, & Sererekova, 2001; Blanche, 2008; Huang, et., al 2014; Sulaiman, Ghazali, 2016). The analysis of specific pedagogical theories showed that speech therapists also used play situations and games in their work (Vygotskaya, Pellingner, & Uspenskaya, 1984; Plat, & Coggins, 1999; Pakhomov, 2019).

Through games and play situations, speech therapists tried to correct, restore and develop the

communication skills of children with speech disorders, the functions of the speech organs, sound hearing, auditory perception, speech and physiological breathing, general and fine motor movements, as well as individual speech disorders (stuttering, dysarthria, aphasia, general underdevelopment of speech, etc.).

For a deep analysis of the researched problem, the study of approaches in that direction in other fields of special pedagogy was also emphasized. It was found that the compensatory and corrective significance of games in the theoretical works of surdo-pedagogues, typhlopedagogues, and pedagogues was the most comprehensive.

Surdo-pedagogues and typhlopedagogues found that games stimulated to activate preserved abilities of children with sensory impairments, compensated for their impaired functions, developed sensory perception, cognition, and speech, and, finally, mastered social experience and independent performance of daily activities. However, at the same time relying on the well-known view of Vygotsky L. S. (1956), according to which the game became a real means of learning and education for the child only when he was taught to play, a system of special game training sessions was offered (Zaporozhetsa, Usov, 1966).

It was noteworthy that in the professional literature, referring in detail to the basic issues of children with special disorders in the development of learning abilities, specialists even gave diagnostic significance to the research conducted in the direction of their gaming activities. This was explained by the fact that these children, unlike children with intellectual development disorders, still have preserved interests in-game activities, and within this, opportunities for "flying" development progress (Dutta, Das & Tulukdar, 1984; Maller, Tsikoto, 2003).

The theoretical studies carried out in the field of special pedagogy and psychology and the analysis of their results confirmed that children with mental retardation today more than ever needed systematic pedagogical support, moreover, without special approaches they cannot be fully included in education and society (Krayg, 2000; Pkhamov, 2018; 2019; Huda, 2021):

As a result of the analysis of complex research, the features of the age development of children with mental and speech development disorders were revealed, with which specialists explain the need for the development of children's activities. Accordingly, the goals, problems, content, and methods of special education were revealed in the relevant sections of educational programs (physical education, games, creative activities, etc.).

In modern literature, the role of natural conditions (family environment, communication with adults, social-play situations, etc.) was especially important in the development process of children with mental retardation. Based on the above the others Smaga (1992), Ushakova (1999), Gadasina (2001), Pardellmov (2019), and others suggested using games, game situations, and exercises in order to

stimulate the activity and development of children with mental and communication disorders. However, unfortunately, the pedagogic-psychological conditions, features, and modern approaches of their application were not scientifically substantiated. The studies carried out in special and general educational institutions of the Republic of Armenia allowed us to conclude that if the above-mentioned games were organized in an unstructured way in the educational processes of children with psychophysical development disorders, without having a clear goal and a special methodological system, then they did not solve the problems that were outlined by the educators.

The conceptual views of this issue in separate theoretical sources allowed us to notice that the works most often refer to the subject activities of children, the features of the use of didactic, playful, and role-playing games, and their developmental significance (cognition, speech, motor skills, thinking, etc.).

It was important to note, that in the theory of special pedagogy, the issues related to the development features of children with mild mental retardation and their correction methods were more often and deeply discussed than the issues of children with moderate mental retardation combined with current diseases.

The analysis of the patterns revealed that play activities done with children with mental retardation aimed to develop their speech, which, however, were organized mainly in parallel with the general system of games used for the purposes of cognitive activity and thinking development (Cano, García-Tejedor, & Fernández-Manjón 2015a, Gelsomini, et., al 2016). Despite this, advanced special educators based on the developmental characteristics of children with intellectual disabilities have developed and presented the main directions and themes of play education for children with mild mental retardation in the programs of special institutions (Kalmykova, 2007; Bonet-Codina, Barnekow & Pardell, 2015).

However, the same was not about the content of the organization of remedial and developmental work with children with the most profound mental disorders, because they were still carried out with outdated programs and methods, ignoring a number of modern problems and requirements of special pedagogy. Meanwhile, the games used with children with moderate mental retardation were mainly taken from the system of a corrective educational intervention for children with mild mental retardation or normal development and were adapted to their developmental goals.

The existing works and programs aimed at covering this problem, as well as the methods of conducting games used in the process of psycho-pedagogical support of children with mental retardation, are needed for upgrading and re-examining.

Such a demand was explained not only by the multifaceted research of the problem but also by the challenges of the global reforms taking place in the field of education. The inclusive processes

implemented in the field of education had caused serious obstacles, especially for children with mental retardation, so the demand for increasing the effectiveness of pedagogical processes justifies the modernization of scientific research works dedicated to the play activities of children with profound mental retardation.

Therefore, the aim of this study was to explore the role of game-based approaches for developing speech in children with moderate mental retardation.

