

## INNOVATIVE APPROACHES TO TRAINING FUTURE SPECIALISTS IN SPECIAL EDUCATION

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**Abstract:** Modern educational systems require a rethinking of traditional approaches to teaching, shifting toward more interactive and practical methods that foster students' critical thinking and professional skills. This article explores innovative teaching strategies, such as gamification and the flipped classroom technique, which actively engage students in the learning process. One of the key aspects discussed is the effectiveness of these methods in preparing future speech therapy specialists. These approaches contribute not only to the development of professional competencies but also to the enhancement of communicative and cognitive skills.

The article also examines the use of neuro-exercises and logorhythmics as tools for improving students' concentration and overall productivity. It emphasizes that the implementation of non-traditional teaching forms significantly increases the overall effectiveness of the educational process and helps students develop adaptability, creative thinking, and the ability to find independent solutions.

In addition to the aforementioned methods, the role of technology in modern education is highlighted. The use of digital platforms and tools, such as online courses, video lectures, and interactive applications, greatly expands access to educational resources and makes learning more flexible. Students can study materials at their own pace and convenience, which contributes to deeper knowledge acquisition.

The article also considers the importance of collaboration and project-based learning as essential components of the educational process. Working in groups on real-life cases, students not only develop teamwork skills but also learn to apply theoretical knowledge in practice. This creates opportunities for experience and idea exchange, enriching the overall learning experience.

The value of feedback should not be overlooked. Regular assessments and peer or instructor feedback help students adjust their approaches and actions, supporting their professional growth. The integration of formative assessment, as opposed to traditional summative assessment, enables a stronger focus on the learning process itself rather than solely on final outcomes.

Thus, rethinking traditional teaching approaches opens new horizons for shaping competent professionals. The use of interactive methods, technology, and collaboration creates a dynamic educational environment where each student has the opportunity to unlock their potential and prepare for the challenges of the modern world.

**Keywords:** *modern education, innovative teaching methods, gamification, flipped question method, interactive learning, practice-oriented approach, critical thinking, speech therapy, neuro-exercises, logorhythmic training, student engagement.*

### Introduction

Modern education is undergoing significant transformations, which call for a reconsideration of traditional teaching methods. The new generation of students, raised in the era of the internet, social media, and instant access to information, expects an interactive and practice-oriented approach that stimulates cognitive engagement and fosters critical thinking. They need not only to acquire theoretical knowledge, but also to understand how to apply it in real professional and life situations.

Educators are faced with a number of important questions: How can student engagement in the learning process be increased? How can education be made not only useful but also engaging? And how can students be prepared for a rapidly changing world, where critical thinking, creativity, and adaptability are among the most essential skills?

The answer to these challenges lies in the implementation of non-traditional forms and methods of working with students—approaches that make the educational process more interactive, motivating, and focused on the development of practical competencies.

### **Main Body**

In modern speech-language pathology (defectology), this issue has been widely studied. T.N. Vintaeva and E.A. Chaladze examined the development of professional competencies in the training of defectology teachers through the use of interactive teaching methods [Journal Problems of Modern Pedagogical Education, 2018, No. 60-4. 52].

N.N. Abashina and N.A. Platokhina studied the use of case technologies in the development of professional competencies among future defectology teachers [Journal Innovative Science: Psychology, Pedagogy, Defectology, 2018, No. 1.2].

M.I. Lynskaya, D.Yu. Postrygailo, and Zh.B. Yuldashev demonstrated the potential of interactive and information technologies in the training of speech therapy professionals. E.A. Rumyantseva focused on the use of modern interactive technologies in teaching students with mild intellectual disabilities.

Ch.B. Medvedeva, I.V. Tsivunina, and G.Yu. Klimentova emphasized the importance of business games as a method of interactive student training [Journal Bulletin of Kazan Technological University, 2012, No. 2].

Various interactive forms and methods are actively used in the traditional educational process of training defectology students. These methods contribute to the deepening of knowledge and the development of essential skills.

One of the effective approaches is the lecture-conversation format, in which the instructor poses a series of key questions aimed at engaging all students in discussion. These questions may range from simple, requiring direct answers, to more complex and problem-based, encouraging deeper student participation.

Also notable is the lecture-discussion format, which activates students' cognitive activity by enabling the exchange of diverse perspectives, thereby deepening understanding of the subject matter.

Lectures analyzing pedagogical situations involve students in the discussion and resolution of professional problems, promoting critical thinking and teamwork.

An interesting format is the press-conference lecture, where the instructor answers pre-prepared written questions from students, fostering openness and engagement.

Lectures that include intentionally planned mistakes aim to activate the learning process and stimulate both intellectual and emotional engagement.

Small-group work—such as in pairs or trios—encourages active participation, role distribution, and peer-to-peer exchange.

