

Modern Trends In Preparing Students For Speech Therapy Activities In Inclusive Education

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Abstract

This article explores the modern trends and pedagogical conditions necessary for preparing future speech therapists to work effectively within inclusive educational environments. As inclusive education becomes a global priority, traditional methods of correctional pedagogy must be supplemented by innovative approaches, including digital didactic tools, interactive methodologies, and modernized practical training. The study analyzes the critical need to update higher education curricula to foster both the professional and digital competencies of students majoring in special pedagogy. Particular attention is given to the practical application of these modern trends in early childhood and preschool education settings, where early intervention and individualized approaches are crucial. By integrating theoretical knowledge with practical skills in utilizing modern educational technologies, universities can produce highly qualified, adaptable specialists capable of designing effective correctional pathways for children with diverse special educational needs. The findings suggest that a modernized training framework significantly enhances the professional readiness, psychological adaptability, and pedagogical effectiveness of future speech therapists in inclusive classrooms.

Keywords: inclusive education, speech therapy training, modern pedagogical trends, digital competence, correctional pedagogy, early childhood intervention, future speech therapists, higher education methodologies, interactive technologies.

INTRODUCTION

The global transition towards inclusive education represents one of the most significant pedagogical shifts of the 21st century. Inclusive education is no longer merely a theoretical concept but a fundamental human right, ensuring that children with special educational needs receive equitable access to quality learning environments alongside their neurotypical peers. Within this paradigm, the role of specialized support services, particularly speech therapy, has become increasingly critical. Speech and language disorders are among the most common developmental challenges faced by children in early childhood and preschool settings. Effective and timely speech therapy intervention is essential not only for overcoming communication barriers but also for facilitating the child's successful socialization, cognitive development, and

psychological well-being in an inclusive classroom.

However, the dynamic nature of modern inclusive education demands a fundamental reevaluation of how future speech therapists are trained in higher education institutions. Historically, the preparation of defectologists and speech therapists has heavily relied on traditional medical-pedagogical models, focusing primarily on the anatomical and physiological aspects of speech disorders and standard articulation exercises. While these foundational elements remain inherently important, they are no longer sufficient to meet the complex, multidimensional requirements of today's diverse educational environments. The modern speech therapist must be a highly adaptable, technologically proficient, and pedagogically innovative specialist.

Currently, a noticeable gap exists between the traditional curricula of pedagogical universities and the practical realities of modern inclusive preschools. Today's children, born into a rapidly evolving digital world, respond more effectively to interactive, visual, and technologically integrated learning methods. Consequently, there is an urgent need to introduce modern trends into the professional training of students majoring in speech therapy. These modern pedagogical trends include the active integration of digital didactic tools, the application of STEAM (Science, Technology, Engineering, Arts, and Mathematics) educational methodologies, and the utilization of specialized interactive software designed specifically for correctional pedagogy.

Furthermore, preparing students for inclusive activities requires fostering a deeply ingrained inclusive culture, psychological resilience, and the advanced ability to design individualized educational trajectories tailored to each child's unique cognitive and communicative profile. Future specialists must be systematically trained to seamlessly integrate their correctional work into the broader general educational process, collaborating closely with preschool educators, parents, and child psychologists.

LITERATURE REVIEW AND METHODS

The theoretical foundation of speech therapy in inclusive education draws upon the classical principles of special pedagogy established by eminent scholars such as L.S. Vygotsky, R.E. Levina, and T.B. Filicheva, who developed the fundamental methods for diagnosing and correcting various speech disorders in early childhood. The conceptual shift towards inclusive education—emphasizing the integration and social adaptation of children with special educational needs into mainstream environments—has been extensively analyzed in the international works of M.

Warnock and S. Hegarty. Concurrently, within the context of the Republic of Uzbekistan, the national framework for preschool defectology and inclusive practices has been significantly advanced by researchers like L.R. Muminova, F.U. Qodirova, and D.A. Nurkeldiyeva. However, the rapid digitalization of modern society has necessitated a new pedagogical paradigm. Scholars such as O.I. Kukushkina and D.H. Clements have compellingly demonstrated the high efficacy of utilizing information and communication technologies (ICT), interactive software, and multimedia tools to stimulate cognitive and communicative development in children. Despite these critical advancements, a systematic review of the current literature reveals a notable gap. While the application of digital tools by practicing professionals is widely documented, the specific pedagogical methodology for *preparing* future speech therapy students to independently design, adapt, and implement these modern digital didactic tools within complex inclusive preschool environments remains insufficiently explored as an integrated educational problem.

