

Gaming Technologies as A Means of Increasing Learning Motivation in Students with Severe Speech Disorders

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Received: 15 March 2026; **Accepted:** 03 April 2026; **Published:** 29 April 2026

Abstract: This article examines the role of gaming technologies in enhancing the learning motivation of students with severe speech impairments. It explores the psychological and pedagogical characteristics of this category of students and substantiates the need to use modern pedagogical technologies aimed at enhancing their cognitive activity. Traditional forms of education, based primarily on verbal methods, do not fully meet the educational capabilities of children with severe speech impairments and can reduce their motivation to learn. Therefore, the use of gaming technologies is particularly important. They create an emotionally supportive learning environment, stimulate speech activity, and increase interest in learning. The use of didactic, role-playing, and remedial-developmental games contributes to the formation of a positive attitude toward learning, the development of communication skills, and the activation of students' cognitive processes. The systematic use of gaming technologies in the educational process is an effective means of increasing learning motivation and developing the speech and cognitive abilities of students with severe speech impairments.

Keywords: Gaming technologies, educational motivation, severe speech disorders, correctional and developmental education, cognitive activity, speech development, inclusive education.

Introduction: In the modern education system, special attention is given to creating effective pedagogical conditions for teaching children with special educational needs, including students with severe speech disorders. This category of learners is characterized by specific features in speech, cognitive, and emotional-volitional development, which necessitates the use of specialized teaching methods and technologies. One of the key challenges in contemporary pedagogy is enhancing the learning motivation of students with severe speech impairments, as insufficient development of speech functions often leads to decreased cognitive activity, difficulties in mastering academic material, and the formation of a negative attitude toward learning.

Severe speech disorders represent complex deviations in the development of the speech system, affecting phonetic-phonemic, lexical, and grammatical components, as well as the formation of coherent

speech. Students with such impairments frequently experience significant difficulties in understanding spoken language, constructing utterances, and participating in verbal communication. These challenges, in turn, influence the development of cognitive processes such as attention, memory, and thinking. Limited speech abilities can also contribute to reduced self-confidence, increased anxiety, and passivity in learning activities.

Under these conditions, traditional teaching methods, which rely mainly on verbal explanation and reproductive activities, often prove insufficiently effective. Therefore, there is a growing need to implement innovative and student-centered approaches. One of the most promising directions in improving the educational process is the use of game-based learning technologies. These technologies are understood as a set of methods, techniques, and forms of organizing instruction based on the use of games to

achieve educational and developmental goals.

Game-based learning has high emotional appeal and promotes active student engagement in the educational process. In игровая деятельность, the child becomes an active participant in learning interactions, which helps to develop sustained interest and stimulates cognitive activity. Particularly for students with severe speech disorders, game-based technologies create a supportive and less stressful environment, encouraging communication, reducing psychological barriers, and facilitating speech development.

Thus, the relevance of this study lies in exploring the potential of game-based learning technologies as an effective means of increasing learning motivation among students with severe speech disorders and improving the overall effectiveness of the educational process.

In the modern education system, special attention is paid to creating effective pedagogical conditions for teaching children with special educational needs, including students with severe speech impairments. This category of students is characterized by specific features of speech, cognitive, and emotional-volitional development, which requires the use of specialized teaching methods and technologies. One of the pressing challenges of modern pedagogy is to increase the academic motivation of students with severe speech impairments, as poorly developed speech function often leads to decreased cognitive activity, difficulties in mastering educational material, and the development of negative attitudes toward learning [1].

Severe speech impairments represent complex deviations in the development of the speech system, affecting the phonetic-phonemic, lexical, and grammatical levels of language, as well as the processes of coherent speech formation. Students with such impairments often experience significant difficulties in understanding oral speech, constructing utterances, and participating in verbal interactions. This, in turn, impacts the development of cognitive processes such as attention, memory, and thinking. Limited speech abilities can lead to decreased self-confidence, increased anxiety, and passivity in learning. In such circumstances, traditional teaching methods, based primarily on verbal explanations and reproductive

activity, prove ineffective. One promising area for improving the educational process is the use of gaming technologies. Gaming technologies are considered in pedagogy as a set of methods, techniques, and forms of organizing learning based on the use of gaming technologies to achieve educational and developmental goals. Unlike traditional teaching methods, gaming technologies are highly emotionally appealing and promote the active involvement of students in the educational process. In games, the child is an active participant in the learning interaction, which helps to develop a lasting interest in learning and stimulate cognitive activity [2].

