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Dear Author and dear Reader,



Welcome to the Armenian Journal of Special Education (AJSE). The aim of the AJSE is to give a highly readable and valuable addition to literature related to the field of the special education, inclusion, and rehabilitation. It is our pleasure and goal to enlighten international authors, readers, and reviewers to become highly qualified and skilled writers, critics, and users of special and inclusive education research on international level, as well as advanced researching practices. The journal is a peer reviewed journal in English for the enhancement of research in different areas of special, inclusive education and rehabilitation.

Editing an academic journal is a vigorous and rewarding mission, but also time-consuming and often frustrating. Taking into consideration this we highly appreciate any remarks, feedback and proposals that would help us to improve the objectives and the structure of the Journal. We are trying to keep the track to interwove universally and contribute to global knowledge as much as it is possible.

Editorial board of the journal is delighted to publish AJSE in English to echo diverse issues of international and national special, inclusive education and rehabilitation fields that are relevant for up-to-date dispute. We are looking forward and very pleased to receive contributions for our next issue from special educators, rehabilitation ground specialists, researchers, scholars and practitioners to ensure the reliability and the accomplishment of the Journal.

Sincerely,

MARIANNA HARUTYUNYAN

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CONNECTED SPEECH DEVELOPMENT PATTERNS IN PRESCHOOL-AGED CHILDREN

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ABSTRACT

The comprehensive and harmonious development of all linguistic components, including phonology, morphology, syntax, semantics, and pragmatics, is essential for the formation of coherent and contextually appropriate connected speech in preschool-aged children. Connected speech functions as a salient indicator of a child's acquisition of their native language, integrating vocabulary expansion, grammatical competence, phonological processing, and the ability to use language pragmatically within social contexts.

Proficiency in connected speech reflects not only surface-level linguistic fluency but also deeper cognitive and communicative capacities, including narrative structuring, inferential reasoning, and the ability to adapt language to suit the context and audience. As such, it serves as a critical marker of linguistic competence and overall language development. The ability to produce connected discourse underscores the successful internalization and functional application of linguistic rules, thereby positioning connected speech as a pivotal milestone in the ontogeny of language acquisition.

Keywords: *connected speech, preschool-aged children, language acquisition, speech components, vocabulary development, logical and coherent speech, rich vocabulary, early speech therapy intervention.*

INTRODUCTION

Preschool education represents a multi-tiered and holistic process aimed at ensuring the comprehensive development of young children. This process is designed to support the child's abilities and capacities, aligned with their individual, psychological, and physical characteristics (Florian, 2014; Ainscow, 1994). Preschool education promotes not only cognitive development but also emotional, social, and communicative growth, forming the foundation for lifelong learning and participation in society.

In line with the Republic of Armenia's national policy on inclusive education, the National Assembly adopted significant amendments to the Law on Preschool Education on May 6, 2020. These amendments ensure the realization of the right to equal access to preschool education for all children in

Armenia. The revised law also sets forth the principles of accessibility, availability, and equity in early childhood education (RA National Assembly, 2020).

Given these legal and policy shifts, the role of multidisciplinary teams in preschool institutions has become increasingly significant. These teams are responsible for delivering pedagogical-psychological support services, which include both psychological counseling and targeted educational interventions. The ultimate goal is to promote optimal development and inclusion for each child, especially those with developmental or learning difficulties (UNICEF, 2012).

The functions of the multidisciplinary team are diverse, ranging from needs assessment and diagnostics to the design of Individualized Learning Plans (ILPs), collaborative planning, and direct support. Among the core elements of this support structure, speech-language therapy (logopedic services) occupies a crucial place. The speech therapist's role includes identifying communication disorders early, implementing evidence-based interventions, and contributing to the child's educational success within inclusive settings (Shipley & McAfee, 2020; Paul & Norbury, 2012).

Closely integrated into this system are Regional Psychological-Pedagogical Support Centers (RPPSCs), which serve as territorial-level hubs for child development services. These centers are responsible for coordinating interdisciplinary evaluations, delivering specialized interventions, and supporting both children and educators across preschool and school institutions. Their functions include conducting multifactorial assessments of children's developmental needs, offering expert recommendations to educators and parents, and ensuring the continuity of support services within inclusive educational settings (European Agency for Special Needs and Inclusive Education, 2018; Bartolo et al., 2007).

Specifically, RPPSCs often provide or coordinate logopedic services, psychological counseling, special pedagogy, and developmental therapy, adapting their methods to both the cultural and linguistic context of the region. Their role is especially vital in preschool education, where early identification of speech and communication challenges can significantly influence future academic success. By working in tandem with school-based multidisciplinary teams, RPPSCs bridge gaps between diagnosis and educational planning, offering tailored interventions that align with national education standards and individual child profiles.

The fundamental principle of early diagnosis and prevention of speech disorders in preschool-aged children guides modern speech-language pathology (logopedics). Early identification is crucial to mitigate the progression of speech impairments and to support the child's comprehensive communicative development (Shipley & McAfee, 2020; Paul & Norbury, 2012). In this context, regional psychological-pedagogical services are not merely diagnostic bodies but active agents of inclusion, empowerment, and developmental support playing a central role in ensuring every child's right to quality, equitable, and accessible education from the earliest stages of life.

DESK REVIEW

Both age-related norms and individual characteristics such as temperament, cognitive style, and neurodevelopmental maturity influence the development of children's speech. As such, the trajectory of speech acquisition differs across children. Speech evolves in the context of interactive communication with the surrounding environment, making it essential for caregivers, educators, and family members to model grammatically correct, fluent, and enriched language (Yairi & Ambrose, 2013).

Among the various strategies for fostering verbal expression, natural communication is considered the most effective. Creating authentic communicative contexts, such as play, storytelling, or daily routines, encourages children to express themselves spontaneously. During any child-centered activity, it is important to stimulate their desire to speak, provide opportunities for unrestrained verbal expression, and reinforce their communicative attempts. The more motivated a child is to speak, the more robust and complete their speech development is likely to be (Grigoryan, 2017; Paul & Norbury, 2012; Conture & Curlee, 2007).

In the process of speech development, special emphasis is placed on ensuring the full communicative competence of children, the ability to regulate interpersonal relationships, and the development of phonemic culture, an area where modern children are particularly in need of support.

Speech serves as a primary tool for communication, vocabulary enrichment, cognitive development, and expanding children's understanding of the surrounding world. To support the natural development of speech, it is essential to create motivational conditions, maintain a linguistically rich environment, encourage children's attempts at communication, and actively engage them in conversations and dialogues.

By preschool age, a child's speech reaches a particular developmental milestone, which is achieved through active participation in communicative activities. The need for social interaction and communication serves as a driving force for this development. The social environment and interaction with surrounding adults play a crucial role, as children rapidly internalize and model the adult patterns of speech through these exchanges (Nishcheva, 2021; Zhulina, 2019).

It has been well established that insufficient speech development can have a negative impact on a child's communication abilities, behavior, academic performance, and overall learning progress. Empirical evidence supports that speech difficulties identified and addressed during the preschool years are more effectively and rapidly corrected. This early intervention creates favorable conditions for the full development of both speech and cognitive processes at this critical developmental stage.

During the preschool period, a child's speech must reach a level of development that reflects the integrated functioning of all speech components, in alignment with the norms and structures of the native language. Mastery of the native language, along with the development of linguistic and communicative competencies, is considered a prerequisite for the holistic formation of the child's personality. It

significantly contributes to overcoming intellectual, moral, and aesthetic development challenges that may arise during early education (Alekseeva & Yashina, 2000).

Speech is a fundamental cognitive and logical tool, and the development of a child's thinking abilities is mainly dependent on their mastery of language. It provides extensive opportunities for communication, idea exchange, reasoning, labeling objects and phenomena, and understanding their meanings. Through speech, children move beyond sensory-based learning to develop abstract thinking, allowing for generalizations and more profound, more holistic comprehension of reality. Speech facilitates knowledge acquisition about the world, nature, and the conceptualization of past, present, and future events.

In this context, the development of linguistic competence encompassing both oral and written expression and logical thinking is considered a core challenge of pedagogy. During the preschool years, children should be able to formulate and express their own thoughts clearly and respond to questions with grammatically correct sentences. Several key components are essential for the successful development of oral speech at this stage: correct articulation of native phonemes, a rich vocabulary, and the use of semantically nuanced words, including synonyms, antonyms, and polysemous expressions.

Notably, the preschool period culminates in the formation of grammatical structures in the native language, marking a critical milestone in speech development. Complete mastery of the native language and communication skills is regarded as a prerequisite for the development of a child's personality, laying the foundation for overcoming intellectual, moral, and aesthetic educational challenges (Zhulina, 2019; Grigoryan, 2017).

Characteristics of Fully Developed and Correct Speech in Preschool-Aged Children

The development of clear and accurate speech in preschool-aged children is a complex and multi-layered process, encompassing several critical linguistic competencies. Fully formed and correct speech is characterized by:

- Accurate articulation of the phonemes and words of the native language;
- A well-developed and contextually appropriate vocabulary;
- Semantically correct use of words, reflecting an understanding of meaning;
- Grammatically accurate transformation and structuring of words according to the rules of the native language;
- The ability to produce cohesive and coherent connected speech.

The development of the phonological system is particularly emphasized during the preschool years. It is during this developmental stage that children typically complete the acquisition of correct phoneme pronunciation. According to developmental norms, by the age of 5 to 6 years, children are expected to accurately articulate all phonemes of their native language (Zhulina, 2019; Grigoryan, 2017).

Phonemic awareness and articulation form the foundation for effective communication, academic readiness, and further cognitive and linguistic development. Delays or inaccuracies in this process may indicate the need for timely speech-language intervention to ensure the child's successful adaptation to educational environments and social interaction contexts (ASHA, 2023).

Development of the Phonological Aspect of Speech in Preschool-Aged Children

Two fundamental processes characterize the development of the phonological system of speech in preschool-aged children:

- The development of phonemic (speech) hearing;
- The formation of accurate sound articulation.

In addressing the phonological aspect of speech development, it is essential to emphasize the role of speech prosody, the melodic features of speech such as intonation, pitch, tempo, and rhythm. These components play a critical role in the expressive quality and clarity of spoken language.

Key elements in prosodic development include:

- Expressiveness of speech, reflected in vocal tone, pitch, timbre, intensity, and intonation;
- Development of phrasing and natural pauses (i.e., rhythmic structuring of speech).

Children begin to perceive and differentiate intonational variations (e.g., strict, soft, angry, calm) from an early age. As their speech develops, they learn to adjust their voice's pitch and intensity in accordance with communicative needs.

Moreover, mastering a natural speech tempo is crucial. Both excessively slow and fast speech can lead to omissions of phonemes, syllables, or even entire words, making speech unclear or unintelligible.

By the senior preschool age (approximately 5-6 years), children should be able to use intonation to:

- Signal the beginning and end of sentences,
- Express incomplete thoughts or questions,
- Create natural pauses for meaning and clarity.

Narrative forms such as children's poems, folktales, and fables are especially effective tools for supporting the development of intonation and expressive speech during this period (Paramonova, 2021).

The Development of Prosody in Preschool Children's Speech

When addressing the phonetic aspect of speech development, it is essential to emphasize the role of prosody, specifically intonation, which plays a significant role in ensuring the proper development of expressive oral speech. Key components of prosody include:

- The development of expressiveness in speech (including tone, tempo, timbre, pitch, and intonation), and

- The development of modulation and emotional coloring of speech.

From an early age, children begin to perceive and distinguish between variations in vocal tone such as harsh, soft, angry, or calm intonations. According to their communicative intent, children can adjust their vocal pitch and intensity to match the required emotional tone. Maintaining a natural speech tempo is also critical for the expressive development of preschoolers' speech. Both slow and fast speech rates may result in omissions of sounds, syllables, or even entire words, making the child's speech difficult to understand (Paramonova, 2021).

Older preschoolers should be capable of using intonation to indicate sentence boundaries, incomplete thoughts, and pauses. To foster prosodic development at this stage, engaging children with nursery rhymes, folk tales, and fables has proven to be highly effective due to their rhythmic and expressive nature (Paramonova, 2021).

However, as previously noted, not all preschool-aged children achieve complete speech development. In addition to phonetic articulation difficulties, children may also experience delays or disruptions in vocabulary growth, connected speech, and the grammatical structure of their language. These issues highlight the need for early detection and targeted intervention to support comprehensive language development during the critical preschool period.

Disruptions in Speech Development and the Role of Connected Speech in School Readiness

Children with speech difficulties often use semantically inappropriate words and exhibit word order errors within sentences, leading to distorted meaning. These errors render their speech unclear and developmentally inappropriate for their age. Additionally, disruptions in voice modulation, tempo, and timbre, as well as other prosodic elements, negatively affect effective communication with peers and adults (Paramonova, 2021).

Such deficiencies in speech development during the preschool years unambiguously present significant barriers to successful communication and overall development. This underscores the critical role of speech therapy services within preschool institutions, early childhood education centers, and multidisciplinary support teams. Early assessment of children's speech development levels and the provision of timely, specialized support services form the foundation for successful school readiness interventions (Zhulina, 2019; Borodich, 2016).

A crucial component of this readiness is the development of connected speech, which integrates all the fundamental components of speech phonology, vocabulary, grammar, and pragmatics. Connected speech reflects the child's mastery of their native language and supports independent, coherent, and contextually appropriate communication (Nischeva, 2021).

Connected speech is defined as meaningful, structurally complete, and semantically coherent language that adheres to the norms of literary language. It transcends immediate communicative contexts and is understood independently of the surrounding speech situation. This type of speech, often monologic in form, enables children to communicate extended thoughts and narratives (Glukhov, 2016; Arsenyeva, 2014).

The development of connected speech occurs gradually, shaped by both higher-order cognitive processes and increased opportunities for social communication. As connected speech matures, preschool children become more adept at using lexically and grammatically appropriate forms, aligning nouns and adjectives, pronouns and numerals, and adjusting verb tense and aspect to reflect syntactic rules. They also develop the ability to construct narratives, express emotions and opinions, and draw conclusions relevant to communicative situations (Paramonova, 2021; Alekseeva & Yashina, 2000).

Patterns and Mechanisms in the Development of Connected Speech in Preschool-Aged Children

The development of connected speech in preschool-aged children follows predictable patterns that begin forming during early childhood. By approximately 1 to 1.5 years of age, children begin to exhibit the foundational prerequisites for connected speech. At this stage, it is essential that the child actively communicates with both peers and adults. Through such interaction, children accumulate vocabulary and begin constructing semantic networks (Borodich, 2016; Arsenyeva, 2014).

Connected speech starts to emerge more clearly around 1.5 to 2 years of age, when children begin forming two-word utterances, typically consisting of a subject and a verb. These utterances frequently accompany daily activities and reflect the child's efforts to verbally engage with their surroundings (Alexeeva & Yashina, 2000; Glukhov, 2016).

