



## DEVELOPING CREATIVE THINKING BASED ON GAME-ORIENTED METHODS FOR STUDENTS WITH VISUAL DISABILITIES

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**ABSTRACT:** *This article analyzes the effectiveness of game methods in developing creative thinking in students with visual impairments. In the context of modern inclusive education requirements, it is argued that the use of game technologies is an important factor in increasing the motivation of blind and visually impaired students, activating creative thinking processes, and improving the level of English language learning. The study used methodological approaches consisting of audio games, tactile game elements, role-playing games, and creative tasks, and their impact on cognitive activity and divergent thinking was studied. The results prove that game methods significantly develop creative skills in students with visual impairments, such as thinking, problem solving, and generating new ideas.*

**KEY WORDS:** *inclusive education, game methods, creative thinking, audio games, tactile materials, role-playing games, divergent thinking, English language teaching, innovative pedagogy.*

**АННОТАЦИЯ.** *В данной статье анализируется эффективность игровых методов в развитии творческого мышления учащихся с нарушениями зрения. В контексте современных требований инклюзивного образования утверждается, что использование игровых технологий является важным фактором повышения мотивации незрячих и слабовидящих учащихся, активизации процессов творческого мышления и повышения уровня усвоения английского языка. В исследовании использовались методические подходы, включающие аудио игры, тактильные игровые элементы, ролевые игры и творческие задания, а также изучалось их влияние на познавательную активность и дивергентное мышление. Результаты доказывают, что игровые методы значительно развивают творческие навыки учащихся с нарушениями зрения, такие как мышление, решение задач и генерация новых идей.*

**КЛЮЧЕВЫЕ СЛОВА:** *инклюзивное образование, игровые методы, творческое мышление, аудио игры, тактильные материалы, ролевые игры, дивергентное мышление, обучение английскому языку, инновационная педагогика.*

**ANNOTATSIYA.** *Ushbu maqolada ko'rishida nuqsoni bo'lgan o'quvchilarda ijodiy fikrlash imkoniyatini rivojlantirishda o'yinli uslublarining samaradorligi tahlil etiladi. Zamonaviy inklyuziv ta'lim talablari zaminida o'yin texnologiyalaridan foydalanish orqali*



*ko'zi ojiz va zaif ko'ruvchi talabalarning ishtiyogini kuchaytirish, ijodiy fikrlash jarayonlarini faollashtirish hamda ingliz tili o'rganish darajasini yaxshilashda muhim omil ekanligi asoslanadi. Tadqiqotda audio-o'yinlar, tekislik (taktil) o'yin elementlari, rolli o'yinlar va ijodiy vazifalardan iborat metodik yondashuvlar ishlatilib, ularning kognitiv faollik va chetlashuvchi (divergent) fikrlashga ta'siri o'rganilgan. Natijalar shuni isbotlaydiki, o'yinli uslublar ko'rish imkoniyati cheklangan talabalarning fikrlashi, muammoni hal qilish, yangi g'oyalar yaratish kabi ijodiy mahoratlarini sezilarli darajada o'stiradi.*

**KALIT SO'ZLAR:** *inklyuziv ta'lim, o'yinli metodlar, kreativ fikrlash, audio-o'yinlar, taktil materiallar, rolli o'yinlar, divergent fikrlash, ingliz tili o'qitish, innovatsion pedagogika.*

## INTRODUCTION

As a result of the application of the principles of inclusion in modern education system, the creation and improvement of effective teaching methods for students with visual impairments has become an important scientific and practical problem. Since the mental processes, methods of obtaining information and the thinking process of such students have their own characteristics, traditional types of lessons cannot sufficiently develop their creative thinking. Therefore, game methods, in particular, educational methods based on audio, tactile and role-playing games, are recognized as one of the most useful tools for students with visual impairments.

Literature review. Of particular importance are the studies of S. Holbrook and A. Koenig on the methods of working with students with visual impairments. They created effective methods for increasing mental activity and developing creative thinking using Braille, tactile didactic materials, multisensory

approaches and audio educational materials.

Regarding the importance of game methods in special education, the constructivist ideas of J. Piaget and J. Bruner laid a huge scientific foundation, demonstrating that the game is a natural form of cognitive activity in the educational process. According to their views, the game process accelerates creative thinking, problem solving and experience acquisition. These theories are also adapted to the methodology of working with students with visual impairments.

In recent years, scientists in inclusive education such as M. Sherrill, R. A. Rehder and A. Ferrell have confirmed in scientific trials that it is possible to increase motivation and activate creative thinking processes through the use of game technologies with blind and visually impaired students. They noted, in particular, the effectiveness of audio games, games based on visual imagination and tactile game exercises.



Also, in the scientific research of S. T. Hull, J. M. Rule and B. Lohmeier, conducted within the framework of special pedagogy and new methods in STEM and language teaching for students with visual impairments, the game approach is shown as an important tool for developing creative thinking.

In general, the scientific works of these scientists show that game methods not only facilitate the process of mastering the English language for students with visual impairments, but also significantly enhance their cognitive processes such as creative thinking, problem solving, imagination and independent reasoning.