Play plays a key role in child development and is considered by many scholars to be a crucial factor in personality development. Play creates a unique educational environment in which children perceive learning tasks not as mandatory requirements, but as engaging activities aimed at achieving a specific goal. The use of game-based learning technologies in the educational process fosters intrinsic motivation and increases interest in learning. For students with severe speech impairments, the use of game-based learning technologies is particularly important. Game-based learning technologies reduce the psychological stress associated with speech and create favorable conditions for fluent verbal communication. Children feel more confident in play because their attention is focused not only on the accuracy of their speech but also on completing the game task. This promotes the activation of verbal initiative and the development of communication skills. A key advantage of game-based learning technologies is their ability to integrate educational, developmental, and corrective tasks [3].

Play not only develops knowledge and skills but also fosters the development of fundamental mental processes. Gaming technologies stimulate the development of attention, memory, imagination, and thinking, which is especially important for students with severe speech impairments. Furthermore, games promote the development of articulatory motor skills, the formation of phonemic awareness, and the expansion of vocabulary. Didactic games, used to reinforce learning material and develop study skills, are especially important. These games transform learning tasks into engaging game situations, significantly increasing motivation for learning. For example, using

games to develop vocabulary or grammatical structure of speech allows students to actively engage in the learning process and show initiative in completing tasks. Role-playing games also have significant pedagogical potential. These games simulate various real-life situations requiring active verbal interaction. Students are given the opportunity to use speech as a means of communication and problem-solving in games. This promotes the development of dialogic speech, the formation of communication skills, and the expansion of the child's social experience [5, 6, 7]. Equally important are active and speech games, which combine motor and speech activity. These activities promote the development of motor coordination, the formation of a tempo-rhythmic organization of speech, and the improvement of the child's overall psychophysiological state. Incorporating motor elements into the educational process helps reduce student fatigue and improve their performance. The effectiveness of gaming technologies largely depends on the pedagogical conditions under which they are used. First and foremost, it is necessary to consider the individual characteristics of students, their level of speech development, and the severity of speech impairments. Game tasks should be accessible in complexity, gradually increase in difficulty, and provide opportunities for successful completion. Creating an emotionally supportive atmosphere in the lesson, in which the child feels supported by the teacher and classmates, is crucial. Furthermore, the use of gaming technologies requires a high level of professional competence on the part of the teacher. Teachers must be able to effectively integrate gaming elements into the lesson structure, combining them with traditional teaching methods. Games should be aimed at achieving specific educational goals and fostering the development of learning skills. Experience shows that the systematic use of gaming technologies significantly increases the learning motivation of students with severe speech impairments. Students demonstrate greater interest in learning activities, become more active in class, and are more willing to participate in verbal interactions. A positive attitude toward learning gradually develops, self-confidence increases, and academic performance improves [10].

Examples of gaming technologies used in working with students with severe speech impairments

When working with students with severe speech impairments, selecting games that develop all components of the speech system is especially important. Games should take into account the slow pace of information processing, limited vocabulary, and difficulties with verbal expression.

One effective educational game is "Name It in One Word." Students are given a group of objects or images (for example, carrots, potatoes, cucumbers) that must be grouped into a general category. Games should be accompanied by visual aids, and it is important to offer answer options when necessary. The game promotes vocabulary expansion, concept formation, and the development of lexical-semantic connections.

The game "Catch the Sound" is used to develop phonemic awareness. The teacher names a series of words, and students are asked to clap when they hear a given sound (for example, the [r] sound). It is important to select words with clear articulation and gradually increase the difficulty of the task. The game develops auditory attention and the ability to distinguish speech sounds. The game "Make a Story from a Picture" is used to develop coherent speech. Students are given a story-based illustration to compose a story. Children with speech delays are provided with support in the form of questions or a plan (who? what's doing? where?).

