Pedagogical Cluster- Journal of Pedagogical Developments
PCJPD: Volume 2 Issue 12, December 2024, online: ISSN 2956-896X

PEDAGOGICAL CLUSTER
JOURNAL OF PEDAGOGICAL DEVELOPMENTS

Website: https://euroasianjournals.org/index.php/pc/index

Mechanisms for Enhancing the Effectiveness of Individualized Home-Based Education for Children with Disabilities

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Abstract: The purpose of the research is to develop recommendations for improving the mechanisms for enhancing the effectiveness of individualized home education for children with disabilities. The study utilized various methods, including surveys, interviews, discussions, observations, pedagogical experiments, statistical data processing, graphical representation of results, and other techniques. The practical outcomes of the research are as follows:
Criteria and indicators for evaluating the home education of children with disabilities have been improved.
Special seminar-training programs have been developed for parents and teachers to facilitate effective home-based education for students with disabilities.
The scientific significance of the research lies in improving the requirements for an integrated educational environment in individualized home education processes, based on the use of innovative educational technologies and strengthening targeted collaboration between families and educators. Additionally, it includes the creation of methodological and instructional support for the system of corrective-pedagogical work.

Key words: effectiveness, home education, children with disabilities, families, educators

Introduction

Individualized home-based education is organized for students with physical, intellectual, sensory, or mental impairments, as well as those requiring prolonged medical treatment, and who, based on medical recommendations, are unable to attend general secondary education institutions or state-

specialized educational institutions for children with physical, intellectual, sensory, or mental impairments. The primary aim is to ensure students' right to education and to create the necessary conditions for their learning.

Additionally, home-based education seeks to uphold children's right to education and establish the required conditions to:

Shape their worldview and understanding, impart academic knowledge, practical skills, and life competencies across various subjects, provide moral and ethical education, and prepare them for work, among other objectives.

Home-based individualized education involves children diagnosed with psychoneurological, somatic, surgical, or dermatological conditions. Enhancing the effectiveness of the educational process for students with psychoneurological conditions relies on mechanisms such as humanizing the process, applying person-centered education, integrating art therapy techniques, and varying assignments. These approaches hold significant scientific and practical importance.

Russian researcher L.R. Arkatova's study, *"Pedagogical Conditions for Organizing Education at Home for Students with Disabilities,"* defines "home-based education" as a multi-functional system of education and upbringing conducted in a family environment. It includes moral correction, social-pedagogical support, rehabilitation, and psychological assistance for children with disabilities.[1]

Several scholars, including X. Akramova, Sh. Amirsaidova, N. Musayeva, D. Nurkeldiyeva, L. Nurmuxamedova, V. Raxmonova, A. Sagatov, M. Hakimova, M. Hamidova, and G'. Shoumarov, have studied issues related to teaching and educating children with intellectual disabilities in various institutions. The pedagogical aspects of educating children with disabilities in a home environment have been researched by L.Sh. Nurmuhammedova.[2] Studies on the social-pedagogical adaptation of disabled children to educational activities, designing home-based education for children with disabilities, and pedagogical methods for organizing education at home have been explored by researchers like L.R. Arkatova, S.S. Bayartuyeva, Y.E. Obukhova, O.S. Rizhnova, and V.S. Sirenova.

The attitudes of parents whose children receive home-based education, the advantages of this form of education over others, and the challenges of teaching and raising children with disabilities in a home setting have been the focus of

international researchers such as L. Reilly, M. Farris, Dr. S. Duvall, N. Plotnik, J. Ensign, and R. Trevaskis.

An analysis of medical and special pedagogical literature reveals that children with psychoneurological conditions often exhibit underdeveloped imagination, lack of differentiation, distractibility, slow memory development, quick fatigue during learning activities, frequent interruptions during lessons, phonemic perception disorders, limited use of adjectives, verbs, and conjunctions in speech, and inconsistencies between the beginning and end of sentences. These traits are not due to their own will but are consequences of underlying neurological conditions.

In Uzbekistan, the study of the legal and normative foundations and scientific resources regarding the organization of home-based individualized education revealed the need for methods, tools, and strategies to clearly and purposefully analyze and apply this process in real-life scenarios.

Methods

The first phase of the experimental study was conducted during the first quarter of the academic year in the Andijan, Jizzakh, and Syrdarya regions, involving teachers and parents. This phase focused on analyzing the composition of students receiving individualized home education in these regions and identifying factors affecting the effectiveness of this educational format. The professional competencies of teachers organizing home-based education were comparatively analyzed using specialized methodologies. Additionally, documents related to the content of individualized home-based education were reviewed, and questionnaires were administered to parents and teachers.

