



## INNOVATIVE TECHNOLOGIES FOR DEVELOPING ATTENTION IN STUDENTS WITH INTELLECTUAL DISABILITIES AND THEIR EFFECTIVENESS

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### ABSTRACT

*This article discusses the role and effectiveness of innovative technologies in developing attention among students with intellectual disabilities. The aim of the study is to analyze methods of attention development based on modern pedagogical approaches. The paper explores the psychological and pedagogical characteristics of attention, its types, and the level of its manifestation in students with intellectual impairments. Furthermore, the effectiveness of the educational process organized on the basis of information and communication technologies (ICT), gamification, sensory integration, and neuropsychological exercises is substantiated. The results indicate that innovative technologies increase attention stability, foster voluntary attention, and improve the overall efficiency of learning activities.*

The development of cognitive activities plays a vital role in the process of teaching and raising students with intellectual disabilities. In particular, the process of attention is one of the main components of learning activity, determining the effectiveness of knowledge acquisition. In children with intellectual disabilities, the stability, span, and distribution of attention are often insufficiently developed. Therefore, developing their attention requires specialized approaches and methods.

In the modern education system, the possibilities for developing students' cognitive processes, especially attention, are expanding through the use of innovative technologies. This article analyzes the role and effectiveness of innovative technologies in developing the attention of students with intellectual disabilities. The problem of attention has been studied by many scientists in the fields of psychology and pedagogy. The essence, types, and developmental patterns of attention have been scientifically grounded by psychologists. In the field of special pedagogy, the specific characteristics of attention in children with intellectual disabilities have been separately researched.

Addressing the defects in the attentional activity of students with intellectual disabilities and preparing them for social life is one of the urgent tasks of today, requiring the use of innovative pedagogical technologies alongside traditional teaching methods. Modern

technologies not only make the lesson process engaging but also serve to form voluntary attention in the child.

**1. Multimedia Technologies and Interactive Games:**

Since visual-imaginary thinking is predominant in children with intellectual disabilities, multimedia tools (video tutorials, animations) are the most effective way to attract attention.

“Be Attentive” computer programs: The child is tasked with observing moving objects on the screen and sorting them. This accelerates sensory-motor reactions.

Interactive whiteboard exercises: Exercises such as placing objects in their correct spots or matching colors develop the flexibility of attention.

**2. Game Technologies (Gamification):**

Play activity is not only entertainment for a student with an intellectual disability but also a powerful correctional tool.

Cognitive games: Games like “What has changed?” or “Find the mistake in the picture” require a high level of concentration from the child.

Digital mazes: These increase the student's spatial perception and the ability to maintain focus on a single point (stability) for a long time.

**3. Sensory Integration and Art Therapy Technologies:**

Attentional activity depends heavily on the harmonious functioning of the sensory organs.

Sand therapy: While working with fine motor skills, the child's attention is more directed towards the activity.

Music and color therapy: Similar to the colored signals used in the Goslyi-Sicard methodology, using a color gamut in lessons strengthens sensory attention.

**4. Correction through Information and Communication Technologies (ICT):**

Using ICT tools, it is possible to create an educational trajectory adapted to the individual capabilities of each student.

Programmed learning: A system of tasks that becomes more complex based on the child's pace of mastery.

Visual stimulation: When working on complex geometric shapes and lines (similar to the Hoffmann test), ICT activates the child's visual analyzers.

In the modern special education system, integrating innovative technologies rather than relying solely on traditional methods increases educational effectiveness in correcting attention defects in children with intellectual disabilities. These technologies serve to transition the child's involuntary attention into a voluntary form and maintain a stable interest in the lesson process.

Key technologies used in the correctional-pedagogical process:

Multimedia and ICT: Aimed at expanding the child's attention span using visual and auditory stimuli. For example, tasks in the form of computer games accelerate the child's sensory-motor reactions.

Gamification: By turning complex intellectual tasks into game formats, the child's fatigue level is reduced, and attention stability is increased.

Sensory Integration: Using specially equipped “Snoezelen rooms” (quiet rooms) and interactive floors, the child's bodily senses and focus centers are harmonized.

Research shows that involuntary attention predominates in students with intellectual disabilities, while voluntary attention is poorly developed. Therefore, using visual, auditory, and movement-based methods is considered effective for developing attention in the educational process. In recent years, innovative technologies—specifically ICT, gamification, and sensory integration—have been viewed as effective tools in this regard.

The following methods were used in this study:

Scientific-theoretical analysis;

Observation;

Pedagogical experiment;

Comparison;

Analysis of results.

During the research, sessions were organized based on innovative technologies for students with intellectual disabilities. During the experiment, students' attention levels before and after the sessions were compared.

The following innovative technologies were utilized:

Information and Communication Technologies – attracting attention through interactive games and animations.

Gamification – increasing motivation by presenting tasks in game form.

Sensory Integration Exercises – harmonizing vision, hearing, and movement.

Neuropsychological Exercises – tasks that develop memory and attention.

The results showed that:

Students' attention stability increased;

The ability to maintain attention for long periods improved;

Voluntary attention improved significantly;

Students' activity and interest increased.

Sessions organized using innovative technologies showed higher efficiency compared to traditional methods.

Conclusion

In conclusion, innovative technologies hold great importance in developing the attention of students with intellectual disabilities. They help organize the educational process in an interesting, interactive, and effective manner. As a result, the main indicators of attention in students develop, and the effectiveness of learning activities increases. In the future, it is advisable to further improve innovative methods in this direction and implement them widely in practice.

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