The principal function of connected speech is communication, which develops through both dialogic (two-way) and monologic (one-way) forms. Dialogic speech arises from direct interaction and is often stimulated by external situational factors. In contrast, monologic speech is driven by internal motives, content-specific intentions, and the speaker's independent selection of linguistic tools. Due to its complexity and organization, monologic speech requires specific pedagogical support for its development (Paramonova, 2021; Zhulina, 2019).

During the preschool years, it is critical to engage children in active dialogue, encourage their ability to listen and comprehend speech addressed to them, and teach them how to formulate appropriate questions and responses. Such developmental efforts must always be contextualized in real-life social interactions (Grigoryan, 2017).

Through participation in dialogic exchanges, children learn to:

-
- Attentively listen to and understand the speech of others;
 - Articulate their thoughts clearly and coherently;
 - Monitor and regulate their own speech behavior;
 - Formulate and respond to questions appropriately (Glujov, 2016; Niščeva, 2021).

A significant portion of children's dialogic speech is characterized by a colloquial style, which emerges in everyday communication with family members and peers. This style tends to be emotionally expressive and spontaneous, incorporating a wide variety of sentence types such as declarative, interrogative, imperative, and exclamatory. It is also marked by the frequent use of informal vocabulary and occasional deviations from normative literary language (Zhulina, 2019; Borodich, 2016).

In connected speech, it is essential to maintain speech culture, including:

- Polite forms of address;
- Socially appropriate greetings and farewells;
- Expressions of apology or gratitude;
- Congratulatory remarks.

These elements not only facilitate effective communication but also support the child's social integration and emotional development (Paramonova, 2021; Arsenyeva, 2014).

Development of Dialogic and Monologic Speech in Preschool-Aged Children

Importance of Joint Activities in Developing Dialogue

In preschool years, joint activities play a crucial role in fostering dialogic speech. During such activities, children engage in situations that require discussion, coordination, or evaluation of actions, leading to the establishment of mutual communication, exchange of opinions, and shared understanding. These interactions promote communicative activity and highlight the necessity of mastering dialogic skills (Borodich, 2016; Grigoryan, 2017).

To develop children's communication culture during play, educators can apply methods such as role-playing games, dramatic interpretations of literary works, and guided discussions based on a variety of content. Such approaches create natural communicative environments where children understand the social value of dialogue (Paramonova, 2021).

Complexity of Entering into Dialogue

Entering into dialogue can be more challenging than engaging in monologue, as it involves a more complex form of social interaction. In this process, children must simultaneously formulate their own

thoughts while processing and interpreting the speech of others. This cognitive multitasking demands higher-order mental functions (Glukhov, 2016).

To support dialogic development, adults should frequently engage children in meaningful conversations, addressing topics that interest them and responding to their questions with care. These conversational exchanges become intentional pedagogical tools, facilitating self-expression and enhancing self-regulation in speech (Alexeeva & Yashina, 2000).

Conversations also help children:

- Develop goal-oriented thinking;
- Reflect on and articulate personal experiences;
- Listen attentively and understand others;
- Ask meaningful questions and express opinions;
- Communicate desires, impressions, and emotions (Niščeva, 2021).

Moreover, the cultural norms of polite conversation must be cultivated alongside verbal skills. Children must learn to listen patiently, avoid interruptions, and respond respectfully skills that contribute to both social-emotional and linguistic competence (Zhulina, 2019).

From Dialogue to Monologue

The development of monologic speech is grounded in dialogic competence. As children master conversation, they gradually transition to producing extended, coherent, and logically structured monologues. This form of speech requires not only verbal fluency but also mastery of linguistic resources, topic organization, and content sequencing (Arsenyeva, 2014).

Monologic expression includes the ability to:

- Convey ideas with clarity and logical order (beginning, middle, and end);
- Use chaining of phrases to structure complete thoughts;
- Select appropriate vocabulary and intonation to match the context.

Situational vs. Contextual Speech

Connected speech can be either situational or contextual. Situational speech is anchored in the immediate communicative context and is understandable only within that framework. In contrast, contextual speech relies on language structures alone, without external cues, and requires the use of various grammatical and lexical tools for meaning to be conveyed (Paramonova, 2021).

Although these two forms differ in origin and manifestation, they are interrelated and mutually reinforcing. Mastery of both enables children to adapt their speech according to communicative circumstances, thereby strengthening overall language competence (Grigoryan, 2017).

By the ages of 5-6, children should be able to:

-
- Participate actively in conversation;
 - Retell fairy tales or short stories;
 - Express ideas using varied sentence structures;
 - Demonstrate growing control over emotional expression and intonation.

However, many children at this stage still face difficulties with idea formulation, question construction, and intonation usage, often requiring adult scaffolding to communicate effectively (Borodich, 2016; Glukhov, 2016).

Development of Descriptive, Narrative, and Analytical Speech in Older Preschoolers

By the time children reach the older preschool age, they begin to master various forms of connected speech, including descriptive, narrative, and analytical speech (Arsenyeva, 2014; Borodich, 2016).

Descriptive Speech

Descriptive speech involves characterizing an object or phenomenon by enumerating its attributes. This form of expression heavily relies on the use of adjectives to specify features such as shape, size, color, texture, and more. Speech therapists often apply the “radiating principle” in descriptive language instruction. In this method, the child begins with a central object, and then attributes like rays of light branch out from it to create a complete description (Nishcheva, 2021; Alexeeva & Yashina, 2000).

Practical tools for developing descriptive speech include:

- Thematic illustrations (pictures with plots);
- Toys and manipulatives;
- Children’s own drawings;
- Observation of natural phenomena, animals, and people.

These activities help children internalize the basic structure of descriptive speech, promoting both vocabulary enrichment and syntactic development (Grigoryan, 2017).

Narrative Speech

Narrative speech entails a structured retelling of events that unfold in a temporal sequence. Events may be presented in the present or past tense, and narrative coherence depends on the child’s ability to distinguish the beginning, middle, and end of a story. Violating this order often leads to a loss of meaning (Borodich, 2016; Glukhov, 2016).

To support the development of narrative skills, educators can use:

- Graphic models representing stories as colored segments: green (beginning), red (development), and blue (ending);
- Sequential picture cards to help structure storylines;
- Dramatic play with puppets or toys, encouraging emotional expression through intonation, gestures, and facial expressions;
- Personal storytelling about the child's own experiences, which requires abstract thought and the absence of external visual aids.

Narrative speech often blends with descriptive elements, especially when children recount personal experiences. This integration deepens their expressive capacity and logical sequencing (Zhulina, 2019).

Analytical (Reasoning) Speech

Analytical or reasoning-based speech represents the most complex form of connected speech for preschoolers. It is built upon a cause-and-effect structure and typically includes a hypothesis, reasoning, and a conclusion. Unlike narrative and descriptive speech, analytical discourse is less constrained by fixed order and may include multiple viewpoints or justifications (Paramonova, 2021).

Teaching children to construct analytical texts promotes the development of:

- Logical reasoning;
- Explanation and justification skills;
- Ability to formulate arguments and support conclusions.

This kind of speech training not only enhances communication but also lays the groundwork for later academic success by cultivating critical thinking (Niščeva, 2021).

Integrative Development of Connected Speech

In natural contexts, children rarely use these speech types in isolation. Connected speech typically integrates descriptive, narrative, and analytical components, depending on communicative intent and situational demands (Glukhov, 2016). Instructional strategies to support this development include:

- Dialogues;
- Self and peer speech evaluations;
- Retelling with feedback;
- Modeling and reconstructing stories.

Developing connected speech is a core objective of preschool language education. It directly supports:

- Vocabulary expansion;
- Grammatical accuracy;

- Phonological awareness;
- Pragmatic competence.

However, if children lack age-appropriate vocabulary, semantic knowledge, or basic word-formation skills, their ability to construct coherent connected speech becomes limited (Grigoryan, 2017; Arsenyeva, 2014). Early intervention and structured speech development programs are essential to support children in reaching these milestones before entering school.

Primary Methods for Developing Connected Speech in Preschoolers

The development of connected speech in preschool-aged children is a central objective in early language education. Several key methods are used in this process, each contributing to different aspects of speech competence (Borodich, 2016; Arsenyeva, 2014):

1. Forming grammatically and syntactically correct sentences
2. Developing coherent dialogue (dialogic speech)
3. Developing coherent monologue (monologic speech)
4. Retelling (reproduction of content)
5. Creating descriptive stories
6. Composing stories based on a single plot picture
7. Composing stories using a sequence of plot pictures
8. Fostering independent storytelling abilities

Among these, the development of retelling and independent storytelling skills plays a significant role. Although they are closely related, these two forms of expression are based on different principles. In independent storytelling, the child selects and formulates the content on their own, while retelling involves reproducing the meaning of a literary text using their own words and understanding (Paramonova, 2021; Zhulina, 2019).

Retelling

Retelling is the oral reproduction of a literary work's meaning, often using simplified structures and personal interpretation. The child organizes their speech based on the structure of an existing author's text, allowing them to develop sequencing, memory, and expressive skills.

Independent Storytelling

In contrast, independent storytelling is a self-directed monologic expression that involves more complex cognitive processes. The child constructs an original story, selecting language and organizing

events freely. This fosters creativity, autonomy, and the ability to apply different forms of speech (Alexeeva & Yashina, 2000).

Holistic Approach to Connected Speech

All instructional methods and activities aimed at developing connected speech in preschool institutions should serve the comprehensive development of the child's speech. At this age, well-developed connected speech is characterized by:

- Correct pronunciation
- Rich and active vocabulary
- Grammatical accuracy
- Controlled tempo, intonation, and pitch
- Adherence to the rules of the native language

Language acquisition at this stage must be systematic, contextually embedded, and developmentally appropriate to enable the child to communicate fluently and meaningfully, preparing them for the demands of formal schooling (Grigoryan, 2017; Nishcheva, 2021).

CONCLUSION

Thus, it can be confidently stated that the formation and development of connected speech during the preschool years is a fundamental prerequisite for ensuring that a school-aged child possesses a sufficiently developed oral language system. This capacity is essential not only for effective communication with peers and adults but also for understanding and evaluating the events and phenomena in their surroundings and for expressing their own thoughts clearly, logically, and grammatically accurately.

In this regard, the continuous support of RPPSCs to preschool educational institutions through their localized assessments and services should be recognized as a significant factor. Nevertheless, early speech intervention provided by speech and language therapists occupies a unique and indispensable position within the broader system of pedagogical and psychological services.

There is a growing need to implement systematic and structured professional intervention at an early stage, aimed at the timely identification, prevention, and correction of speech development disorders during this sensitive age period. By addressing these challenges proactively, many difficulties can be resolved before the child enters the formal school environment, when neuroplasticity and linguistic adaptability are still at their peak. Moreover, the development of a high level of connected speech is a critical foundation for:

- mastering written language skills,
- successfully navigating academic curricula, and

- fostering the comprehensive, harmonious, and holistic development of the individual.

Achieving this objective necessitates a collaborative, interdisciplinary approach among professionals in early childhood education, particularly speech therapists, psychologists, and educators, who must employ evidence-based methods, culturally and developmentally appropriate practices, and a strong emphasis on the functional use of language in communication contexts.

Ultimately, connected speech is not merely a linguistic construct; it is a gateway to cognitive, social, and emotional growth, laying the groundwork for confident self-expression, academic success, and lifelong learning.

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CHESS IN INCLUSIVE EDUCATION

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ABSTRACT

This paper is the result of a thorough analysis and evaluation of the literature on chess instruction strategies for students with a range of learning challenges, low attainment, moderate, specific, severe and profound learning difficulties.

The studies conducted by the Chess Scientific Research Institute's psychological and inclusive working group are beneficial for understanding the challenges faced by chess instructors when teaching students with special education needs, the challenges these students face during chess lessons, and the impact chess instruction has on these students' behaviour, social-emotional growth, and cognitive development. Nevertheless, more research is needed to fill in the gaps in the knowledge about how to teach chess to these kids. For example, it is necessary to validate the effectiveness of chess as a therapeutic tool when working with them and to develop strategies, means, and tactics for adequately instructing and involving these kids in chess lessons. Additionally, teachers' perspectives on the value of chess for the mental development of kids with SEN should be altered.

Keywords: *chess, chess research, inclusive education, special educational needs, chess teacher,*

primary school age, learning, teaching methods, games, attention, memory, speech perception, knowledge.

INTRODUCTION

Since 2011, chess has been taught to all learners in Armenian public schools from 2nd to 4th grades. Teaching chess, as a mandatory subject in schools, is a new phenomenon in the Armenian reality. It is a unique training tool for developing creative thinking, which requires the ability to independently run a problem, creatively solve it, and have flexibility of thought. Since adding chess to school curricula, psychologists have implemented multi-stage research. As a result, it was Research has found that teaching chess in schools contributes to the development of students' intellect, creativity, memory, attention, and watchfulness (Aghuzumtsyan & Poghosyan, 2014). Summarizing the results of this research, we may conclude that chess as an academic discipline is mostly referred to as a positive factor for pupils' personal development.

Taking into consideration the educational goals of elementary school standards for Chess as a curriculum item, in 2014, the Chess Research Laboratory set forth relevant research objectives and pertinent methodology. The purpose is to detect and compare the level of logical thinking among groups of students learning chess and those who do not. The methodology was the Raven progressive matrices. Methodological analysis reveals that, according to the correlation principle in matrices, 4th-grade students learning chess exhibit a higher degree of efficiency in two key areas: a) differentiating the main elements of structure and identifying relations between them, and b) identifying the missed element and tracing comparison with the given examples. According to the Similarity Principle, 4th-grade chess learning students successfully applied their ability to identify symmetry and linear differentiation in decision-making. According to the Progressive Change Principle, 4th-grade chess learning students managed to use the skills of dynamic (quick) observation, following changes, dynamic attention, and imagination; consequently, their logical thinking has developed (Khachatryan & Sargsyan, 2014).

There are numerous studies on the positive impact of chess on children's psychological processes. Some researchers even propose the concept of chess therapy. In particular, Chess therapy is a form of psychotherapy that attempts to use chess games between the therapist and client or clients to form stronger connections between them towards a goal of confirmatory or alternate diagnosis and consequently, better healing (Fadul, 2015).

Summarizing the results of the psychological research, researchers conclude that Chess as an academic discipline is mostly referred to as a positive factor for pupils' personal development (Mirzakhanyan, Gevorgyan, Sargsyan, & Daveyan, 2017).

