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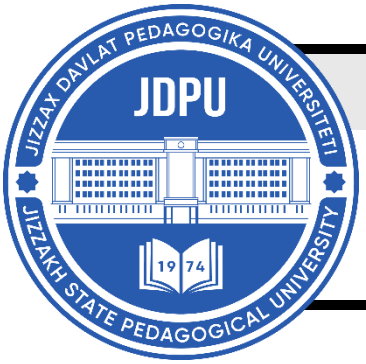

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THE EFFECTIVENESS OF DEVELOPING THE WRITTEN SPEECH OF STUDENTS WITH INTELLECTUAL DISABILITIES BASED ON FOREIGN AND LOCAL PRACTICES

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ABOUT ARTICLE

Key words: students with intellectual disabilities, written speech, speech therapy, multimodal methodology, foreign experience, artificial intelligence, special education, pedagogical technologies.

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Abstract: This article explores both foreign and local experiences in developing the written speech of students with intellectual disabilities. It analyzes innovative methods, technological approaches, speech therapy sessions, and multimodal teaching strategies used in developed countries around the world. In addition, special pedagogical approaches currently being implemented in Uzbekistan are also reviewed. Based on the assimilation of the positive aspects of foreign practices, practical proposals have been developed to improve the national methodology.

Introduction

The development of written speech in students with intellectual disabilities plays a central role in their cognitive and speech development.

Through written speech, children gain the opportunity to interact with their environment, exchange ideas, and express their needs. In special pedagogy, methods based on step-by-step, systematic, and individualized approaches to developing these skills are of great importance. In recent years, high results have been achieved in foreign countries through the use of artificial intelligence, interactive platforms, multimodal methods, and speech therapy approaches in developing written speech. The local experience, on the other hand, is largely based on traditional methods, although efforts to implement innovative techniques have begun. This article aims to determine effectiveness by comparing these two directions.

In developed countries such as the United States, Germany, Finland, and Russia, modern technologies, psycho-pedagogical approaches, and multimodal methods have been widely implemented in working with children with intellectual disabilities, ensuring high effectiveness in the development of their written speech. For instance, in the USA, mobile and web applications like “Writing Wizard,” “SnapType,” and “Ghotit Real Writer” are widely used for students with developmental delays. These programs gradually teach children to recognize letters, write correctly, place words in the correct order, and construct sentences. In particular, the “SnapType” application allows students to speak instead of writing the text, and the speech is automatically converted into written form. This helps to strengthen the connection between speech and writing [1, pp. 244–259].

In Finland, the educational process is based on innovative and differentiated approaches. The “Easy Write” program develops students' skills in sentence construction based on pictures, selecting topic-related words, and arranging them sequentially to form a text. The software monitors the child’s activity and provides interactive assistance where necessary. This approach is based on a multimodal methodology, where listening, visual, motor, and writing activities are conducted in harmony. Such a multi-channel approach allows the child’s brain to better encode and retain information. In Finland’s special education system, teachers develop personalized learning plans for each child, taking into account their developmental level and individual needs.

In Russia, an integrated approach linked to speech therapy has proven to be effective. Sessions developed by speech therapists and psychologists aim to increase students' speech activity, understanding of written text structure, and expression skills. With the help of special speech therapy tasks, phonetic-morphological analysis exercises, and audio-visual materials, the child learns the stages of word, sentence, and text formation. For example, exercises such as identifying words in a text that do not match the topic, creating a text based on an image, and writing synchronized dictations encourage active thinking and writing. In addition, multimedia programs like "Logomer" and "Slogogramma" are widely used in Russian schools during speech therapy sessions, reinforced by visual tools [4, pp. 77–83].

Assignments for students — especially for those with intellectual disabilities — should be presented in a way that is maximally clear, precise, and visual. In this process, pictures, words, and letters serve as the main tools. Each task must be simplified in accordance with the children's cognitive abilities and constructed on the basis of logical sequence. Especially, explaining tasks with the help of visual aids — real images, colorful flashcards, pictograms, and interactive slides — increases students' level of understanding and memorization of the material.