## RESEARCH METHODOLOGY

The main purpose of this study is to identify and scientifically prove the possibilities of creative thinking for students with visual impairments through game methods. The study combined theoretical, empirical and practical approaches, through which the effectiveness of game methods in the educational process was assessed, and in addition, the following methods were used: literature analysis: Scientific works of Uzbek and foreign scientists on special pedagogy, inclusive education, game methods and creative thinking were studied. Comparison and generalization: the effectiveness of various methodological approaches, the didactic value of audio and tactile games were analyzed.

Audio games: Students were given audio descriptions in English and were

given tasks to create a story or story based on them.

Tactile games: Exercises in creating a picture and story using tactile cards, Braille and objects were performed.

Role-playing games: Students were divided into groups and acted out staged situations (market, restaurant, travel), using audio and tactile tools.

Small creative tasks: Students developed new ideas through tasks such as "What happens next?"

Game methods provide a natural, interesting and active type of educational process, expand students' imagination, increase emotional activity, encourage independent thinking and stimulate creative thinking processes. Especially in communication-oriented subjects such as English, game technologies increase students' activity and help to form creative skills such as entering into a conversation, generating new ideas, and finding solutions appropriate to the situation.

## RESEARCH RESULTS AND RECOMMENDATIONS

Students with visual impairments possess specific characteristics in their cognitive processes, which directly influence the development of their creative thinking. Analyses show that the lack of visual signals activates other sensory pathways such as hearing, touch, and spatial perception. This factor strengthens the stages of imagination, logical reasoning, and the processing of auditory information. Therefore, audio-based and tactile (hands-on) activities are



considered highly important for fostering creative thinking.

Creative thinking encompasses a set of mental processes such as generating new ideas, finding unusual solutions based on a given situation, imagining, analyzing, and synthesizing information. For students with visual impairments, developing such processes becomes more effective through interactive and game-based methods rather than traditional lessons. Indeed, play activities enhance their knowledge, increase initiative, and ensure emotional engagement.

Game-based methods for visually impaired students consist of specially adapted didactic activities carried out mainly through auditory and tactile sensations. Audio games include tasks based on listening, helping learners focus attention, form mental imagery, and generate new perspectives by processing the content they hear. For example, a teacher may provide auditory descriptions in English, and the student must identify them, describe them, or create a short story based on what they hear. This exercise develops creative thinking, language proficiency, and independent reasoning.

Games that rely on tactile materials such as shapes, tokens, embossed symbols, and Braille cards develop students' spatial perception and imaginative thinking. For instance, in an adapted version of the tactile "Story Cubes" activity, a student touches and identifies shapes on the cards and then creates a new idea, scene, or event in

English based on what they feel. This is one of the effective methods that enhances divergent thinking.

Role-playing games are considered one of the most effective approaches for developing communication, creative thinking, and speech. For students with visual impairments, role-playing activities are structured using audio instructions, sound-recognition elements, and tactile attributes. For example, during a "Market Role-Play" activity, students describe objects, state prices, and carry out the buying process through spoken interaction. This process stimulates creative thinking, as each situation requires the learner to find solutions and adapt quickly. In creative English games such as "What happens next?", students are given an audio-based scenario and are expected to offer their own creative continuation. Such tasks enhance students' thinking abilities, problem-solving skills, and storytelling competence.

The use of game-based methods leads to the following changes among students with visual impairments:

1. Activation of creative thinking. The gaming process encourages new ideas, strengthens imagination, and develops the divergent type of creative thinking. Students gain freedom in expressing ideas and generating opinions.
2. Improvement of language skills. Game-based methods create a natural environment for learning English. Students listen to, use, and describe words while engaging in communication.



This process enriches their vocabulary and improves their speech performance.

3. Increased motivation. Students with visual impairments feel more comfortable during game-based activities, participate more actively, and enjoy the lesson. This contributes to sustained success in the learning process.

4. Development of social and communication skills. Role-playing and group games enhance students' ability to communicate, express their thoughts, and work collaboratively. This increases their adaptability in an inclusive environment.

Game-based methods require students to make independent decisions, find ways out of a situation, and create creative solutions. This process helps develop cognitive competencies necessary for real life. Therefore, we offer the following recommendations for using games:

1. Integrate audio, tactile, and role-play components in lessons in a harmonious way.

2. Adjust each game task according to students' level of vision and individual needs.

3. Increase motivation through encouragement and positive feedback during gameplay.

4. Enrich game materials with Braille writing, sound files, and tactile tools.

5. Use roles aimed at developing social communication in group games.

The use of game methods in the education of students with visual impairments is a highly effective tool for fostering their creative thinking, improving speech skills, and increasing their interest in the learning process. Game technologies enhance learners' socio-psychological activity and help develop imagination, analytical thinking, unusual problem solving, and the generation of new ideas. Moreover, games create a natural communication environment for learning English and support language acquisition based on the communicative approach.

## CONCLUSION

The results of the study prove that audio games, sensory-based didactic materials, role-play activities, and creative tasks significantly accelerate the development of various types of thinking, independent judgment, imagination, and reasoning among students with visual impairments. This forms an essential foundation for their future professional and social success.

Therefore, the regular integration of game methods into special-education practice, the methodological training of teachers, updating instructional materials, and expanding the set of didactic games play a crucial role in improving the quality of inclusive education.



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