Interestingly, the researchers have also conducted experimental studies to identify the methodological issues of chess teaching. Based on the research results and conclusions, researchers recommend finding the

best way to motivate and, correspondingly, teach pupils. Teachers must recognize and identify the learning styles of their pupils and adequately respond to their learning needs. Those responsible for implementing and controlling the chess in school program have to initiate the implementation of active and reflective learning practices in chess lessons by modeling and sharing good practices among teachers. Teachers may let students set their own learning goals and prevent surface and impulsive learning styles by making changes in their assignments and learning tasks (Sargsyan & Avetisyan, 2019).

Chess as an educational tool is widely used as an essential way for developing the intellectual skills of schoolchildren. Students' progress in chess is mostly in line with their skills and knowledge in their native language and mathematics at the primary school level. The role of chess as a school subject has been continuously increasing, as pupils learn to implement chess skills to develop their problem-solving abilities (Gevorgyan, Gevorgyan & Sargsyan, 2021).

Chess as an educational subject has significant potential for the overall development of children, both in terms of transferring knowledge and skills to individual subject areas and for use in inclusive education. The development of this potential is significantly conditioned by a variety of such direct and contextual factors as teacher training, the individual psychological characteristics of students, the goals, methods, and technologies of teaching, the optimal complexity of the subject, and the cooperation between teachers and parents (Gevorgyan, Ispiryan, Sarkisyan & Tadevosyan, 2023).

Chess is utilized in the educational systems of various countries worldwide as a diagnostic, developmental, and educational tool for working with special needs. In the field of inclusive education, experimental research in recent years proves that Chess play helps reduce communication disruptions in properties and types of attention, memory, and thinking of people with hearing impairments, thereby increasing opportunities for those people with limited health capacities to improve their welfare (Mikhaylova & Makhov, 2018).

Chess playing positively affects individuals' metacognition and, consequently, increases an individual's inclusiveness. The researchers can build an algorithm to maximize the effect of an individual's inclusiveness. Chess play is an effective pedagogical tool to improve individuals' metacognition and, consequently, increase their inclusiveness. Chess play encompasses a wide range of metacognitive abilities and skills, e.g., an individual's problem solving, creative thinking, planning, strategic thinking, logical thinking, and others. The conclusion is also that the proposed sequence of the actions first focuses on the development of individuals' metacognition, and, later, the enrichment of this individual's inclusiveness (Ahrens, et al., 2024).

LITERATURE REVIEW

The Republic of Armenia declares universal inclusive education as a guarantee of every child's right to education. Inclusive education policy is aimed at ensuring access, equal participation, and quality of

education for every child. The newly formed system provides an opportunity to organize the education and upbringing of children with special educational needs without separating the child from the family, ensuring their comprehensive social development and including them in a public educational institution.

Currently, researchers in the educational system of the Republic of Armenia are conducting experimental studies to reveal the achievements and contradictions of inclusive education.. In particular, in Armenia, the inclusion of students with special needs in regular classrooms underscores the need for robust support for teachers, students, and communities. Research in recent years has aimed to explore general education teachers' views on inclusion, emphasizing the need for extensive training and better resources to achieve effective inclusivity (Harutyunyan, 2024).

Since 2014, researchers from the psychological and inclusive groups at the "Chess" Research Institute of Khachatur Abovyan Armenian State Pedagogical University have conducted large-scale experimental studies in chess education within the context of inclusiveness.

Research was conducted among 15 2nd and 3rd-grade children with special educational needs in schools 122, 153, and 197 in Yerevan. The schoolchildren involved in the research had mainly speech, mental, locomotor system, behavioural, and other types of disturbances. The research work was scheduled in three phases. The first stage of the research was to study the behaviour of the children with special educational needs both at chess lessons and other school subject lessons. The study consisted of psychological observation and analysis of video materials.

The results of the study evidenced difficulties in focus of attention, distraction, motor restless behaviour among (60%) of children, alienation or self-segregation or isolation because of difficulties in contact and communication among 4 (26,6%) of children, indifference, lack of interest and, as a result, absence of aspiration, motivation to reach a target among 2 (13,4%) of children.

The results of the first phase of the research inspired the logic of the second one: the group of children with special educational needs and the rest of the school children were asked to write an essay on the topic "What has chess given to me?". The essay aimed to find out the precise position that children had towards chess as a school subject, the possible influence of the latter on their conduct, and, finally, to fuel their reflection.

The further analysis of the essays uncovered a series of personality characteristics that children had mentioned with particular frequency: *Patience, Aspiration, Motivation to reach the target defined, skills to act upon the ideas and to find solutions, Ability to follow the rules of game honestly, Trust upon one's own power, Ability to assume responsibilities, to learn from one's own mistakes, Time and acon planning ability, Ability to make decisions and to assume the responsibility for one's own deeds, Determination, Modesty, Formation of cooperation skills* (Charchyan & Khudoyan, 2016).

The third stage of the research aimed to stimulate self-control, patience (the ability to wait patiently),

increase self-esteem, and enhance cooperation skills and capacities among children with special educational needs through specialized chess teaching methods. The potential of teaching/learning chess through cooperative learning, scenario-role-game teaching, therapeutic, and stimulating methods among the children with educational needs was explored in this stage of the survey. As chess itself comprises elements of cooperation, during the lesson, the children were asked to swap with partners regularly while playing chess. The chess problems and assignments were completed in groups with at least one child with special educational needs, who must autonomously offer the first step towards a solution and discuss it with the rest of the group. The research also included scenario-based games where children with special educational needs were assigned prominent or key roles, such as the chess queen, which was easily recognizable by the crown. Thus, when these children approached the board, they were entitled to offer a move to their group of children. Such games would make evident the process of self-evaluation, self-esteem increase, as well as the development of self-regulation, self-control, and conduct shifts among the children with educational needs in line with the child's awareness of the characteristics of the part that he was playing.

Thus, the results of the research conducted allow claiming that using chess and special methods of teaching chess enables a contribution to the development of conduct-regulation among the children with special educational needs and to the formation of cooperation abilities among them, stimulating such personal qualities as self-control, patience, self-confidence, etc. (Charchyan & Khudoyan, 2016).

Research has been conducted on the participation and involvement problems of children with special educational needs during chess lessons in grades 2 to 4. The research aims to identify the challenges of learning chess for children with special educational needs students and the difficulties teachers face in teaching chess to them, as well as the opportunities for applying the knowledge gained from chess in real-life situations (Charchyan & Kostanyan, 2019).

As a result of interviewing, observation and questionnaire survey, it becomes clear that teachers' approach to involving CSNE in chess lessons is quite different: a) CSNE should mandatorily participate in the lesson, b) they should participate at least to some extent, c) if they cannot, participation is not a mandatory requirement, d) the presence of these children in the class is meaningless because they interfere with the lesson, and so on. According to research conducted with 2nd-4th-grade schoolchildren at five inclusive schools in Yerevan, teachers reported that 75% of CSNE students participate in chess lessons, and 80% of them can identify the pieces. 70% of CSNE face difficulties in remembering the moves of a pawn, a knight, and a queen (Charchyan, 2019).

In 2022, the psychologists of the "Chess" Scientific Research Institute carried out an experimental study. The research aims to reveal the level of performance of the working capacity components for chess-studying schoolchildren. It is noteworthy that the sample of the research includes children with special educational needs (SEN), who were one group of participants. The experimental research was carried out

by applying the "Landolt rings" methodology included in the "Egoscope" psychological analysis and testing complex. The analysis of the results demonstrated the following: 1) Students with Special Educational Needs, who showed low academic progress, as a result of the experiment demonstrated a high index of endurance, as well as students with high and medium academic progress, 2) The indicators of the reliability of the average work precision and working capacity, as well as the average efficiency level, are also the same among students with high, medium and low academic progress, 3) The results of information processing are medium for students with low and medium progress and high for students with high progress (Khachatryan & Sargsyan, 2023).

DISCUSSION

Based on the scientific results obtained from the analyses of experimental studies, the psychologists of the "Chess" Scientific Research Institute and the team engaged in the study of issues of inclusive education have developed a methodological package, which is a support for chess teachers.

In 2015, the educational methodical manual "Chess Educational Research", intended for chess teachers, developed psycho-pedagogical methods to teach children requiring special educational conditions in chess classes (Chess Educational Research Centre, 2015).

Collaborative method. In the process of teaching chess, the application of the cooperative method starts from the moment of forming pairs, placing them opposite each other, opening the chessboard, and arranging the pieces. In a chess lesson, the teacher can form pairs, taking into account the ability level of the children. When using this method, the main goal of the game is not to win, but to play together and teach each other. The application of the method will be more effective if the student, with even a small progress, changes roles the next time and is chosen as a teacher.

Method of persuasion. The application of this method is carried out through conversation, transfer of theoretical information, and debate. The teacher can choose the main topic of the day's lesson and conduct the conversation on that topic, accompanying the conversation with the demonstration of didactic materials. Then he forms groups of 3-4 students, approaches each of the groups separately, conveys the information, explaining the material with concrete examples. Then he suggests that one of the groups join the other group and conveys his perceptions and imaginations to the other students in the group. Thus, each group, successively, joins the other groups and transmits what it knows. When the exchange of ideas ends, the teacher poses specific questions around which the discussion and debate proceed. The effectiveness of this method lies in its ability to give children, alongside the teacher, the opportunity to listen to their peers and consider their perspectives.

Verbal method. This method enables children to create, reproduce, and develop their chess thinking skills. Children can tell by comparing the actions of each piece to the actions of characters in a fairy tale,

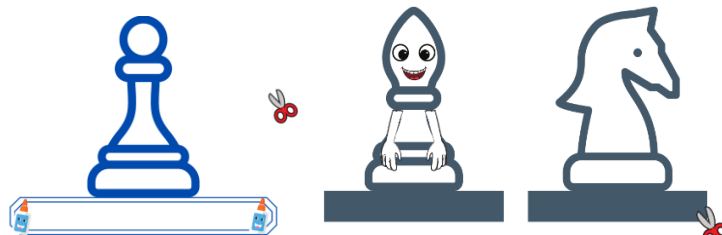
analyzing and comparing.

The teacher invites the children to divide into groups of 3-4 people and assigns each group a title, such as "The King and the Soldier" or "The King and the Horse". Children invent stories, fairy tales... Another version of the verbal method is "Make up a story about a piece." The instructional manual also describes in detail the "The Method of Jigsaw", "Brain Sketching", "Mind map" for targeted chess training in the context of inclusiveness (Chess Educational Research Centre, 2015).

In 2022, the "Waiting Step" manual was published by the professional team of the Chess Research Institute. The manual is intended both for teachers teaching chess in public schools and for specialists and coaches engaged in chess activities in educational systems (children studying in preschool and primary classes).

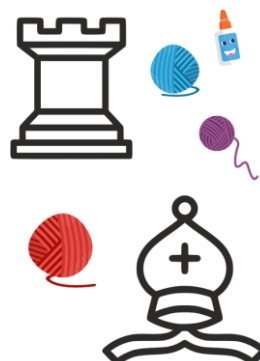
For instance, *Game: "Soldiers' Debate"*. Let us stage finger theater together. Cut it, soldiers, glue the indicated sections to the right and left, about the size of the index fingers (glue on the glued parts drawn). Make up a funny story and tell it to your friends (Kostanyan & Charchyan, 2022).

Picture 1. Puppet show with chess pieces



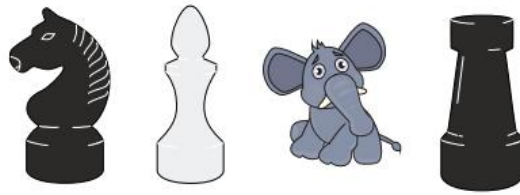
Game: "Draw a border with threads of different colors"

Picture 2.



Game: "Take the "nonexistent" piece in the circle".

Picture 3.



Game: "Take the "nonexistent" piece in the circle".

Picture 4.



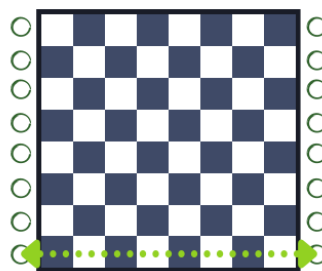
Game: "Complete and name the given pieces."

Picture 5.



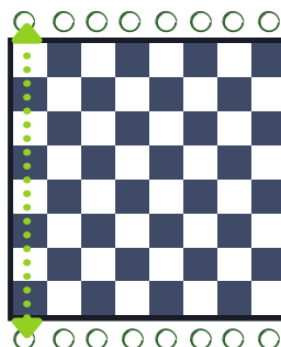
Task 1(a): Connect the opposite dots each other. Name those lines in chess.

Picture 6.



Task 1(b): Connect the opposite dots together. Name those lines in chess.

Picture 7.



The tasks presented in the manual can be used with students with special educational needs (physical, verbal, mental, auditory, as well as emotional, behavioral, and other developmental disabilities), adapting them to their needs. The authors found that several exercises can be conducted with a chess teacher to help students develop their communication abilities.

CONCLUSION

As we know, children with various disorders of psycho-physiological development study in inclusive classes, who, despite their limited abilities, can master specific chess knowledge by using appropriate psycho-pedagogical methods. These methods create an opportunity for the child to take an active part in the intergroup discussions organized during the lessons, ensuring the development of the child's communication skills. One of the main features of using the presented psychopedagogical methods is that these methods provide an opportunity to involve not only children with special educational needs, but also the whole class in the learning process. The presented methods are applicable in institutions implementing inclusive education and inclusive classes in the process of teaching chess to children with special educational needs.

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MACEDONIAN EARLY CHILDHOOD INTERVENTION: CHALLENGES AND OPPORTUNITIES

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ABSTRACT

Early childhood intervention is vital in supporting the development of children with disabilities or those at risk of developmental delays. Despite its well-known benefits, Macedonian Early Childhood Intervention services still encounter significant challenges. This study included 33 ECI professionals nationwide, who participated in six focus group discussions. The focus groups addressed the daily obstacles these professionals encounter - from screening procedures to parental involvement in Early childhood intervention services. Participants highlighted the lack of standardized Early childhood intervention protocols, the need for ongoing training, and greater financial support from the state.

Keywords: *Early childhood intervention (ECI), Children with disabilities, ECI services, ECI staff, ECI training*

INTRODUCTION

Early childhood intervention (ECI) is aimed at children with developmental disabilities or risk of developmental delay during their most critical years, from birth to age six, when their brains are rapidly developing. Specifically, ECI is a form of intervention that involves comprehensive care provided to children and their families in the first years of life (Perera, 2011). In the past, ECI services focused exclusively on habilitation or rehabilitation of the child's disability with little family involvement (Romero-

Galisteo et al., 2020; Bricker, Xie & Bohjanen, 2018). In the 1970s, more and more professionals emphasized the vital role of the family in the development of children with disabilities or at risk of developmental delay (Leal, 1999). Namely, ECI helps children develop the independence necessary for future success, often reducing their dependence on special education services later in life. According to Tollan et al. (2023), intensive and individualized ECI programs significantly improve the development of children with significant needs. In addition, Caron et al. (2024) suggest that ECI improves key adaptive skills, including communication, daily living, and socialization, which are essential for fostering independence in children with disabilities. The need for early identification and intervention is further emphasized by Joshua, Soko, and Mapfumo (2024), who emphasize their importance in improving developmental outcomes in children with autism spectrum disorders or attention deficit disorders. Generally, ECI plays a key role in fostering cognitive, communication, motor, and social skills in children at risk of developmental delays or disabilities. In particular, it has positive effects on children with behavioral challenges, enabling them to develop healthier and more effective communication and interaction skills, key components for building positive relationships (Carrington et al., 2016). Today, personalized ECI strategies are available to promote the social and cognitive growth of children with disabilities. For example, McCollough and Hoffman (2019) propose practical tools designed to help children acquire basic social skills, which are crucial for their academic achievement.