Creative tasks are another method to increase interest in learning. Typically, these tasks have no single correct answer, encouraging students to think creatively and find their own solutions.

Educational games, including business and role-playing games, allow students to simulate real-life situations involving collaborative decision-making and discussion of relevant issues.

Master classes give students the opportunity to observe specific professional actions, which significantly enhances knowledge retention.

Interactive excursions, such as virtual exhibitions, expose students to objects outside the classroom without leaving the learning environment.

Field trips to workplaces allow students to gain firsthand insights into the profession, consolidate learned material, and acquire new knowledge in an informal setting.

Thus, the use of diverse methods and formats creates conditions for deeper understanding and knowledge acquisition in the field of speech-language pathology.

At the same time, modern teaching approaches are based on principles of activity, engagement, and practical orientation. Among innovative methods that contribute to these goals, gamification and the “inverted question” technique deserve special attention. These are particularly effective in training future speech therapists, as they foster not only professional competencies but also creative thinking, communication skills, and adaptability.

Numerous scholars have made significant contributions to the development of gamification theory. D. Hunter and K. Werbach, in their book *For the Win: How Game Thinking Can Revolutionize Your Business*, presented the outcomes of the world’s first gamification course, offering strategies for applying game principles to enhance employee motivation and performance.

G. Zichermann and D. Linder, in *Gamification by Design: Implementing Game Mechanics in Web and Mobile Apps*, offered an original concept that helps to engage users without major expenditures, focusing on long-term customer retention.

I. Nefedev and M. Bronnikova, in *Gamification in Business and Life: Turn Routine into a Game!*, described methods to motivate oneself and others, emphasizing the importance of sustained motivation in a competitive environment.

Yu-Kai Chou developed the Octalysis Framework, described in *Actionable Gamification*, which is based on eight core motivational drivers and offers a unique approach to implementing gamification in education and beyond.

J. McGonigal, in *Reality is Broken*, analyzed how game design practices can improve life quality by drawing on positive psychology, cognitive science, and sociology.

E. Lyubko, founder of a corporate communication platform, in *Light Gamification in HR Management*, shared practical insights into simple and effective ways to incorporate gamification in personnel management.

Gamification involves incorporating game elements into educational practices to enhance student motivation and engagement, while also improving learning outcomes. This approach is not limited to using traditional games; it preserves the educational value while making the learning process more engaging and interactive [Hunter & Werbach, 2019].

In the educational context, various game mechanisms are employed. These include ranking systems (e.g., points, badges, levels), quests and missions (structured learning tasks), and role-playing games that simulate real professional situations. Feedback can also be gamified—for instance, via interactive quizzes and digital tests—making learning more dynamic and enjoyable.

We have proposed and tested an “inverted question” method, an innovative pedagogical approach that reverses the traditional learning model: instead of answering the teacher’s questions, students formulate their own questions based on the material.

This method fosters active engagement, making students active participants in their own learning. It cultivates critical thinking, as meaningful question formulation requires deep understanding of the topic. It also increases motivation by giving students greater responsibility over their learning. Furthermore, the method supports personalized learning, as students’ questions reflect their individual interests and needs.

The implementation of this method includes several stages. During the preparatory phase, students learn how to formulate questions at various levels of complexity. Next, they independently study

the material, generate questions, and classify them by type. Group discussions then allow for question exchange, collaborative problem-solving, debate, and reasoning. Finally, during the reflection phase, students evaluate the quality of their questions, identify knowledge gaps, and adjust their learning strategies.

Gamification and the “inverted question” method enable future speech therapists not only to acquire theoretical knowledge but also to apply it in practice. These creative approaches increase the time spent on hands-on training and make learning more enjoyable. In the modern context, the teacher’s role extends beyond knowledge delivery—they become a mentor who helps students explore solutions, experiment, and develop their own working strategies.

Contemporary education requires not only the transmission of theoretical knowledge but also the development of students’ cognitive, communicative, and adaptive skills. In this regard, neuro-gymnastics (neuro-exercises) plays a particularly important role. It is a method for stimulating brain activity, improving attention, and increasing overall productivity. Integrating neuro-exercises into the educational process promotes cognitive flexibility, reduces stress, and enhances emotional regulation.

Neuro-gymnastics includes a set of physical exercises aimed at stimulating interhemispheric interaction. These exercises positively affect cognitive processes such as memory, attention, and information processing. In the educational context, neuro-exercises can be implemented during class preparation, breaks, or as part of the learning process itself.

**Examples of neuro-exercises include:**

- Cross-lateral movements (e.g., touching the left knee with the right hand and vice versa), which stimulate interhemispheric connections.
- Finger exercises (various movements with both hands), which develop coordination and enhance focus.
- Simultaneous two-hand drawing, which fosters hemispheric synchronization and creative thinking.