In Germany, the principle of "inclusive education" is implemented, whereby all students, including those with intellectual disabilities, are involved in general education schools. Special support teachers (sonderpädagogische Fachkräfte) are assigned to them. In developing written speech, these educators use "Sprachförderprogramme" (speech development programs). These programs gradually cover phonetic, semantic, and syntactic development [8, pp. 25–34].

In general, international experience shows that through modern technologies, multimodal teaching tools, integrated approaches with speech therapy, and learner-centered methods, it is possible to effectively develop the written speech of children with intellectual disabilities. Moreover, textual materials are designed with simple grammatical structures, where each sentence expresses a single thought. Visual aids — such as images, diagrams, symbols, or animated illustrations — are attached to each text. This approach helps develop

not only visual perception but also skills in analysis, comparison, and logical connection. As part of multimodal methodology, such an approach creates a comfortable learning environment for students with intellectual disabilities and serves to gradually develop their writing skills. They acquire not only writing techniques but also the ability to express thoughts clearly and coherently. This contributes to their social integration and preparation for independent life.

In Uzbekistan, specialized boarding schools for children with intellectual disabilities are mainly based on classical teaching methods. In these institutions, traditional methods such as dictation writing, composing texts based on pictures, working with punctuation marks, and conducting simple text analysis are widely used for developing written speech. While these approaches help to form basic writing skills in students, they yield limited results when it comes to deepening their ability for independent thinking, understanding logical connections, and creating meaningful written expressions. [9.p-50-55].

Currently, some experienced educators are using didactic tools such as picture cards, letter magnets, and various game elements. Although these tools play an important role in helping students focus, grasp concepts through visual images, and increase engagement, their use often remains within the scope of individual initiatives and has not been systematized on a broader scale.

In recent years, certain positive developments have been observed in the integration of information and communication technologies into Uzbekistan's special education system. For example, in some specialized boarding schools in Tashkent and Samarkand, lessons are being conducted experimentally using modern technologies. During these lessons, students are given tasks such as selecting words, transforming them into sentences, and creating texts using tablet applications with graphical interfaces. [3.p-38-42].

These interactively organized activities enhance children's independent thinking abilities, teach them to identify logical relationships between words, and help strengthen their written expression skills. Particularly, the multimodal approach—carrying out tasks that

combine auditory, visual, and tactile senses—increases students' ability to remember and apply knowledge in practice.

However, such advanced practices have not yet been widely implemented across the country. The need to systematize these practices, enrich them with scientifically grounded methodologies, and improve teachers' ability to use ICT tools remains one of today's pressing issues. Moreover, it is necessary to analyze existing experiences, create innovative programs suited to local conditions, and reflect them in methodological manuals. The future development of the special education field in Uzbekistan is directly connected to the effective use of modern technologies, differentiated approaches, and international experience.

In international practice, integrated and multimodal approaches hold a leading position in working with children with intellectual disabilities. In particular, pedagogical technologies and artificial intelligence (AI) tools play an important role in the development of written speech. In countries such as the United States, Germany, Finland, and other developed nations, AI-based applications are effectively used to convert speech into text, create personalized assignments using individual language models, and automatically detect and correct errors in students' written speech. [6.p-145-162].

These methods take into account the individual developmental level of the child and offer tailored writing tasks, allowing for continuous monitoring of the student's performance. Furthermore, multimodal methods enable the child to receive information through vision, hearing, movement, and tactile senses simultaneously, which activates their cognitive processes and enhances expressiveness in written language.