Another benefit of ECI is its economic cost-effectiveness, meaning that it reduces the long-term costs of later intervention, such as special education, healthcare, and social services. For example, for children with severe autism spectrum disorders, engaging them in intensive behavioral intervention (IBI) before the age of four promotes their development, makes them more independent, and certainly has economic benefits (Piccininni, Bisnaire & Penner, 2017). Similarly, implementing literacy programs in preschool settings has financial benefits because it provides an academic foundation for better school performance for children, which also means that fewer resources will need to be spent on support programs (Fillman, 2020). These findings highlight that investing in ECI programs benefits both individuals and society.

Although the benefits of ECI are well known, it faces significant barriers in less developed countries. There are several reasons for these barriers. For example, research on the Early Start Denver Model (ESDM) in Senegal highlights the complexity of implementing evidence-based interventions in resource-limited settings, with poverty and inadequate infrastructure limiting the availability of services for children with autism (Der Dieye, Reis & Delven, 2024). Many studies have shown that training of ECI professionals is necessary to provide effective ECI services, especially the need for them to obtain additional certifications, diplomas, or continuing education (Pretis, 2006). Also, Stahmer et al. (2024) point out that the potential for child development is significantly reduced if ECI personnel are not adequately trained.

In our country, few ECI services face numerous challenges, such as limited access to services and

insufficiently certified staff. In particular, there is no unified strategy or formal network to support children with developmental delays or disabilities and their families. As a result, many families do not have access to ECI services, especially in small towns and rural areas. This research aimed to identify the challenges faced by families and professionals in early childhood care. In other words, this research aimed to assess how ECI services are implemented in our country.

METHODOLOGY

Participants

The survey included 33 participants, a total of 75% of professionals invited to participate in the focus groups. Participants were from six cities in different parts of our country, in order to ensure different perspectives in the focus groups. The sample consisted of professionals working in public and private ECI services, as can be seen in Table 1.

Table 1.

Participants in the Focus groups

Sector	Service Personal	Number of Participants
Government ECI Service (N=9)	ECI Service Directors	1
	Special Educators and rehabilitators	13
	Speech Therapists	1
Private ECI Service (N=9)	ECI Service Directors	4
	Special Educators and rehabilitators	10
	Speech Therapists	3
	Psychologists	1
Total		33

Instrument

The research was conducted according to the Methodological Guide: Research on National Situational Analyses of Early Childhood Intervention (Vargas-Baron et al., 2022). Specifically, the section of this guide on the analysis of ECI services through a focus group analyzes eight critical aspects of the ECI system. These areas mainly relate to the availability and current status of ECI services. The overall quality of the services provided and the effectiveness of the staff training process, including pre- and in-service

training, were also discussed. In addition, challenges related to staff retention and career progression were discussed, as well as the existing systems for monitoring and evaluating the ECI programs.

Procedure

Six focus groups were organized, each with 5-6 participants. ECI directors were first asked via email to select 2-3 staff members from their programs who worked directly with families and young children. To minimize travel costs, most focus groups were conducted virtually via Zoom. That is, four focus groups were held online, and two were hybrid (combined in-person and virtual participation). Participants were first invited via email, which outlined the purpose and structure of the focus group discussions. A follow-up email was sent requesting written consent to confirm their voluntary participation. Also, with the participants' consent, all sessions were audio-recorded to ensure data integrity. Participants were assured that the recordings would be securely stored, accessible only to the research team, and permanently deleted after the analysis was completed. Each session lasted approximately 1 hour and 20 minutes and was led by two moderators. The recordings were fully transcribed to ensure the accuracy of all information shared.

RESULTS AND DISCUSSION

The first topic discussed in the focus groups was the key services that a high-quality ECI program should provide to support the development of children and their families. According to the participants, this would primarily be the early detection of developmental delays or disorders in children. One participant noted that *"Children are rarely diagnosed early and do not have a complete report and opinion."* Another important prerequisite for a quality ECI service is the creation of Individual Family Service Plans (IFSPs). Participants emphasized that these plans must be family-centered, designed in collaboration with parents, and tailored to the developmental needs of each child. As one participant noted: *"We achieve the best results when we focus on strengthening the competencies of parents."* According to them, parental participation is crucial for the success of an ECI program. They believe that parents need information, training, and financial support from the state. As one participant said, *"Parents need to be better informed about possible ECI programs because most do not know where to turn for support."* In addition, home visits and early childhood support were mentioned as key strategies for quality ECI. Participants also highlighted the need for systemic reforms, including the development of national policies and multi-sectoral programmes to create a consistent, comprehensive framework for ECI services. One participant concluded: *"We need a national strategy that connects all sectors – only then can we truly provide effective early intervention."*

The second topic discussed in the focus groups was the challenges families face in accessing ECI services. Particular emphasis was placed on whether families with lower incomes and ethnic backgrounds have the same access to ECI services. Most participants noted that most families have financial problems accessing ECI services. In addition, they face negative attitudes by society (e.g., *"Parents have financial*

problems, they additionally face prejudice, or they also do not want to accept that their child has special needs”). Some of the private ECI programs have discounts for low-income families (e.g., parents pay 13% or 25% of the total price). These centers provide additional funds mainly from donations and project activities. They also have organized transportation for children. There was a consensus among participants that low-income families face various obstacles in accessing ECI services. However, some of them stated that *“More and more Roma parents are now bringing their children to ECI services”*. To overcome these shortcomings, several participants stated that the decentralization of the ECI system is necessary, with the opening of centers in all major cities. Equally important is the education of family doctors on the importance of ECI. It was generally emphasized that the ECI is more concerned with the family and working with it, but at the same time, there is still no law in our country that would enable the provision of ECI services at home. Therefore, institutions strive to train parents when they bring their child for treatment. It was emphasized that *“working with parents is necessary for overcoming, resolving, and accepting the child’s diagnosis.”*

The third set of questions in the study focused on the implementation of children's development assessments in ECI centers. Almost all participants in this group responded that they do developmental screening (e.g., *“In our center, developmental screening is performed by a pediatrician, and in addition, a special educational assessment is performed.”*). All participants wanted to learn new tools for developmental screening for infants and young children. All public and private institutions have procedures for conducting developmental screening and developmental assessments. Some participants stated that they use a compilation of several developmental screening tests (e.g., *“We have developmental screening tests from Germany, Italy, and Serbia, and we do some combination of them”*). They further stated that there is a shortage of physicians in public ECI services. All agreed that they would like to participate in special training on developmental screening of infants and young children. They also emphasized that this training must be for all members of the ECI team.

In the fourth set, the focus group discussed what policies and procedures, as well as service and staff standards, help guide ECI services. Participants believe that the best effect of providing quality ECI services is writing an individual plan for children (e.g., *“Because one type of treatment does not work for every child.”*). Some participants reported creating both short-term (2-3 weeks) and long-term (4-6 months) plans for working with children. Others have weekly and monthly work plans. All emphasized that decisions are made as a team. Participants also stated that education of staff on working with parents, communication skills, how to convey the diagnosis and training of parents to improve the child’s functional level is needed. In this regard, it was emphasized that staff training is needed to support parents and that programs focused on parental resilience are needed. It was said that a system for ECI is needed. The problem is that there is no coordination of the system between health institutions (e.g., *“If we know what has been done and what*

needs to be done, it will be easier...”). The next question was how they encourage and show parents how to implement developmentally appropriate activities during their daily activities with their child. ECI experts said that they have intensive communication with parents (e.g., “*Every day we tell them what we did that day and give them instructions on how to work with the child at home.*”). One participant noted that parents can attend the child’s treatment and gain practical experience in working with the child at home. However, working with parents depends on their interest in the child’s development. Some of them mentioned sending videos to help parents work with their children at home. Participants stated that when they organized workshops for parents, very often they did not register (because the training is not free). They also emphasized that financial resources need to be found to make the training for parents free.

The fifth topic for focus group discussion was related to pre- and in-service training, employee retention, careers, and salary scale. They were first asked whether pre- and in-service training on modern ECI methods should be improved. Regarding pre-service training, the primary response was that they had acquired fundamental knowledge about ECI and that they needed more in-depth knowledge (e.g., “*...what we lacked at the beginning was the Strategy for working with parents.*”). Participants stated that they had much practice and that they had good courses at the Faculty. One of them said that the Faculty puts more emphasis on education than on early intervention. Most of them agreed that it is necessary to have specialist studies in ECI at the Faculty. ECI professionals commented that they often attend seminars and training. However, all of this is introductory (i.e., Introduction to Primitive Reflexes, Introduction to Art Therapy, Introduction to Music Therapy, etc.). They need complete licensed training, which is too expensive for them. Some of them stated that they submit their career development plans to the institution where they work, but it rarely allocates funds for this. Staff also emphasized that on-the-job training should be more frequent, whether online, through visits and exchanges between centers, or in-center training. This ongoing training is essential for contemporary trends in ECI. Professional development and certification are essential for maintaining the quality of ECI services. In contrast, insufficient training poses a significant challenge to the effectiveness of ECI programs (McManus et al., 2020). The next topic of discussion is whether ECI programs retain their professional staff and have mandatory certification requirements, career ladders, and pay scales. Participants stated that they do not have an ECI-certified program, nor do they have a career ladder and salary scale. One of them noted that only two state institutions are listed as ECI centers in the ICF, but that there are no private centers. It was emphasized that they are not subject to any of these conditions. There are no operating licenses, and therefore no criteria for work and promotion. They stated that ECI programs cannot retain their professional ECI staff (e.g., “*.. no arrangements have helped us to retain them!*”). Participants spoke about motivation, the need for continuous training, and rewarding their staff. Other aspects mentioned are the creation of national registration criteria for ECI service providers.

The focus groups were also asked about two key aspects of ECI services: supervision and

evaluation. According to Krauss and Seltzer (1993), structured supervision of ECI services was necessary to support professionals and maintain service quality effectively. Similarly, Dunst and Trivette (2009) emphasized the importance of systematic monitoring, focusing on tracking child development and parental satisfaction as key indicators for improving the outcomes of ECI programs. Participants from the public sector pointed out that the Ministry of Health supervises their work formally. Participants from private centers stated that none of the private centers have professional supervision (*"Nobody asks us what we do!"*). They stated that they have no official supervision over their work. One of them stated that they tried to certify their ECI program, but did not receive feedback from the Certification Institute. They proposed the establishment of a national body for licensing ECI services. According to them, it is necessary to pass the Law on Special Education and the Law on Speech Therapists and establish a Chamber. They also point out that, currently, anyone can organize training. It is necessary to know who can organize these trainings and who can certify. Additionally, there was a discussion about how they evaluate the efficiency and results of their ECI services. All participants stated that there should be a body that would carry out supervision, licensing, and criteria for professional development. An example was given of a private center that keeps a file for each child, preparing an assessment report after a specific period. Another mentioned that the whole team meets once a month to see the achievements of all children (*"... the child's developmental success."*). It is said that many dilemmas arise during work, and internal meetings are organized to gather a second opinion, but this is an informal process. Most participants reported that the ECI services managers monitor their work. One of the managers mentioned that they find it challenging due to their heavy workload. They would like to have a formal protocol for monitoring program services and assessing the effectiveness and results of ECI services.

The seventh or penultimate topic discussed with participants was networking, coordination, and referral within ECI services. Namely, they were first asked whether a coalition or network of ECI programs had been established to provide technical support to ECI programs. Participants indicated that there is no coordination between institutions. Horizontal and vertical inter-sectoral connectivity is needed. Namely, there is a lack of networking of all institutions working in the field of ECI. If the problem is solved systematically, there will be greater results. All stated that they had some cooperation with other ECI services. ECI experts indicate that there is no coalition or network between ECI programs. They all have some network with other ECI services on a private basis (*"Networking is only on a personal, friendly basis"*). Also, participants stated that they mainly cooperate with pediatricians. At the same time, some government ECI services stated that they would like to have an official list of licensed private ECI services (i.e., *to know where to send parents*). They suggested establishing a Resource Center and cooperating with everyone.

At the end of the focus group discussion, participants were asked to list five recommendations for

improving and expanding ECI services in our country. In summary, these five priorities were listed in all six focus groups: National strategic plan and Legislation for ECI; National guidelines and procedures for ECI; Certified ECI training; National monitoring and evaluation of ECI services; and Multi-sectoral networking and cooperation.

CONCLUSION

In our country, it is necessary to enact legal provisions to support ECI services for children with disabilities. Specifically, eligibility criteria, entry points into services, family participation, service coordination, performance indicators, workforce training, applicable rights of children with disabilities and their families, as well as legal provisions for financing, should be legally defined. It is also necessary to establish a multi-sectoral system for the coordination and monitoring of ECI services.

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CONFLICT OF INTEREST

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SCHOOL BULLYING AS A CONTRIBUTOR TO STUDENTS' MENTAL HEALTH ISSUES

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ABSTRACT

The article examines school bullying as a serious socio-psychological problem that is widespread among students all over the world and leads to serious consequences for their mental health and academic motivation. In Armenia, bullying is also a pressing issue, but there is no legislative regulation in this area. The study seeks to identify effective strategies for assisting students experiencing bullying. Bullying is defined as a form of psychological violence that includes constant bullying and humiliation. Research indicates its negative impact on the psycho-emotional state of the victim, leading to anxiety, depression, and low self-esteem, as well as on the educational process, reducing motivation and academic performance. The article describes specific cases of bullying, emphasizing the need for comprehensive socio-psychological support. The authors offer various methods and psychotherapeutic approaches to assist victims of bullying, including working with self-esteem, developing confident behavior, and strengthening mental resilience.

Keywords: *school bullying, psychological violence, social-emotional learning, anxiety, depression, low self-esteem, mental health.*

INTRODUCTION

The problem of bullying in RA needs strong juridical regulation and professional support. Therefore, we have not yet comprehensively revealed the scientific bases for assessing bullying as a mental health risk, particularly when considering it as an object of social-psychological support. In particular, few studies focus on combining individual and team efforts to overcome the phenomenon of bullying and its negative consequences.