Incorporating neuro-exercises in game-like formats makes the learning process more dynamic and engaging. During such activities, students interact while performing tasks that require coordination, concentration, and rapid decision-making. The playful environment increases motivation, reduces anxiety, and improves engagement. Combining physical and cognitive tasks activates different areas of the brain, promotes logical thinking, and improves students’ information processing abilities.

Interactive technologies—such as mobile apps and virtual reality—expand the possibilities for using neuro-exercises, integrating them into digital educational platforms.

**Research Results**

In 2023, specialists from our department completed a project aimed at implementing the gamified program "Managing Educational Deficiencies". The primary goal of our study was to integrate and advance the latest technologies within the educational process, specifically through the creation and testing of new educational games to enhance students’ active engagement. We viewed gamification as a modern instructional tool.

A key aspect of our research was the application of gamification in the learning process. This approach involves the use of game mechanics and principles in non-game contexts, which in turn increases student motivation and engagement. Our objective was to investigate the impact of this approach on educational outcomes and the level of student participation in the learning process.

The results of our study exceeded expectations, demonstrating significant improvements in key educational indicators. For instance, the average time spent by students in the educational game

increased from 17 to 23 minutes—an increase of 35%. This indicates a marked rise in student interest and involvement, which is a crucial factor for successful learning.

The introduction of gamified elements also led to an increase in the number of active users of the game-based content by 24 students. This growth confirms the rising appeal of educational games and contributes to the expansion of the learning community.

Additionally, we observed a notable increase in daily gaming activity, which rose by 20%. This growth shows that students began to engage with educational resources more actively, contributing to the development of consistent learning habits.

One of the most impressive outcomes was the increase in retention of interest in the subject matter. After the implementation of gamified elements, the retention rate one month after initial interaction reached 70%. This means that the majority of students involved in the gamified learning process continued to use game-based methods and returned to the material for at least a month. This retention level significantly exceeds the average for educational tools and demonstrates that innovative approaches can foster sustained learning habits and long-term engagement.

A more detailed analysis of the gamified program revealed several interesting trends. Students began to use educational games more frequently throughout the week, indicating the formation of a habit of regular learning. The usage frequency more than doubled—from 1.2 to 2.9 times per week.

The integration of gamification positively influenced the number of completed learning tasks, which increased from 11.4 to 17.7. This indicates not only heightened activity but also increased motivation toward learning.

The percentage of correctly completed tasks also showed significant growth, reflecting improved educational quality and a higher level of content mastery. The increase from 9.8 to 14.3 correctly solved tasks demonstrates that gamification not only captivates but also facilitates deeper learning. Moreover, students began to explore a broader range of subjects, extending beyond a single discipline. The number of studied materials rose from 1.5 to 3.6, highlighting a growth in cognitive curiosity and a tendency toward multidisciplinary learning.

### **Conclusion**

The results obtained confirm that gamification has a significant and multifaceted impact on the educational process. The application of game principles not only increases student engagement and motivation but also contributes to the improvement of educational outcomes, the formation of sustainable study habits, and the development of a multidisciplinary approach to learning.

We are confident that integrating gamification into educational platforms opens new horizons for creating effective and engaging teaching methods that promote the acquisition of knowledge and skills in demand in the modern world. These achievements highlight our commitment to innovation in the field of education and our desire to create optimal conditions for student learning and development.

### **The practice of implementing a gamified educational program demonstrates that regular use of neuro-exercises in the educational process:**

- Improves concentration and memory – students better retain information and maintain attention for longer periods during lessons.
- Reduces stress – performing physical and cognitive exercises helps with relaxation and emotional regulation.
- Develops critical thinking and creativity – stimulating various areas of the brain helps to find unconventional solutions.

Current educational approaches are focused on finding methods that contribute to the all-around development of the individual. Neurogymnastics, as part of interactive technologies, not only

enhances intellectual abilities but also positively impacts the emotional well-being of students, creating conditions conducive to comfortable material absorption. Including neuro-exercises in the educational process makes it more productive, while game elements enhance interest, foster analytical skills, and promote out-of-the-box thinking. Further research into the influence of this method on academic performance and students' psychological state opens up prospects for improving educational practices.

Thus, the educational process transcends traditional classroom lessons. To maintain concentration, activate cognitive activity, and reduce fatigue during breaks, the aforementioned neuro-exercises and logorhythmics are used. These methods help shift attention, activate brain function, and improve coordination. Logorhythmic games aid in perfecting rhythm, intonational expressiveness, and the coordination of speech with movement. Consequently, breaks become not just moments of rest, but a valuable part of the educational process, enhancing attention, productivity, and students' emotional tone.

The introduction of non-traditional teaching methods helps increase the effectiveness of the learning process, making the acquisition of knowledge more meaningful, interactive, and practice-oriented. The instructor becomes a guide, directing students towards independent problem-solving and meaningful mastery of the material, while education transforms into a dynamic process that meets the demands of contemporary reality.

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