Students' tasks were assessed according to specific criteria. A "completed" assessment (5 points) was given if the student performed the tasks fully, correctly, neatly, and in an orderly manner, even with occasional teacher assistance, and completed over 50% of the tasks. A "partially completed" assessment (4 points) was given if the student performed part of the task, required frequent teacher repetition, demonstrated logical inconsistencies, or completed less than 50% of the tasks. An "incorrectly completed" assessment (3 points) was given if the student misunderstood, completed the tasks incorrectly, or worked carelessly. A "not completed" assessment (2 points) was given if the student refused to engage, failed to understand the tasks, or did not demonstrate effort.

Analysis revealed that a total of 2,360 students from grades 1–11 in these regions were involved in individualized home education due to various health conditions. Of these, 725 students (30.72%) were categorized under type 1 illnesses, 1,106 students (46.86%) under type 2 illnesses, and 185 students (7.81%) under type 3 illnesses. No students were identified under type 4 illnesses. Additionally, 344 students (14.56%) were diagnosed with varying degrees of intellectual disabilities by district medical advisory commissions.

A questionnaire survey involving 342 teachers from Andijan, Jizzakh, and Syrdarya regions revealed that 122 teachers (35.67%) had over 15 years of experience. Most teachers expressed satisfaction with the teaching hours, stating that lesson hours were designed considering students' individual needs. Some teachers recommended prioritizing subjects aimed at addressing and compensating for mental or intellectual developmental delays, proposing adjustments to the distribution of lesson hours in the curriculum. While most teachers claimed familiarity with the legal and regulatory framework for individualized home education, follow-up oral interviews revealed that only 27 out of 58 teachers had adequate knowledge of such documents, indicating a gap in legal literacy.

A majority (243 out of 342 teachers) positively assessed their understanding of the medical, pedagogical, and psychological characteristics of students in individualized home education. However, 80% of teachers could not identify specific illnesses listed in the official guidelines as grounds for home-based education. Most teachers lacked awareness of the pedagogical and psychological traits of students with intellectual disabilities or developmental delays caused by secondary effects of their medical conditions.

Teachers reported obtaining information about the medical and psychological characteristics of students mainly from district (or city) methodologists and social networks. Interviews highlighted that methodologists themselves required methodological support.

To address these challenges, it is recommended to enhance the legal and methodological literacy of teachers and methodologists involved in home-based education. The curriculum should be revised to address the unique developmental and compensatory needs of students with disabilities. Robust support systems for teachers, including regular workshops, seminars, and access to resources tailored to individualized home education, should be established. Additionally, more refined tools should be developed to evaluate the

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effectiveness of home-based education and the professional competencies of teachers involved in this process.

Result and Discussion

The study of the level of attention given to education within the families of students receiving individualized home-based education and the psychological environment in these households revealed several key findings. Teachers, working outside the structured educational environment of schools, often faced challenges in organizing lessons and activities due to the diverse pedagogical and psychological conditions in families. They encountered issues such as constant monitoring and sometimes overbearing environments, which created pressure. Some families exhibited behaviors such as overindulgence, excessive protection, or placing artificial barriers to their child's independence. In many cases, parents assumed responsibility for tasks the child was expected to complete, fulfilling all their child's needs without question.

This parenting approach often resulted in psychological and character traits in students such as being spoiled, stubborn, lacking confidence in their own abilities, and developing a dependency on others to fulfill their needs. Consequently, these students frequently relied on parental or teacher assistance to complete educational tasks, and in some cases, they outright refused to perform tasks. Even those capable of completing assignments were unable to do so without special help.

During the second phase of the experimental study, the activities and learning effectiveness of students involved in home-based education were assessed. This included evaluating their ability to complete assigned tasks and exploring the students' capabilities in this educational setting. The results of task completion by these students were summarized in a table (Table 1).