According to another definition, bullying is conscious, prolonged violence by bullies against the victim (Aver'janov, 2013, pp. 3). Regrettably, bullying in RA is pervasive in public educational institutions,

targeting students based on their physical appearance, socioeconomic status, and other personal characteristics. There is a noticeable gap between the prevalence of bullying and students' willingness to acknowledge it as a problem. Thus, in the course of our psychological work, we also often meet visitors who are no longer in school but state that they were bullied during their school years and have a traumatic experience and memory. If the traumatic experience remains unresolved, it can lead to insecure social behavior and negatively impact the person's mental health. These effects can persist for a long time and reduce the quality of life of those affected.

The current research aims to identify the effective ways of social-psychological support for students who are bullied at school.

LITERATURE REVIEW

Professional literature extensively covers school bullying as a socio-psychological problem. Research data underscores the ubiquitous nature of school bullying, impacting one in three students globally. Studies show that bullying affects almost 32% of adolescents aged 13–15 in different regions, leading to impaired mental health and reduced motivation to learn (Wang & degol, 2020) In 2017, a survey across all areas of the Republic of Armenia and Yerevan revealed that 84% of students expressed a desire for Armenia to enhance its efforts to prevent bullying, with 38% reporting instances of physical bullying at school.

According to attachment theory, learners who have had a traumatic experience have difficulty adjusting to new social groups, often show high levels of anxiety, and may feel insecure around peers. Bullying disrupts the learner's fundamental need for security and acceptance, manifesting in their behavior and self-expression (Bowlby, 1982). Bullying hurts the student's psycho-emotional well-being. Bullied students experience anxiety, depression, low self-esteem, and social isolation. These effects can persist for a long time and reduce the quality of life of those affected.

Research shows that bullied students are 1.5 to 2 times more likely to develop anxiety disorders and 2 to 3 times more likely to develop depression (Hinduja & Patchin, 2021; Espelage & Hong, 2020). In the long term, bullying can lead to reduced academic progress. Modern research (Aver'janov, 2013, pp. 45-50) proves that the victims of bullying are those students who have academic failures, behavioral disorders, or weight disorders, come from socially disadvantaged families, and need special educational conditions. Students with excellent progress are also not exempt from bullying.

Research (Hinduja & Patchin, 2021; Espelage & Hong, 2020) shows that bullied students are 1.5 to 2 times more likely to develop anxiety disorders and 2 to 3 times more likely to develop depression.

Bullying can lead to aggressive behavior in both victims and bullies. Children who have been bullied themselves may engage in aggression toward others, which then becomes a cyclical problem that affects

their social relationships (Zych, Farrington & Ttomi, 2019).

Bullying has a significant impact on the student's learning process. Many students experience decreased academic motivation, frequent absences from class, and decreased cognitive function due to bullying (Swearer, Wang, Berry & Myers, 2019). In the long term, bullying can lead to reduced academic progress. Thus, in the case of early identification and recognition of bullying, as well as professionally literate and appropriate psychological intervention, we will have a healthier educational environment, where students will feel protected and psychologically harmonious.

Modern research (Aver'janov, 2013, pp. 45-50) proves that the victims of bullying are those students who have academic failures, behavioral disorders, or weight disorders, who come from socially disadvantaged families, and need special educational conditions. Students with excellent progress are also not exempt from bullying.

Despite psychologists frequently discussing the manifestations of bullying among students, they have yet to develop a comprehensive methodological strategy to prevent bullying.

METHODOLOGY

This study employed both action research and case study methods. We used observation, psychological conversations, "Color metaphors", "My class" paintings, and student essays as methods for gathering information. "Unfinished tale", "My class projective methods of essays. In order to reveal the hidden attitude of bullied children toward the class and classmates, we used the "Color Metaphors Methodology" (Sargsyan, 2007, pp. 162). To identify whether there is child bullying, the "Bullying risk questionnaire" (Bochaver et al., 2015) has been implemented.

To shed light on the causality and manifestation patterns of bullying as a mental health disorder, we have presented individual cases of bullied students (in grades 3–9 in our public schools) who sought psychological support. These cases mirror the main features of the cases we encountered in our research.

RESULTS

Case 1: H.V.'s child is 8 years old, studying in the 3rd grade. The mother turned to my psychological help, complaining that recently, there have been significant negative changes in the child's behavior, anger, negativism, and emotional instability. In particular, the child refuses to attend school; the educational motivation has decreased sharply. The child has lost his previous vitality, often has mood swings, and shows insecure behavior. We observe social isolation in the child's interactions, which manifests as a refusal to interact with peers. We carried out psychic and psychotherapeutic work with the child for a duration of 6 weeks. We used observation and psychological interview methods. It became clear from psychological conversations that V. avoids attending physical education classes in particular. The child lacks friends in

class and experiences social isolation. Pictorial methods also confirmed the child's deep feeling of insecurity. In order to find out the nature of the child's emotional-behavioral, motivational, and interpersonal relations, we used the following tools: The child depicted himself as small and lonely, a reflection of his low self-esteem and social isolation from his classmates. The child first drew and then erased the boy in the class who bullied him. This indicates that the child perceives danger and instinctively removes the potential threat (Lomakina, 2010). The study results revealed that peers verbally and physically bullied the child, and they excluded him from team games. We carried out fairy-tale therapeutic games and exercises to raise the child's psychological resources and restore the feeling of psychological security. From the results of psychological observation, conversation, and the use of projective methods, we assume that in the classroom, the child appears in situations of psychological violence and social isolation. The child feels unprotected and lacks social support. The child exhibits a strong sense of insult and resentment, leading us to believe that further psychological work is necessary. Thus, summarizing the results of psychological works we have carried out, we conclude that the child's rejection by the class and regular harassment towards him disrupted the latter's emotional well-being, which is manifested in the child's behavior by social distance, anger, and negativism. To make the obtained conclusion comprehensive and nuanced, we consider it expedient to conduct psychological research with students and teachers in the classroom.

Case 2: The father of a 12-year-old boy (D.B.) applied, expressing his dissatisfaction over the boy's insistence on visiting the school and seeing his classmates, whom he claims regularly annoy him. However, the father decides to turn to a psychologist so that, according to his words, "the child's self-esteem will increase," "he will be able to manage himself in conflict situations," and "not to take his father to school for every difficult situation." D. B. is upset with his father because, according to his comment, "at least father should solve this issue," because he mentioned that the older brothers of the boys in the class come to school "see" them and no longer bother that teenager, and his father had brought him to a psychologist. The psychological interview revealed that the boy is plagued with anxious thoughts, such as "What if he stays alone in the classroom?" and "What if he gets hit?" She constantly fears losing her "supporters" in the classroom and regularly brings sweets, juice, or food for them, fearing that if they don't communicate with her, she will be left alone. The fear of being alone in the classroom forces the teenager to become a henchman of his peers. We conclude that the teenager frequently experiences indirect bullying. In the "My class" picture, the teenager drew his classmates from behind, a gesture that suggests social and psychological alienation. The "Color Metaphor" methodology yielded a qualitative review of the results (Sargsyan, 2007, p. 162).

Case 3: When the girl (A.E.) approached me at the age of 17, she revealed that during her middle school years, specifically her teenage years, boys in her class regularly bullied her due to her weight and

appearance. He sought psychological assistance due to conflicts he was experiencing with family members, particularly his grandmother. She harbored a desire to transition into a different gender; she faced criticism from everyone for dressing in boys' clothes and donning boys' hats; she struggled to envision herself as a girl, and she even exhibited aggression when referred to as "girl rl dear." She was no longer overweight, but she harbored a dismissive attitude towards boys who made fun of her, based on the flawed belief that "boys only harass and degrade girls." His father left the family a long time ago, and he lived with his mother and grandmother. This primary trauma was compounded by being bullied by boys his age, which led him to think inadequately. Once he transforms into a boy, he will no longer face ridicule from other boys. She had a basic belief that "all women are weak beings and cannot protect themselves." Thus, the traumatic experiences in the visitor's life are connected with the difficult history of the abusive treatment by the opposite sex, the first object of love, the abandonment of his mother by his father, and leaving him alone. Therefore, we consider denying one's gender identity as a manifestation of the defense mechanism of ostracism. In this case, we established a positive relationship with the system of "self" ideas, cognitive structures, defense mechanisms, as well as self-knowledge and self-acceptance. Specifically, we employed the "self-portrait" methodology, the psychological exercise "Treat yourself like a loved one," the psychotherapeutic technique "Letter from the Future," the exercise of reconstructing inadequate beliefs, and the "Path of Life" drawing technique. Thus, the girl overcame the cause of bullying - excess weight - but long-lasting psychological trauma accompanied her. In order to minimize these and similar cases and to prevent the negative consequences of bullying, we consider it necessary to implement a complex social-emotional support program for teenagers in our schools.

Case 4: (S. E.), 8-year-old boy. The mother complained that the boy lacks confidence, fails to take initiative, and acts aggressively in situations of emotional tension. He avoids going to the yard alone, isolates himself in the classroom, avoids contact with other children during breaks, and refers to their classroom as a "beast house." During the initial conversation, it became evident that the mother had transferred this position to the child. The child suffers from a speech tempo and rhythm disorder, which causes him to stutter, thereby increasing his independence. He is often bullied by his classmates due to his lack of self-confidence and anxiety. Avoids presenting the lesson in class. The mother exerts excessive control over the child's behavior, claiming that if she is not present, the child will face bullying and abuse of trust. It is noteworthy that such a parent's behavior can place the child in a dependent relationship, thereby hindering the child's ability to form relationships with his classmates. It is noteworthy that the child, while writing an essay about the class, focused on the classroom walls and lighting, rather than the relationships among his classmates. Thus, the child's essay focused on the social-emotional distance that exists between him and his classmates. He drew his classmates as beasts and himself as a human, pointing out the difference between him and them. We can interpret the picture, where the child presents himself as the only human

among the "animals," as a symbolic reflection of his perceptions and social difficulties.

DISCUSSION

According to the theory of symbolic interactionism, children often use symbols and images to express their experiences and interact with the world (Blumer, 1969). Recognition of similar symbols can be effective for early identification, prevention, and overcoming bullying. From research (Barlett et al., 2021), it is known that family and community social support reduces the risk of developing anxiety and depression in children affected by bullying. The "Color Metaphor" methodology's results reveal a learner's dissatisfaction with their self-image, demonstrating a correlation between the concept of "I" and concepts such as "failure," "displeasure," "present," "my" responsibilities, "my class," "my classmates," and "threat". Especially those associated with the concept of "threat" are seen in this technique as sources of frustration for basic needs. Thus, the results of the conducted research present new challenges to specialists, who must devise innovative socio-psychological strategies to foster interpersonal relationships among students in public schools. Therefore, we emphasize the need for an integrated approach, including psychologists and teachers.

Implementing suitable methodological guidelines for preventive educational work and psychological intervention in schools is crucial. It is also known from research (Barlett et al., 2021) that family and community social support reduces the risk of developing anxiety and depression in bullied children. Therefore, as we work with individual cases, we find that these children often reappear in unfavorable environments that jeopardize their mental health, leading us to emphasize systemic reforms in this area. We believe that only in the conditions of social-emotional learning among modern students in schools will the prevention of the phenomenon of bullying become realistic. Students with long-term psycho-traumatic exposure often struggle to identify and express negative emotions like fear or hurt, but Social Emotional Learning (SEL) enables them to do so (SAMHSA, 2014). Even after overcoming them, the persistence of objective factors can significantly increase the risk of re-traumatization. Through SEL, students can learn to understand others better and see them as potential friends rather than threats. SEL helps build confidence in children who feel isolated or under pressure, helping them integrate into their social environment.

CONCLUSION

The conducted research documents the presence and danger of bullying in schools as a risk factor for mental health, even in the case of practical individual psychological work. An in-depth psychological study of the cases presented also shows how widespread the objective factors that cause this danger are. This means that complex socio-psychological and educational measures are needed to overcome and stop them. The primary goal of these measures is to build supportive interpersonal emotional relations, which is

impossible without ensuring the genuine participation of all parties involved in these processes.

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READINESS OF UNIVERSITY STUDENTS IN SPECIAL EDUCATION TO WORK WITH PUPILS WITH SPECIAL EDUCATIONAL NEEDS IN THE INCLUSIVE EDUCATION SYSTEM

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ABSTRACT

This paper presents the results from a questionnaire among 32 university students in special education on bachelor level at Sofia University Saint Kliment Ohridski in Bulgaria, who are in their final year of education, about their readiness for future work with pupils with special educational needs in inclusive settings. The level of the students' theoretical and practical preparation is studied, as well as specific aspects of their acquired knowledge and experience in fields like Braille, sign language, alternative and augmentative communication (AAC) etc.

Keywords: *inclusive education, university students, readiness, special education, work.*

STATE OF THE ART

Nearly 240 million children worldwide live with disabilities (special education needs - SEN) according to statistics of UNICEF (n.d.).

Inclusive education is the most contemporary educational policy, applied all around the world. It started as integrated education for children and students with special educational needs (SEN), meaning admitting these students into regular schools and kindergarten and allowing them to be educated out of the traditional system of special schools and special settings. In time integrated education grew up and

recognized other groups of children as being in need for additional support and attention in the regular school system - students in risk, students with health issues, gifted students, bilingual students, students from immigrant families, students from minority groups etc.

Inclusive education is the most sufficient and effective way to allow all children the best chance to be in school, to learn and to develop the skills they need to thrive. It values the unique contributions students of all backgrounds bring to the classroom and provides the possibility diverse groups to be together and share the same learning environment and opportunities and thus to benefit from one another (UNICEF, n.d.).

Inclusive education is defined by many researchers (Radoulov, 2023; Krischler, Powell & Pit-Ten Cate, 2019; Haug, 2016; Florian, 2014; Idol, 2006; Ainscow, 2000; Ainscow, 1994), as well as by many international organizations. The Salamanca statement, signed during the world congress of UNESCO in 1994, was among the key documents on international level, which pathed the way ahead towards inclusion and inclusive education globally. The Statement proclaimed that:

- every child has a fundamental right to education, and must be given the opportunity to achieve and maintain an acceptable level of learning,
- every child has unique characteristics, interests, abilities and learning needs,
- education systems should be designed and educational programmes implemented to take into account the wide diversity of these characteristics and needsthose with special educational needs must have access to regular schools which should accommodate them within a childcentred pedagogy capable of meeting these needs, regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all; moreover, they provide an effective education to the majority of children and improve the effkiency and ultimately the cost-effectiveness of the entire education system (UNESCO, 1994).

Bulgaria signed the Salamanca Declaration of UNESCO of 1994, which helped the transition to inclusive education. In 2015 in Bulgaria a new educational Law was passed named Law for preschool and school education (Law for Preschool and School Education, 2015/2023), followed by the Ordinance of Inclusive education (Ordinance on Inclusive Education, 2017, Bulgaria).