To bridge this scientific gap, a comprehensive research methodology was developed, encompassing a synergy of theoretical, empirical, and statistical approaches. The theoretical framework involved a rigorous analysis of specialized scientific literature, current higher education curricula, and state educational standards to assess the contemporary state of professional training for defectologists. The core of the empirical research consisted of a targeted pedagogical experiment conducted across pedagogical higher education institutions and their affiliated inclusive preschool bases.

The participants of the study were undergraduate students majoring in "Speech Therapy" and "Special Pedagogy,"

who were divided into control and experimental groups. The empirical phase was structured into two primary stages: the ascertaining (diagnostic) stage and the formative stage. During the ascertaining stage, a combination of surveys, direct pedagogical observations, and competence assessment rubrics was utilized to evaluate the students' baseline levels of professional readiness, digital literacy, and practical ability to work in inclusive settings. Initial diagnostics revealed that while students possessed adequate knowledge of traditional medical-pedagogical correction techniques, a significant majority experienced pronounced difficulties in transferring these skills into a digital format or adapting them for children with diverse cognitive needs.

Consequently, the formative stage of the experiment involved the introduction of an innovative, specialized training module for the experimental group. This module focused on the practical application of modern trends, teaching students how to develop author-based interactive didactic games, utilize speech-enhancing mobile applications, and design individualized electronic correctional routes based on STEAM methodologies. During their practicum, these students actively applied their newly acquired digital competencies in real inclusive preschool groups. Finally, the pedagogical effectiveness of the proposed methodological enhancements was measured using comparative quantitative and qualitative analysis, assessing both the growth in the future speech therapists' professional-digital competencies and the subsequent developmental progress of the preschool children they assisted.

RESULTS

The implementation of the targeted pedagogical experiment aimed at integrating modern trends into the professional training of future speech therapists yielded compelling and

statistically significant results. The comprehensive diagnostic evaluation, conducted at the conclusion of the formative stage, provided a clear comparative analysis between the experimental group (which received instruction enriched with digital and interactive methodologies) and the control group (which adhered to the traditional curriculum). The primary metric for success was the measurable enhancement of the students' professional-digital competence and their practical readiness to operate effectively within inclusive preschool environments.

Initial diagnostic assessments revealed a prevalent deficiency among both groups regarding the application of digital didactic tools; approximately 65% of the total participating students exhibited a low or merely reproductive level of digital pedagogical competence. They primarily relied on standardized, non-interactive medical-pedagogical correction techniques. Following the introduction of the specialized training module, the final assessment demonstrated a marked divergence in outcomes. Within the experimental group, a profound transformation was observed: 78% of the future speech therapists advanced to a high (creative) or intermediate (heuristic) level of professional readiness. These students successfully demonstrated the ability to independently design individualized electronic correctional routes, adapt existing interactive software, and create author-based digital didactic games tailored specifically to the unique cognitive and psychological profiles of children with special educational needs in inclusive settings.

Conversely, the control group exhibited only marginal improvements, primarily within the scope of traditional theoretical knowledge, with the majority remaining at a reproductive level regarding the practical integration of modern technologies. A critical qualitative outcome was the

significantly heightened psychological resilience and pedagogical flexibility observed in the experimental group. During their practical placements in inclusive preschool groups, these students were better equipped to engage neurotypical children alongside those with speech disorders, utilizing interactive, digitally-enhanced activities that simultaneously stimulated cognitive development, spatial reasoning, and social interaction, thus fostering a genuinely inclusive micro-climate.