Table 1

Indicators of task completion based on directions

Criteria / Directions	Completed		Partially completed		Incorrectly completed		Not completed	
	In the number	%	In the number	%	In the number	%	In the number	%

The development of educational motivation in students	10	8.77%	31	27,19%	51	47,73%	22	19,29%
The development of skills and abilities in understanding and completing tasks	8	7,01%	33	28,94%	54	47,36%	19	16,66%
The development of skills in working with subjects	10	8.77%	36	31,57%	53	46,49%	15	13,15%
Mastering the minimum requirements of the Mathematics subject	9	7,89%	36	31,57%	53	46,49%	16	14,03%
Mastering Minimum Requirements in the Subject 'Native Language and Literacy	9	7,89%	33	28,94%	55	48,24%	17	14,91%
Overall average	9	7,89%	34	29,82%	53	46,49%	18	15,78%

In the study, 9 students, accounting for 7.89% of the total participants, successfully completed the assigned tasks under the “Completed” criterion. A

further 34 students, or 29.82%, partially completed the tasks, falling under the "Partially Completed" criterion. Meanwhile, 53 students (46.49%) were assessed under the "Incorrectly Completed" criterion, and 18 students (15.78%) failed to complete their tasks, being evaluated under the "Not Completed" criterion.

This research highlighted several issues forming the foundation of broader academic inquiries. It provided insights into the general state of education for students with disabilities who require long-term treatment and identified specific challenges associated with improving the effectiveness of home-based individualized education. Additionally, the study established the basis for correctly defining the characteristics of new methods aimed at addressing these challenges.

The results and analysis of the experimental study demonstrated that the educational performance of students with disabilities involved in individualized home-based education is not sufficiently effective. It was found that these students often lacked adequate academic knowledge and skills, which they were expected to acquire. Although educational outcomes were generally low, opportunities for improving the effectiveness of home-based education were identified. These included enhancing didactic support, strengthening collaboration between teachers and families, diversifying assignments, integrating art therapy and protective approaches, and incorporating personalized and gender-sensitive education elements.

The analysis of these findings laid the groundwork for further academic studies, underscoring the need to consider the unique challenges faced by students with psychoneurological conditions and their families. The goal is to enhance the educational process and address systemic issues affecting the efficiency of individualized education. The study also highlighted the importance of creating a quality, flexible home education environment that accounts for individual characteristics and academic abilities. This would involve the collaborative efforts of families, neighborhoods, and institutions to ensure effective pedagogical conditions.

It was further determined that individualized home-based education for children with disabilities should prioritize principles of humanity and social mobility, as outlined in both national and international best practices. The criteria for evaluating the effectiveness of home-based education were refined

to align with diagnostic approaches that ensure individual and differentiated treatment, while maintaining psychological and hygienic standards for lessons.

The didactic support of individualized education was developed by enhancing cooperation between teachers and families, diversifying assignments, and incorporating protective, art-therapeutic, and personalized approaches, as well as elements of gender-sensitive education. A correctional-pedagogical model was proposed for organizing individualized home-based education, emphasizing specific teaching principles, including scientific rigor, systematic progression, visualization, adaptability, clarity, and consistency. These principles also included an emphasis on fostering independence, corrective focus, situational awareness, and the importance of communication and encouragement.

During the research, attention was given to the critical factors influencing the effectiveness of home-based education for students with disabilities. These included the teacher's knowledge of the student's diagnosis, the use of appropriate approaches, the correct selection of educational programs, the pedagogical awareness of families, the didactic support of home-based education, and the collaboration among specialists, families, and teachers. Moreover, it was emphasized that a teacher’s complete understanding of the student’s medical, psychological, and pedagogical characteristics is essential to selecting suitable programs and methodologies tailored to the student’s individual needs.

Conclusion

As a result of the research conducted on mechanisms for improving the effectiveness of individualized home-based education for children with disabilities, the following conclusions and recommendations were developed:

The national and international practices, along with regulatory and legal frameworks, demonstrate that providing quality educational services to children with disabilities and those requiring long-term treatment should be organized and implemented based on specific rules and procedures. These must consider the levels of developmental challenges, age characteristics, and educational needs of this category of learners.

For students with intellectual, psychological, or physical developmental challenges, regardless of the type of education they are enrolled in, the process requires selecting and implementing approaches that are tailored to their specific needs. This involves complex and multifaceted strategies. To apply these

approaches effectively, educators must possess adequate knowledge of the medical, pedagogical, and psychological characteristics of the students they are teaching.

Individualized home-based education is conducted based on general didactic and specific principles. To enhance its effectiveness, it is essential for the teacher to understand the student's diagnosis, choose appropriate approaches, select the correct curriculum, and for families to demonstrate pedagogical competency and awareness. Didactic support, along with the collaboration of families, communities, specialized professionals, and teachers, plays a crucial role in this process.

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