The educational systems in all countries had to prepare for the new educational requirements put by the inclusive education policy. For the needs of the pupils with SEN kindergarten and schools started offering additional educational support, designed adapted or individual education plans and programs, started hiring special education teachers/resource teachers, psychologists, speech and language therapists and other professionals, taught the regular teachers on how to work and educate students with SEN in the regular classroom.

Universities changed their education plans and designed:

- new classes, new curricula and syllabi in order to provide in-depth knowledge and practical skills in university students who would become special education/resource teachers to work with children and students with SEN in inclusive settings.
- new classes, such as Inclusive education, to be taught to university students who would become regular teachers in preschool and school education.

Sofia University as the oldest and biggest university in Bulgaria, opened in 1888 in the capital city of Sofia, offers within the department of special education of the faculty of educational studies and the arts (FESA), bachelor, master and doctoral programs in special education. A great part of the teaching process in these programs is dedicated to inclusive education of children and students with SEN. The bachelor program takes 4 years of education, the master programs are between 1-2 years and the doctoral program is 3 years long.

Within the bachelor program, there are many classes designed to teach university student in inclusive practices for students with visual impairments, hearing impairments, autism spectrum disorder, intellectual disabilities, motor disabilities and multiple disabilities. In addition, Braille, sign language, augmentative and alternative forms of communication (AAC), challenging behavior management in the classroom and other strategies, methods etc. practices are taught to the university students.

Design of the research

The main goal of the current research was to study the readiness of university students in special education on bachelor level to work in inclusive settings with pupils with SEN after their graduation. 32 university students in their final year of education participated in a questionnaire distributed to them via Google form. The questionnaire consisted of 18 questions in total, 15 of which were close-ended and 3 were with open answer. We did not include a demographic question in regard to the sex of the university students, because traditionally there are more female students than male, which would reveal their identity. The questionnaire was filled in fully anonymously in September and October 2024.

Analysis of the results

As shown in diagram 1, 90.6% of respondents stated that the theoretical training was completely sufficient. This overwhelming majority indicates that the university's theoretical coursework is highly effective in delivering the necessary knowledge and concepts to students. Most respondents feel confident that they have acquired the essential theoretical background for their field. 9.4% of respondents feel the theoretical preparation was only partially sufficient, highlighting a small but noteworthy portion of students who may feel that some areas of the curriculum could be improved or that additional topics should be

covered. No respondents answered "No" or "I can't decide," which strongly suggests that students do not feel completely dissatisfied or unsure about the quality of their theoretical education.

Diagram 1.

Satisfaction in regard with the overall university theoretical training.

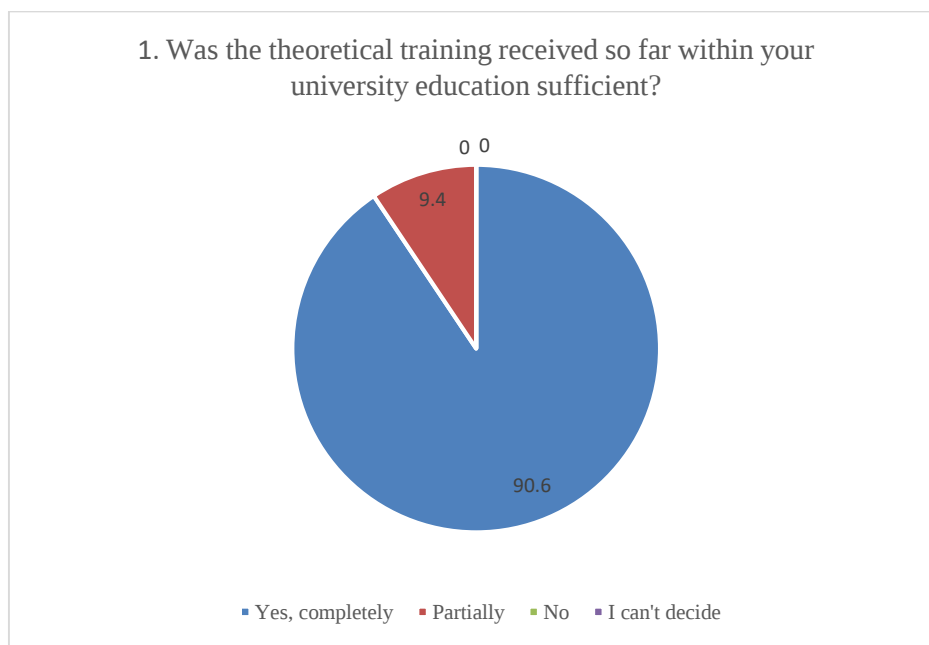
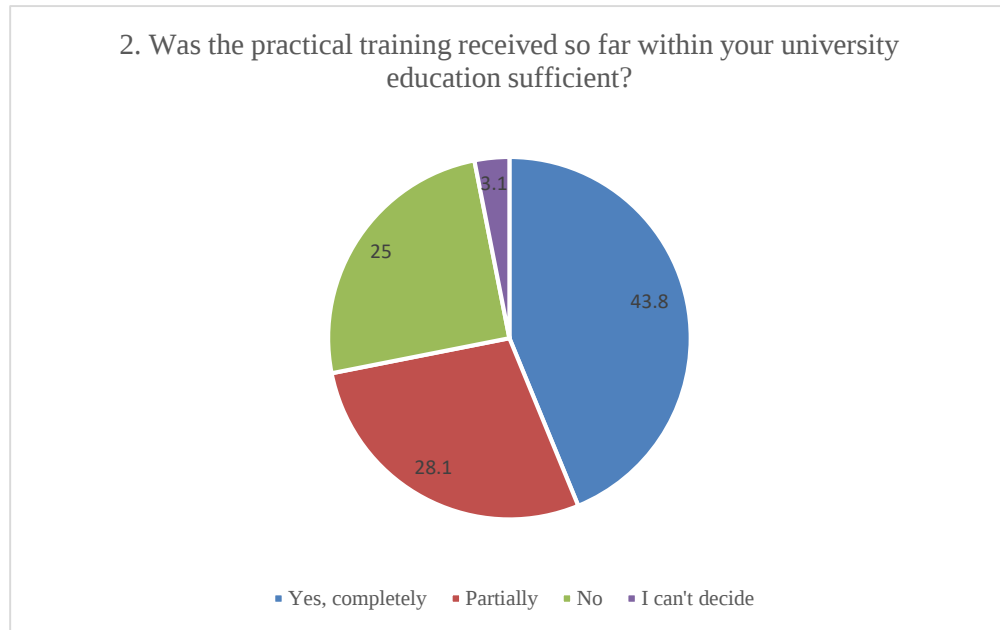


Diagram 2 shows that 43.8% of respondents believe that their practical training was completely sufficient, representing a considerable portion who are satisfied with the hands-on experience provided by the university. A significant portion, 28.1%, feel that their practical training was only partially sufficient, indicating that while these students received some valuable experience, they believe that it could be improved or expanded. 25% of respondents feel that the practical training was not sufficient, which suggests a notable gap in the program's ability to provide enough hands-on, real-world learning opportunities. 3.1% are undecided, possibly reflecting uncertainty about the adequacy of their training or lack of sufficient experience to make a judgment.

Diagram 2.

Satisfaction in regard with the overall university practical training.



A majority (53.1%) feel only partially prepared, which suggests that additional focus on training to support hearing-impaired students may be necessary. Only 31.3% feel fully prepared, highlighting a possible training gap in inclusive education practices. 9.4% cannot determine their level of readiness, which also expresses a certain lack of theoretical or practical skills. Fortunately, only 6.3% are categorical in their lack of preparation (Diagram 3).

Diagram 3.

Readiness for work with students with impaired hearing in the context of inclusive education.

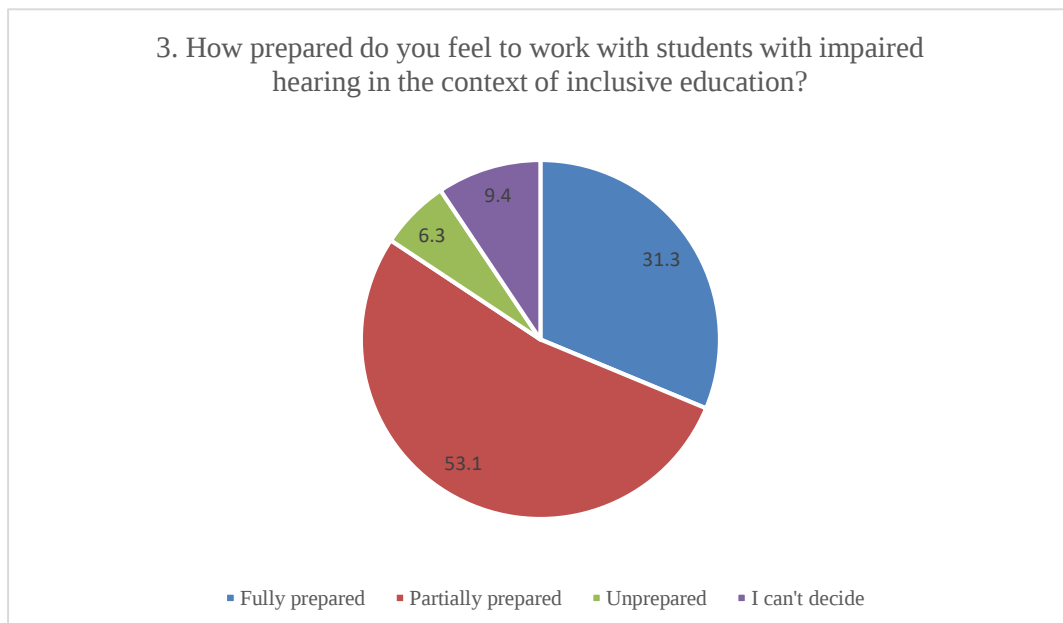
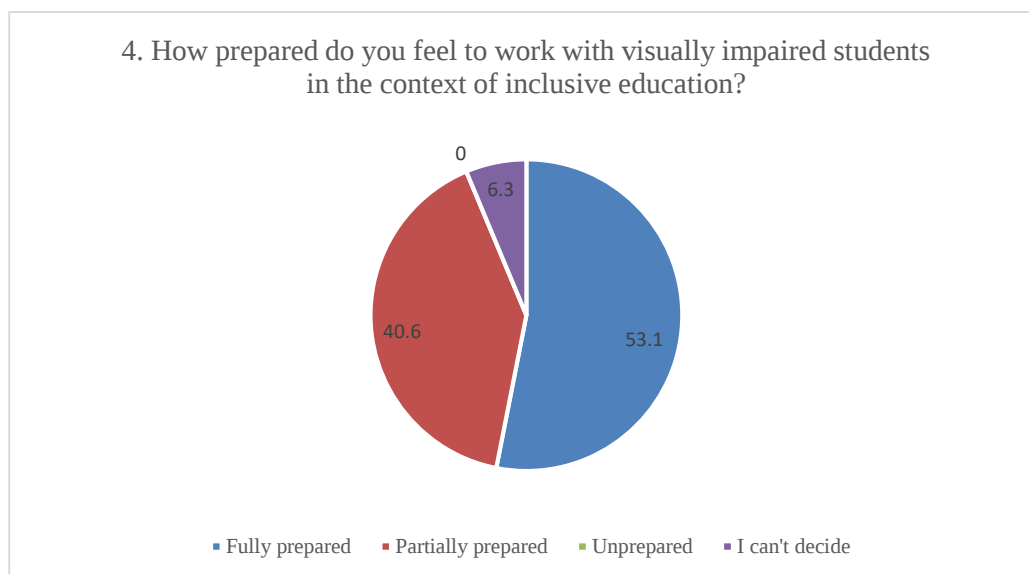


Diagram 4.

Readiness for work with students with visual impairment in the context of inclusive education.

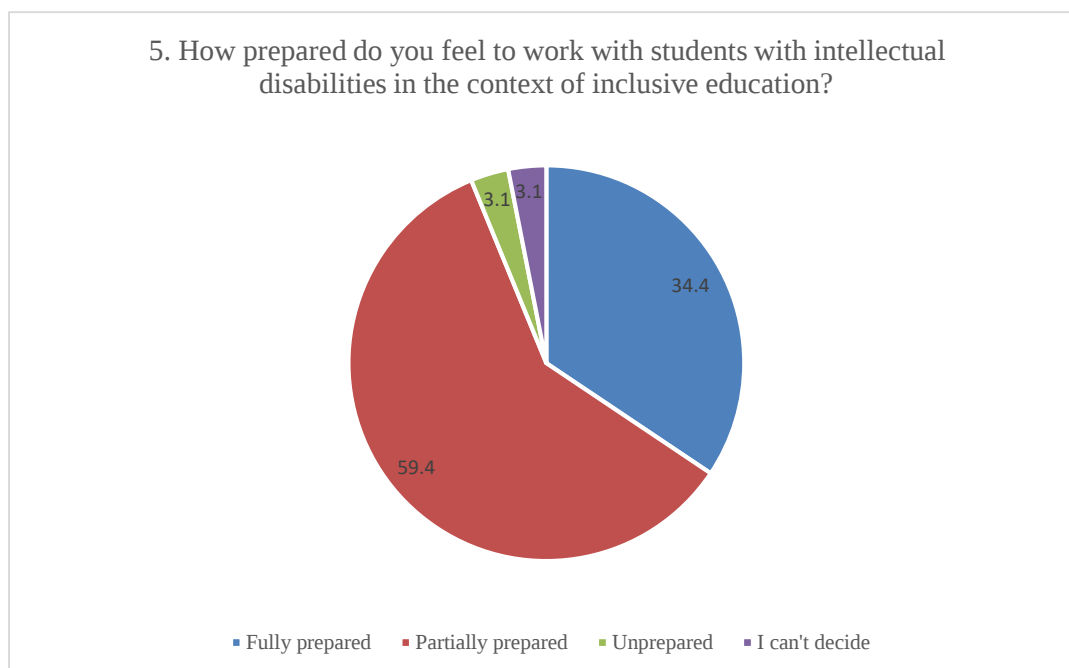


In contrast to working with hearing-impaired students, as seen in diagram 4, more respondents (53.1%) feel fully prepared to support visually impaired students, which suggests that the university has likely provided more effective training in this area. The number of students who are defined as partially prepared is 40.6%, which is also an indication of some lack of confidence in the acquired skills. We note that there are no negative answers, only 6.3% who cannot decide.

Diagram 5 suggests, that most respondents (59.4%) feel only partially prepared, similar to the data for hearing-impaired students. This indicates that while theoretical knowledge may be sufficient, practical skills in dealing with intellectual disabilities might require further reinforcement. But the percentage (34.4%) of students who are confident in their preparation is also not small. only 3.1% cannot decide or feel completely unsure.