METHODOLOGY

For current research by integrating the results and perspectives of articles from many empirical findings, the use of the literature review method was applied as an excellent way of synthesizing research findings to show evidence on a meta-level and to uncover areas of game-based approaches for developing speech of children with moderate mental retardation. The implementation of the literature review had the aim to assess, critique, and synthesize the literature on a research topic in a way that enables new theoretical frameworks and perspectives to emerge (Torraco, 2005).

A number of steps were taken and decisions were made to create a review that met the requirements for publication. In the following, the basic steps and important choices involved in conducting a literature review were suggested and discussed using four phases; (1) designing the review, (2) conducting the review, (3) analyzing and (4) writing up the review. This process was developed from practical experience and was a synthesis of and influenced by various standards and guidelines suggested for literature reviews (Davis, Mengersen, Bennett, & Mazerolle, 2014).

Data collection and analysis

Research data collection was done using integrative review that considered **reviews, critiques, and synthesizes** of about 40 scientific journals, articles, educational materials of pedagogical and psychological field where the use of game-based approaches in the process of developing the speech of children with moderate mental retardation was explored. Selected literature sources were **read, analyzed, evaluated, and summarized according to the** specific topic of the research. It helped the author learn about the history and nature of the selected topic, and identify research gaps and problems (Tonette, and Plakhotnik, 2008).

Data analysis and interpretation are based on a synthesis matrix for organizing target literature that **summarizes and synthesis** the use of play activities and other approaches in the process of developing the speech of children basically with moderate mental retardation. Main studies, articles, and theoretical materials on the chosen specific topic were integrated into a unique interpretation that not

only serves as the foundation of the study but also contributed to the dialogue in the field and established credibility as a scholar (Sally, 2013).

RESULTS/DISCUSSION

Conducted literature review highlighted that according to the modern definitions of mental retardation, it was described as an incomplete or delayed development of the psyche, which was manifested by difficulties in the social adjustment of the person (AAIDD, 2019). Telnova, 2003; Pakhomov 2018; 2021).

Disturbances of mental development were manifested especially in features of thinking, communication, self-care, self-management of behavior, emotions, and other areas. Mental retardation was described as mental underdevelopment, which represented a set of stable, non-progressive syndromes of mental underdevelopment acquired in the early stages of development of a different origin and was expressed especially by the difficulties of social adaptation, the main and primary reason for which was "intellectual disability" (APA, 2013; Garkush, Korjevina, 2001).

Such a feature of their mental development was expressed by qualitative changes (underdevelopment) in the development of the sensory sphere, cognition, speech, thinking, and all other mental processes. Despite their many retained capabilities and potential, the thinking of children with mental retardation did not reach abstract, lexical thinking, but remains prominent at the levels of practical or visual thinking.

Having severe speech and motor impairments, they often needed supervision and support, as they had great difficulty in acquiring (and often do not acquire) social and educational knowledge, abilities, and skills. It had been confirmed that targeted, consistent, and properly organized special psychopedagogical support contributes to the formation of their social adaptation, communication, basic literacy skills, and mastery of basic counting skills.

The analysis of selected research studies had shown that activity performance and social motives were preserved in this group of children and accordingly they used to master work skills (self-care and simple household work) relatively easily. Despite the fact that the vast majority of people with moderate mental retardation were people with disabilities, they were still mostly mobile, was able to demonstrate some physical activity and occupations (Markova, Pakhomov, 2020; Makaryan, Kosacheva, 2014; Huang, et., al 2014).

Based on the fact that the correctional preparatory works contributed to these young people's development, and the social-working motivations of their activities were preserved, the "expectations" of psychological and educational support were anchored in this way.

In the literature review, it was strongly outlined that the formation of these abilities was closely related to the **development of speech**. This was due to the fact that in the system of professional support provided to children with moderate mental retardation, priority was given to speech development. Taking into account the fact that they have a deep disturbance in perception, communication, and interaction skills, the implementation of this approach obtained vital importance (Spivakovskaya, 1999).

The literature review analysis stressed that formulated scientific and methodological approaches and bases for developing each direction of speech were still missing. Thus, this situation had a negative impact on the education and upbringing of this group of children making it unorganized and unstructured. The above-mentioned fact was also most evident in inclusive processes, which cause many difficulties in the modern education system.

Also, current research takes into account the importance of the problem, through analysis of chosen theoretical studies the reasons for the inadequate and incomplete development of the toolkit for the organization of corrective processes (especially speech development) for children with moderate mental retardation had been explored.

It was found that the above-mentioned problem was quite complex since the education of children with moderate mental retardation and other issues was taken into account only at the beginning of the 19th century. It was true that the special features and difficulties in the development of verbal speech of these children had almost immediately attracted the attention of researchers, however, they did not give instructions and justifications regarding the measures that contribute to the development of specific speech (Lalaeva, Serebryakova, 2001). This situation, according to the sources of the studied literature and the existing theories, was also explained by the fact that specialists considering the development of speech of children with moderate mental retardation as such a severe systemic disorder that included all aspects of the functional significance of speech (cognition, behavior regulation, communication, etc.) and was closely related with other mental processes and the way of its development was almost and always connected with the system of corrective-developmental works of general cognition.