In local practice—namely, in Uzbekistan—traditional methods still dominate. In the development of written speech, classical methods such as dictation, forming word combinations and sentences, and composing texts based on images are applied. Although these approaches have proven effective in pedagogical practice, in today's educational environment enriched with information technologies, they may no longer yield sufficient results. Technological tools such as tablets, special mobile applications, and visual and interactive

resources are rarely used. This may reduce students' engagement and motivation. [10.p-102-108].

Nevertheless, in recent years, some progressive special boarding schools in Uzbekistan have begun testing innovative methods. In particular, through the use of ICT tools, efforts are being made to develop students' independent thinking, form logical connections, and deepen their skills in written expression. While these practices have not yet been widely adopted, their practical effectiveness is being highly valued. Therefore, it has become necessary to systematize innovative and technological approaches based on international experience within the local educational system, to harmonize them with national methodologies, and to generalize and promote effective strategies. This creates a foundation for qualitative changes in special education and opens up broad opportunities for the social adaptation and development of communicative skills in students with intellectual disabilities.

Indicators	Foreign experience	Local experience
Level of technology	High (mobile applications, AI)	Low (paper-based resources)
Methods	Harmonized with a multimodal and speech therapy approach	Traditional, with limited visual aids
Development of written speech	Complex and systematic	Step-by-step, but limited
Result	Rapid changes, the child writes independently	Develops slowly, requires frequent repetition

The necessity arises to develop a set of practical recommendations based on illuminated scientific-practical analyses, a comparison of foreign and local experiences, as well as the problems and positive factors observed in the development of written speech in students with intellectual disabilities. In particular, there is an opportunity to improve pedagogical

approaches by studying modern technological tools, multimodal methods, and artificial intelligence applications that are widely used abroad and adapting them to local conditions. In this regard, the proposed measures serve not only to effectively organize the current educational process but also to create qualitative changes in the special education system, strengthen students' communicative and written language skills, and lay the groundwork for enhancing their level of independent thinking. Below, such important recommendations are detailed:

Enriching local methodology with advanced foreign experiences: It is possible to significantly develop the writing skills of students with intellectual disabilities by integrating modern technologies, especially the capabilities of artificial intelligence and mobile applications, into the educational process. For example, it is recommended to develop programs similar to foreign applications such as "Writing Wizard," "SnapType," or "Easy Write" and adapt them to the Uzbek language.

Organizing training-practical sessions aimed at increasing the capacity of educators and speech therapists: For specialists working in the field of special education, it is necessary to regularly conduct special seminars, training sessions, and webinars to facilitate international experience exchange and to develop skills in using modern ICT tools.

Creating a methodological system based on a multimodal approach: A multimodal teaching methodology that combines students' listening, visual, motor, and writing activities activates their cognitive processes. This not only improves their writing skills but also enhances their overall communicative competence. Implementing this approach in special schools is expected to yield effective results.

Developing differentiated methods based on an individual approach: It is essential to apply individual approaches that consider each intellectually disabled student's developmental level, cognitive potential, and psychological characteristics. Such methodologies require the development of writing tasks and exercises tailored to their abilities.

Creating national educational resources based on innovative technologies: It is necessary to develop multimedia materials, interactive textbooks, and didactic tools for children with special needs and systematically use them in the classroom.

In conclusion, it can be said that the development of writing skills is of great importance for students with intellectual disabilities, not only from an educational standpoint but also in terms of personal and social development. This skill is a key criterion that determines the child's ability to express their thoughts, engage in communication, and adapt to society. International experiences, particularly those implemented in the USA, Germany, Finland, and Russia, demonstrate high effectiveness in developing written speech through innovative methods, AI-based applications, and multimodal approaches. Local practices, however, still rely mostly on classical methods, and the use of technological resources remains limited.

Therefore, it is a pressing and important task for Uzbekistan's special education system to deeply analyze advanced international practices and develop effective methods by adapting them to national culture and the psychopedagogical characteristics of students. This will not only contribute to the development of written language skills but also ensure the social integration of children with intellectual disabilities, strengthen their independence in daily life, and support their full participation in society.

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