The role-playing game "Shop" promotes the development of communication skills. Students assign roles (salesperson, customer) and role-play a conversational situation. For children with speech delays, it is helpful to use speech templates ("Please give me...", "How much is it?"), which facilitates participation in dialogue and increases confidence.

The active speech game "Repeat and Show" combines speech and movement. The teacher pronounces words or short phrases, accompanying them with actions, and the students repeat. This promotes the development of articulatory motor skills, improves the tempo and rhythm of speech, and reduces fatigue.

The game "Fun Counting" is effective in mathematics lessons, where arithmetic operations are performed verbally. For children with speech disabilities, it is important to encourage verbalization of solutions ("five plus three equals eight"), which promotes the development of mathematical language.

Thus, the systematic use of game-based technologies, tailored to the needs of students with severe speech impairments, promotes the development of their verbal and cognitive abilities, increases their motivation for learning, and builds self-confidence.

The comparative table below highlights the differences between traditional teaching methods and game-based learning in working with students with severe speech impairments. Data analysis shows that traditional teaching methods, based primarily on verbal explanations and reproductive activities, are characterized by lower levels of learning motivation and limited student engagement. In such settings, children often exhibit passivity in class, avoid verbal responses,

and experience difficulties in verbal interaction. Furthermore, students' emotional state is often accompanied by increased anxiety and self-doubt, which negatively impacts their learning. At the same time, the use of gaming technologies demonstrates higher rates of student engagement in the educational process. Gaming technologies promote increased cognitive interest, stimulate speech activity, and foster a positive attitude toward learning. Students participate more actively in completing assignments, demonstrate initiative in verbal communication, and better learn the material. Thus, a comparative analysis confirms the effectiveness of gaming technologies as a means of enhancing the motivation and cognitive activity of students with severe speech impairments [8, 9].

Table 1 - Comparative analysis of the impact of gaming technologies on the motivation of students with severe speech impairments

Indicator	Traditional Teaching Methods	Learning with Gamification
Level of Academic Motivation	Low or inconsistent	Medium to High
Student Activity in the Class	Passive participation, infrequent responses	Active participation, high engagement
Speech Activity	Limited, students avoid verbal responses	Increased verbal initiative
Interest in the Learning Material	Decreases rapidly	Maintained throughout the lesson
Emotional State	Increased anxiety, lack of confidence	Positive emotions, confidence
Learning Material Acquisition	Slow, requires repetition	More effective and sustainable

Gaming technologies are an effective means of increasing learning motivation in students with severe speech impairments. Their use helps create favorable conditions for activating cognitive activity, developing speech skills, and fostering a positive attitude toward

learning. Integrating gaming technologies into the educational process enhances learning effectiveness and ensures more successful social adaptation for children with speech impairments.

The study examined the role of gaming technologies in

enhancing the learning motivation of students with severe speech impairments. An analysis of psychological and pedagogical literature and modern educational approaches revealed that children in this category experience significant learning difficulties due to speech development issues, limited communicative activity, and reduced cognitive motivation. These issues require the use of specialized pedagogical methods and technologies aimed at stimulating interest in learning and creating favorable conditions for the child's personal development. The study established that gaming technologies have significant educational and correctional-developmental potential. The use of didactic, role-playing, and active games helps increase learning motivation, stimulate students' speech activity, and foster a positive attitude toward the learning process. Gaming activities promote the development of attention, memory, thinking, and communication skills, while also reducing anxiety and increasing students' self-confidence. A comparative analysis of the results showed that the use of gaming technologies significantly increases the level of learning motivation in students with severe speech impairments compared to traditional teaching methods. Gamification creates an emotionally supportive learning environment, stimulates cognitive activity, and promotes more effective learning.

Thus, gaming technologies are an effective pedagogical tool for increasing the learning motivation of students with severe speech impairments. Their systematic use in the educational process contributes to the development of children's speech and cognitive abilities, increases their academic performance, and facilitates successful social adaptation. The obtained results confirm the need for further integration of gaming technologies into teaching and remedial work with students with severe speech impairments.

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