The analysis of the scientific-educational literature allowed concluding that existing works were presented in a rather poor and unsystematic way. The need to analyze the patterns of speech development of these children was justified by the original and deep deviations in their verbal communication.

Many authors, both national and foreign emphasized the need for systematic remedial work as the basis of increasing their adaptation factor in the social environment. They suggested introducing a certain system of speech development work in the process of psycho-pedagogical support, but when talking about the toolkit, they mentioned only speech therapy interventions, familiarization with the environment, or forms of children's activities (Katayeva, Strebeleva, 2000; Srinivasan, 2000).

Unfortunately, specific approaches and instructions on how to organize them were missing.

The above-mentioned did not assume that the issues of speech development of children with moderate mental retardation had not been discussed at all in psycho-pedagogical science. According to professional concepts, the not-in-depth observations of the issue even stated that the work carried out in the direction of the speech development of these children should be combined with the gradual development of their daily activities.

The effectiveness of such approaches was also noted by Western special educators, who had developed play therapy approaches for children with moderate mental retardation. But the methods of their organization had no practical justifications and were mainly aimed at rehabilitation of the motor sphere and development of self-care abilities, they did not contain particularly precise methodical for their implementation. However, the need for speech development was clearly reflected in that therapy (Bonet-Codina, Barnekow, & Pardell, 2015).

Although the role and importance of play activities had always been highly appreciated in the national special pedagogy, in practice the emphasis was more often placed on work activities. If in special literature there were a number of programs for the work education and preparation of children with moderate mental retardation (where a special place was given to the development of speech), then it was not possible to state the same about specially developed game programs. Studies showed that they simply still needed to be designed, coordinated, experimentally substantiated, and thoroughly researched. The organization and conducting of game activities for speech development purposes of these children had not been yet investigated (Panfilova, (2000; Yuill, 2011).

According to the analysis of scientific literature, play activities had great importance for these children's development and endowed them with high observation means. For this reason, it had always been implicitly asserted that through the direct application of play activities, it became possible to stimulate the sensory perception of persons with moderate and profound mental retardation.

Based on the current requirements of inclusive education, for each child with mental retardation, an individual learning plan had to include both educational and remedial goals. However, research showed that the tools for planning the education and development of children with moderate mental retardation, as well as the means of its implementation, were very incompletely developed. As in the past, today the problems of this group of children were assimilated into the educational and correctional problems of children with mild mental retardation or normal development (Harutyunyan, et., al. 2017). In that system, clear mechanisms of methods means and pedagogical approaches to correcting and developing their speech were almost completely left out.

Based on the above, even nowadays, the issues of introducing and modernizing psycho-pedagogical support programs for children with moderate mental retardation continue to be an important

research issue. The studies regarding the role and significance of games for the speech development of children with moderate mental retardation confirmed that game situations and play activities stimulated the development of both non-verbal and verbal speech and thinking. A clear proof of this was that in-game situations, children spontaneously learn to solve elementary problem situations (for example, find and take the spoon, etc.).

The literature on special pedagogy also emphasized that remedial works that started early are considered to be more effective. Based on this, the experts confirmed that speech development work with these children should also be started from an early age. This means that children with profound mental retardation should also be encouraged to communicate verbally, but bearing in mind that any speech development training should be interested the child and encouraged him to interact with real objects and toys (Sante, & Leblond, 2023).

Based on the content of the research issue, it was tried to identify what kind of games were used in the corrective development processes of children with moderate mental retardation. It has been found that the most frequently used "objective" musicalized constructive games of the table and the less often the role-playing "mobile" verbal" plot games.

The study of the literature and methodological guidelines have documented that in the absence of plans for the organization of game activities, games were used in an irregular manner. It can be clearly stated that this certainly had a negative impact on the entire corrective development process because the play activity in the life of children with moderate mental retardation was formed with a serious delay and retains its leading significance for a long time even in adulthood.

CONCLUSION

Summarizing the results of literature review analysis it can be stated that speech development interventions for children with moderate mental retardation and the rapid development of the psychopedagogical support system had an important social significance. Despite the extensive studies related to the issues of social adjustment and inclusion of children with mental retardation, many issues of their professional support, including the improvement and adaptation of the methods and means introduced in the system of speech formation and development, had not been sufficiently studied.

Today, when the legal requirements of international conventions emphasized the ethical issues of social development and society was fighting for the rights of persons with mental retardation to be fully included in educational and social life, the issues of developing a specific toolkit for speech development and activity performance skills vaguely outline the main paths that should be developed and modeled as a prerequisite for achieving these goals. Speech, being a tool for communication, thinking, and behavior regulation, remains the main problem that hindered the independent life and

activity of people with moderate mental retardation.

Current research had shown that all forms of activity were very important for the development of these children's speech, and some of them, especially issues of work activity, had been little studied. As for play activity, it had been confirmed that despite the wide possibilities of the latter's development, the scientific research conducted in the direction of speech development through games for children with moderate mental retardation was almost missing, and the game systems used in the pedagogical process were unstable, primitive and uncoordinated.

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