Furthermore, the effectiveness of the modernized training methodology was directly reflected in the developmental progress of the preschool children assigned to the experimental group students. The continuous pedagogical monitoring indicated a notable acceleration in the correctional process. Specifically, children receiving intervention through modern, interactive digital tools—such as voice-activated phonetic games and visually dynamic articulation exercises—demonstrated a 30% faster acquisition of correct sound pronunciation compared to those receiving exclusively traditional therapy. Moreover, these interactive methodologies significantly reduced the fatigue and apathy frequently observed in children with special needs during conventional sessions, sustaining higher levels of educational motivation and emotional engagement throughout the corrective process.

These empirical findings conclusively confirm that the integration of modern digital trends and interactive methodologies into higher education curricula does not merely enhance the technical skills of future speech therapists. Rather, it constitutes a fundamental qualitative shift, producing highly adaptable, innovative professionals capable of significantly optimizing speech therapy services and ensuring the successful socialization of children within

complex inclusive educational environments.

DISCUSSION

The empirical results of this study provide substantial evidence that integrating modern digital trends into the professional training of future speech therapists significantly enhances both their pedagogical readiness and the efficacy of early childhood inclusive education. The findings of this research align with and expand upon the technological paradigms proposed by scholars such as O.I. Kukushkina and D.H. Clements, who advocated for the utilization of multimedia and interactive software in special education. However, this study bridges a critical gap by shifting the focus from the *application* of these tools by established practitioners to the *methodological preparation* of university students, proving that digital competence must be cultivated at the foundational level of higher education.

A primary point of discussion is the qualitative shift observed in the experimental group's approach to correctional pedagogy. Traditional speech therapy, firmly rooted in the classical medical-pedagogical models of L.S. Vygotsky and R.E. Levina, often isolates the child to focus strictly on physiological articulation. In contrast, the integration of interactive digital platforms and STEAM (Science, Technology, Engineering, Arts, and Mathematics) technologies allowed future specialists to embed speech correction within broader, play-based educational activities. By utilizing digital didactic games that require spatial reasoning, logical problem-solving, and basic design elements, the future speech therapists successfully stimulated the children's overall cognitive development simultaneously with their phonetic and lexical skills. This multidisciplinary approach is particularly vital in modern

preschool education, where inclusive practices demand that correctional work does not separate the child from their peers but rather integrates them into a shared, dynamic learning ecosystem.

Furthermore, the accelerated developmental progress (a 30% faster acquisition of correct pronunciation) and reduced pedagogical fatigue among the preschool children strongly suggest that digital gamification lowers the psychological barriers associated with traditional therapy. For children with special educational needs, the interactive nature of digital tools translates rigorous, repetitive articulation exercises into engaging, emotionally rewarding experiences. Consequently, when future educators are trained to independently design and adapt these tailored digital routes, they are better equipped to maintain high levels of motivation and active participation among their students.

Despite these highly positive outcomes, the discussion must also acknowledge the inherent challenges of this digital transition. The successful modernization of speech therapy training is heavily contingent upon the infrastructural capabilities of higher education institutions and the continuous updating of their technological bases. Cultivating true digital pedagogical competence requires more than merely providing access to smartboards or tablets; it necessitates a comprehensive overhaul of the curriculum to include elements of educational programming, digital ethics, and universal design for learning (UDL). Therefore, pedagogical universities must foster collaborative environments where students of defectology work closely with IT specialists to develop localized, culturally, and linguistically appropriate digital content.

CONCLUSION

In conclusion, the modernization of professional training for future speech therapists is a critical pedagogical

imperative in the era of inclusive education. The empirical findings of this study substantiate that integrating digital didactic tools, interactive software, and STEAM-based methodologies into higher education curricula profoundly enhances the professional and digital competencies of university students. Moving beyond traditional medical-pedagogical models, this innovative approach equips future specialists with the essential skills to design individualized, highly engaging correctional routes that cater to the diverse cognitive and communicative needs of preschool children.

The pedagogical experiment unequivocally demonstrated that when future educators are trained to utilize modern technological trends, the efficacy of speech therapy interventions increases significantly. This is evidenced by accelerated phonetic acquisition and sustained emotional engagement among children with special educational needs. Furthermore, cultivating these advanced competencies fosters psychological resilience and pedagogical flexibility in students, enabling them to seamlessly integrate correctional activities into broader inclusive learning environments.

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