Diagram 5.

Readiness for work with students with intellectual disabilities in the context of inclusive education.



Over half (56.3%) of the university students feel only partially prepared, which suggests that the autism-specific content or training might not be as robust. This area might benefit from further resources, practical training, or specialization. But it is still not small and the percentage (37.5%) is convinced of their preparation. again only 3.1% cannot decide or feel completely unsure (Diagram 6).

Diagram 6.

Readiness for work with students with autism spectrum disorder in the context of inclusive education.

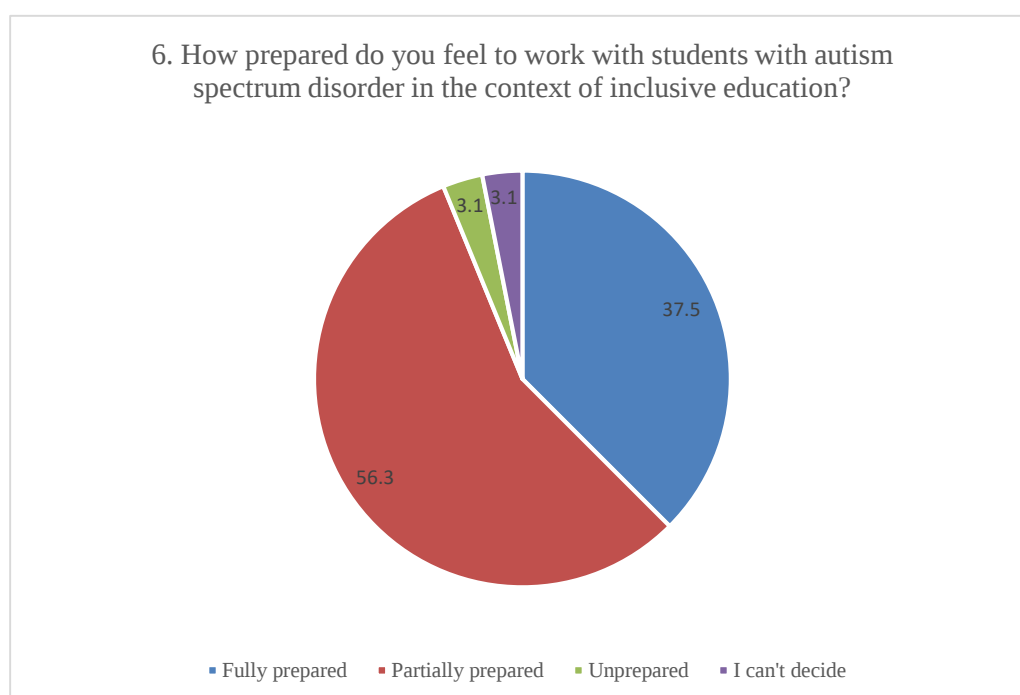
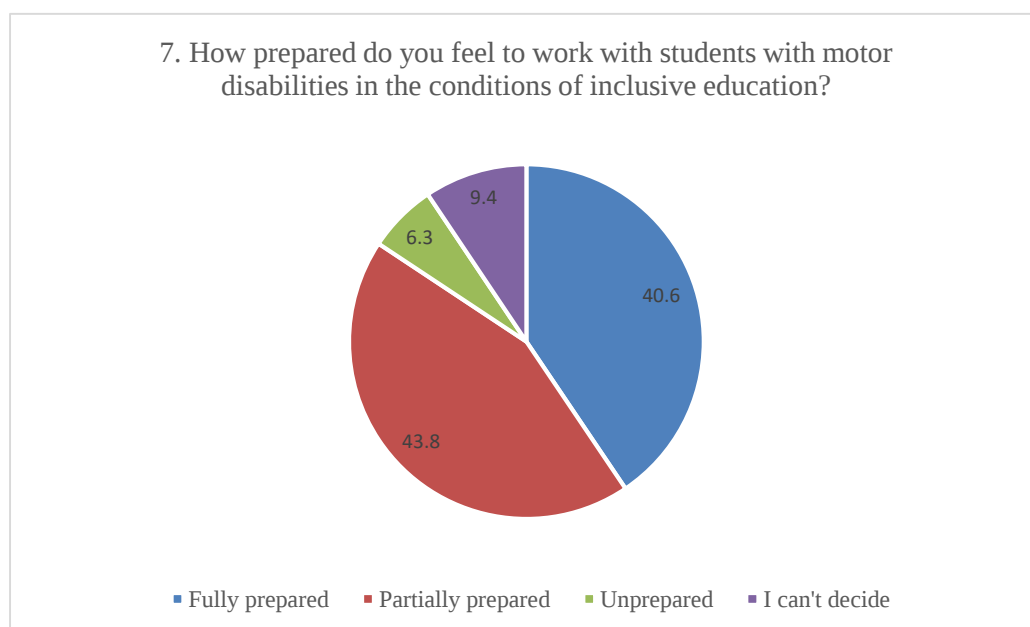


Diagram 7 shows that 43.8% of the respondents feel partially prepared to work with students with motor impairments, which represents the largest group. This suggests that while the respondents have some training or exposure to this area, they may feel they lack sufficient hands-on experience or in-depth knowledge. 40.6% feel fully prepared, which is a positive indication, but not a majority. It shows that a significant portion of the university students feel confident in their ability to handle motor impairments within inclusive education. A smaller percentage, 6.3%, feel unprepared, which indicates that there are still gaps in training that need to be addressed for a small group of students. 9.4% of respondents indicated that they "can not decide." This may imply that these students feel uncertain due to a lack of practical exposure or incomplete knowledge on the subject.

Diagram 7.

Readiness for work with students with motor disabilities in the context of inclusive education.



Probably because of the complexity and specificity of the group of children with multiple disabilities only 31.3% feel fully prepared, which is lower compared to other categories, while 50% feel only partially prepared. The higher rate of unpreparedness (12.5%) compared to other areas signals a possible fear and uncertainty when working with this category. These results can also be an indicator of the level of awareness and attitudes towards children with multiple disabilities (Diagram 8).

Diagram 8.

Readiness for work with students with multiple disabilities in the context of inclusive education.

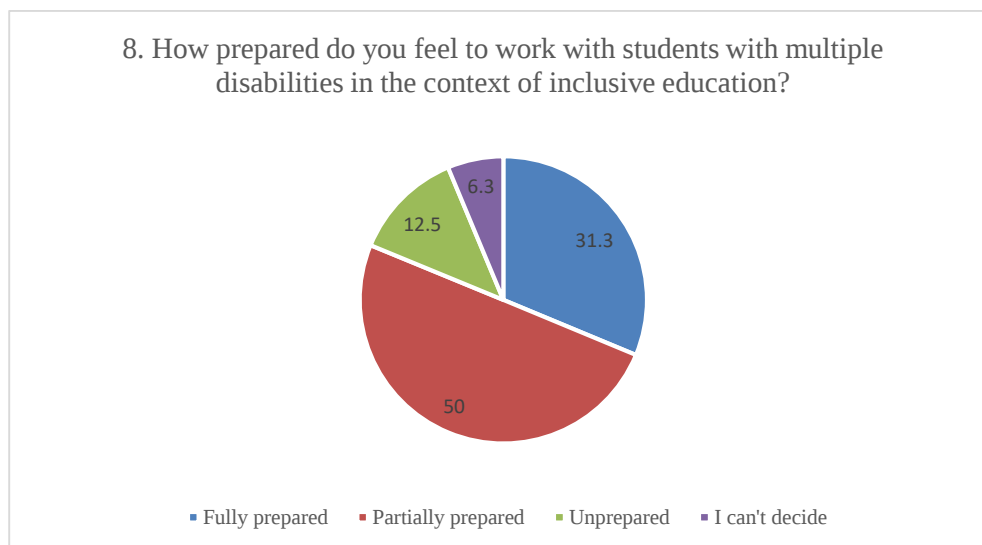
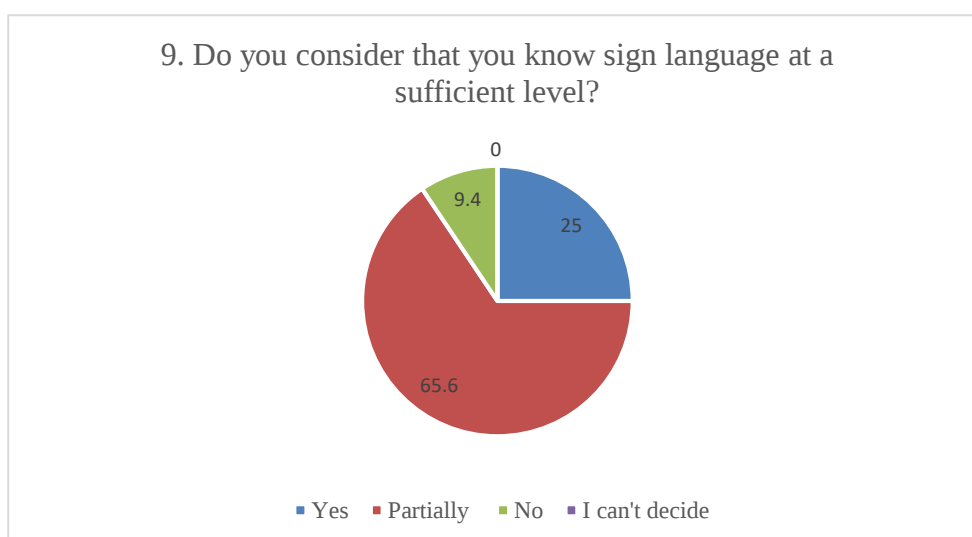


Diagram 9 suggests that the majority of respondents (65.6%) feel that they only partially know sign language, indicating a significant gap in this area. Since only 25% feel confident, this suggests a need for more in-depth sign language instruction as part of the curriculum. Also, 9.4% note that they do not master it at a sufficient level. This confirms the intelligence of sign language and the need for a longer period of acquisition and practice.

Diagram 9.

Level of knowledge in sign language.



The majority of respondents (59.4%) feel confident in their Braille knowledge. However, 28.1% feel partially confident, and 6.3% feel they lack sufficient knowledge. This indicates that while Braille instruction is relatively effective, some students still need further practice or support. The encouraging

results regarding Braille proficiency confirm the claims that Braille is not difficult to learn, but more difficult to use. These skills also require longer practice.

Diagram 10.

Level of knowledge in braille

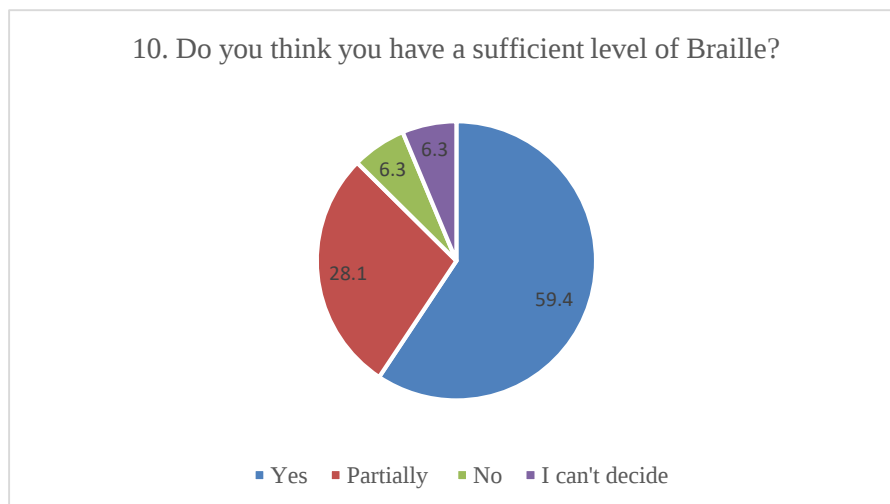
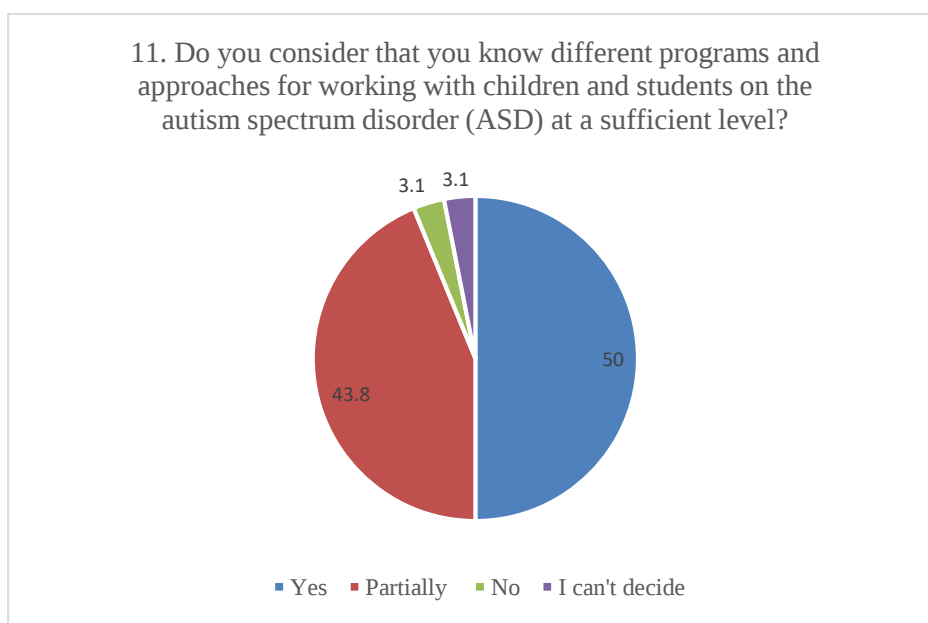


Diagram 11 shows that half of the respondents (50%) feel confident in their knowledge of autism-related programs and approaches, but a large proportion (43.8%) feel only partially prepared. There seems to be a need for enhanced training on specialized interventions for autism spectrum students. Only 3.1% are extremely unsure, which shows. Given the heterogeneity of this group, we would like to note the not small percentage of partially or fully prepared students.

Diagram 11.

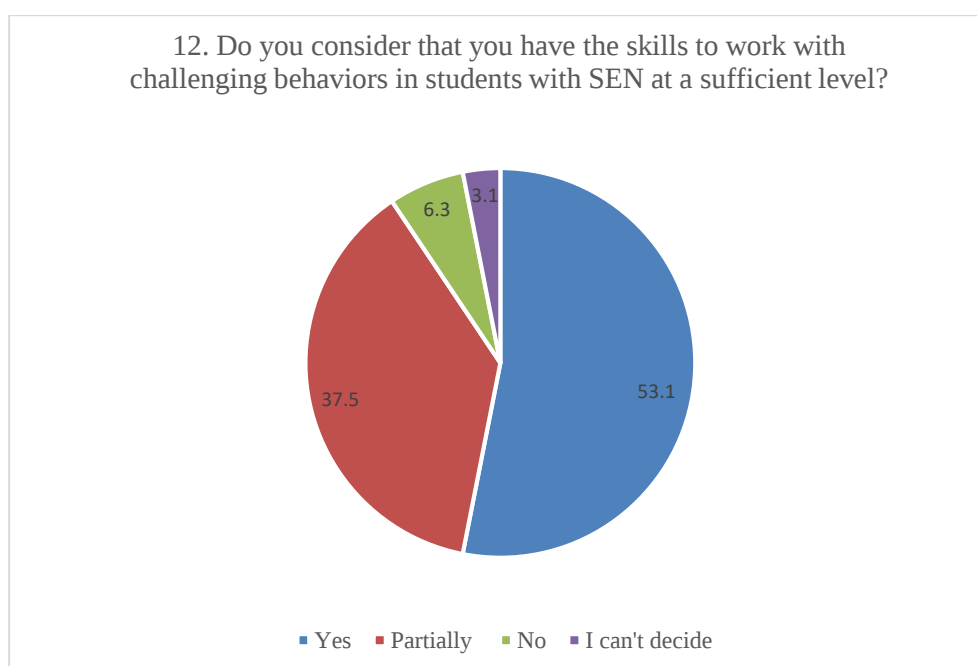
Level of knowledge in programs and approaches for students with ASD.



As shown on diagram 12, a little over half of the respondents (53.1%) believe they have sufficient skills to manage problematic behaviors in students with special educational needs (SEN), while 37.5% feel they need more support. Only 6.3% are defined as unprepared. The results show that there is no universal approach and the need to build practical skills, an individual approach and adaptability are part of working with children with problem behavior.

Diagram 12.

Level of knowledge about challenging behaviors in students with SEN.



Most respondents (62.5%) feel confident in their ability to use alternative and augmentative communication when working with SEN students. However, there is still a significant portion (25%) who feel only partially prepared. More focus on alternative communication strategies could further enhance student confidence. Probably some of the students feel insecurity because of the massive and rapid entry of new technologies into many areas of our lives (Diagram 13).

Diagram 13.
Level of knowledge in AAC.

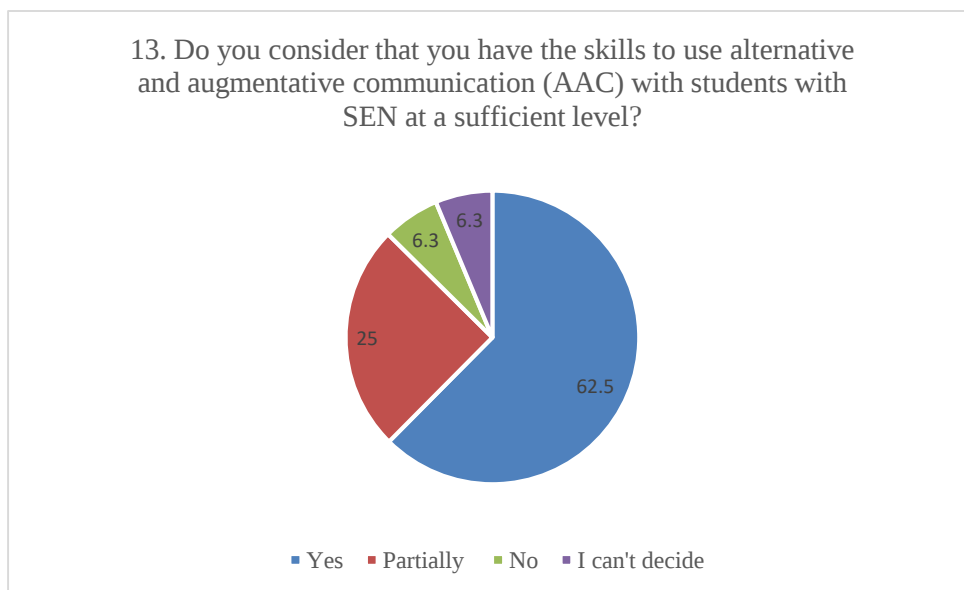
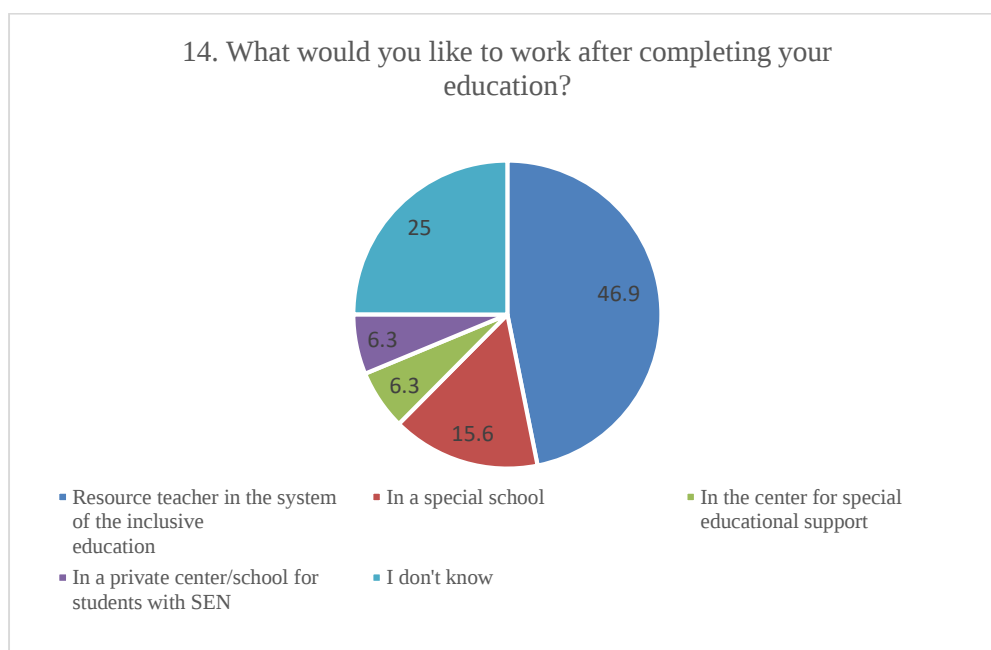


Diagram 14 presents that almost half (46.9%) of the respondents aspire to become resource teachers in inclusive education, which aligns with their training. The percentage of university students who would like to be teachers in a special school is also not small (15.6%). However, 25% are uncertain about their future career path, indicating the need for more career guidance and exposure to diverse professional roles in the field.

Diagram 14.
Preferred job after graduation.

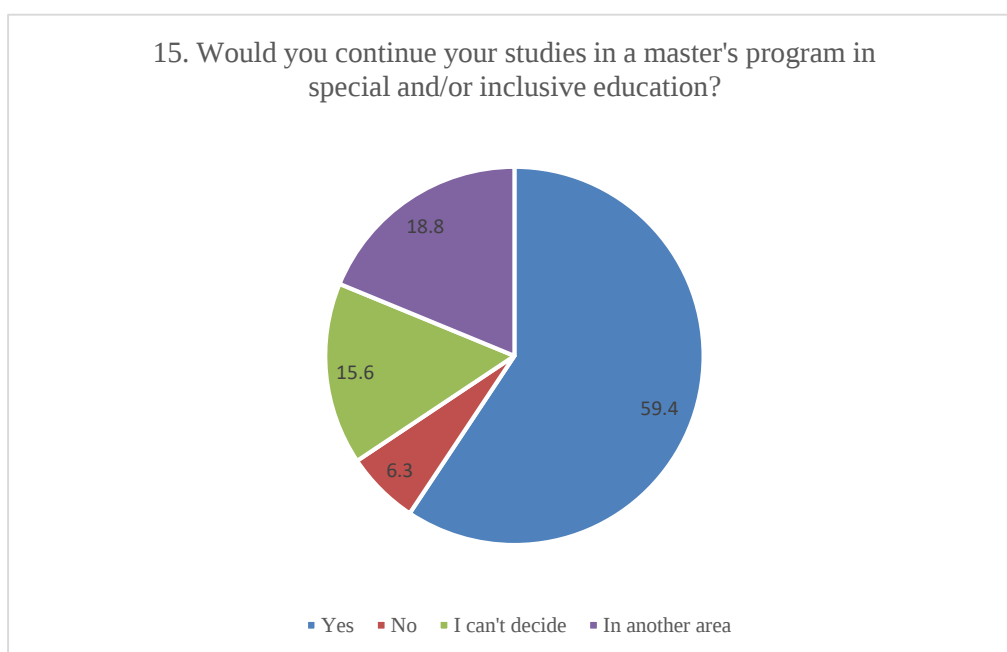


A majority of respondents (59.4%) are interested in continuing their studies in special education.

However, the % of students who are undecided or considering another area (15.6% and 18.8%, respectively) suggests that some students might feel unsure about their future or desire a different academic path. On the positive side, a large number of Bachelor of Special Education graduates enrich their academic training in other areas of education to expand their opportunities for realization and competence (Diagram 15).

Diagram 15.

Interest in master programs in the field of special and inclusive education.



In relation to question 16 on motivation for continuing their university education in master programs, we will summarize the answers received. Most of the university students are driven by the desire to gain more in-depth knowledge and practical skills for working with children with special educational needs, which leads to the conclusion that a large part of these students have the intention to work professionally in this field.

Questions 17 and 18 are related to recommendations regarding the improvement of the theoretical and practical training during the university education. As can be assumed from the data summarized above, no significant recommendations stand out regarding the theoretical preparation, apart from offering modern literature, more resources and the opportunity to carry out a discussion on various topics related to the training.

Most of the specific recommendations refer to practical training and are related to the possibility of dedicating more time for practice in a real learning environment (practice-teaching) and for allowing more opportunities to act out real situations to discuss possible adequate solutions. There are specific recommendations for more visits to educational institutions and early inclusion in practical activities.

We can summarize our conclusions in the following main domains:

1. Theoretical Training Satisfaction

- **High Satisfaction:** The overwhelming majority (90.6%) of respondents feel that the theoretical training they received during their university education on bachelor level was completely sufficient. This indicates that the curriculum is effective in providing the necessary foundations of knowledge for the university students.
- **Minor Improvement Needed:** The small percentage (9.4%) of university students who felt only partially satisfied suggested that there may be specific areas of the theoretical curriculum that require enhancement or additional coverage.

2. Practical Training Gaps

- **Mixed Satisfaction:** The responses regarding practical training reveal a more varied perspective. While 43.8% of students feel that their practical training is completely sufficient, a significant 25% feel it is not sufficient, and 28.1% feel it is only partially sufficient. This indicates a substantial portion of students may not feel adequately prepared for practical applications in their fields.
- **Need for Improvement:** The data suggests a critical need to enhance the practical training component of the curriculum. Increasing opportunities for hands-on experience, internships, and real-world applications could better prepare students for their future careers.

3. Readiness for Inclusive Education

- **General Readiness:** Many students express varying levels of readiness to work with students with different educational needs. For example, while a majority feel prepared to work with visually impaired students (53.1%), others, such as those working with students with motor impairments, show lower confidence levels (40.6% fully prepared).
- **Focus Areas for Training:** The percentages indicate that while some students feel adequately trained, significant portions feel only partially prepared, particularly in areas related to autism spectrum disorders and work with students with intellectual disabilities.

4. Interest in Further Education

- **Pursuit of Advanced Studies:** A notable percentage (59.4%) of university students express interest in continuing their studies in a master's program related to special and inclusive education. However, a substantial portion (25%) remain uncertain about their future paths, suggesting a need for more career guidance and support from the university.

5. Overall Implications for Curriculum Development

- **Curriculum Evaluation Needed:** The findings suggest that while the theoretical education is strong, the practical training aspect needs further attention. It is necessary to integrate more practical experiences in the educational process.

- **Continuous Improvement:** Regular assessments of both theoretical and practical components of the curriculum, alongside student feedback, will help ensure that educational offerings remain relevant and effective in preparing the university students for their future careers in inclusive education.

The data collected through our questionnaire among 32 university students in special education on bachelor level provides a picture of university students' satisfaction and readiness in theoretical versus practical training, highlighting areas for improvement, particularly in practical applications and specialized training for working with students with special education needs. Addressing these gaps will be crucial for enhancing the educational experience and career readiness of the graduates in special education.

CONCLUSION

The findings from the survey of 32 university students in special education reveal a generally positive perception of the theoretical component of their academic training, with over 90% expressing full satisfaction. However, significant gaps remain in practical preparation, with more than half of the respondents indicating partial or insufficient readiness. Notably, student confidence varies when it comes to inclusive education, especially in addressing complex needs such as autism and intellectual disabilities. While there is strong interest in pursuing further education in the field, the data also highlight a need for enhanced practical components, targeted training in inclusion, and better career support. These insights underline the importance of continuous curriculum evaluation and development to ensure both theoretical robustness and practical competence in preparing future inclusive education professionals.

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METHODOLOGICAL STRATEGIES FOR DEVELOPING EMOTIONAL CONTACT AND SITTING ABILITY IN CHILDREN WITH AUTISM SPECTRUM DISORDER

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ABSTRACT

This article addresses a critical issue relevant to all professionals engaged in special education, particularly speech and language therapists, who frequently encounter children and adolescents exhibiting hyperactivity, negative behavioral patterns such as aggression or self-aggression, and social withdrawal. These symptoms are especially prevalent among individuals with Autism Spectrum Disorder, a population that is growing globally, giving rise to a generation of children with unique and often misunderstood behavioral profiles who lack essential communication and social interaction skills (Hunanyan, 2013).

The investigation of these phenomena and the search for effective intervention strategies by speech therapists may seem unconventional to some specialists. Traditionally, the management of aggressive behaviors and communication breakdowns has fallen within the purview of psychologists. However, the increasing prevalence of such challenges during SLT sessions justifies their exploration from a speech therapy perspective. Aggression, refusal to engage, and non-compliance can become significant obstacles to the success of speech-language interventions, particularly for children with Autism Spectrum Disorder.

This issue is further magnified in the context of Armenia's ongoing inclusive education reforms, where an increasing number of children with Autism Spectrum Disorder many exhibiting complex and hard-to-manage behaviors are enrolling in mainstream schools. Unfortunately, the educational settings are not always equipped to provide the necessary pedagogical and therapeutic approaches to foster emotional contact and behavioral regulation, both of which are foundational for correctional-developmental work.

Through experimental research and practice-based observation, this article presents speech therapy techniques that facilitate the development of emotional connection and sitting tolerance during therapy sessions. The study demonstrates that creating specific conditions and implementing targeted steps can significantly enhance the effectiveness of speech therapy for children with Autism Spectrum Disorder.

Keywords: *Hyperactivity, negative behavior, aggression, self-aggression, Autism Spectrum*

Disorder (ASD), emotional contact, compliance, speech and communication development.

INTRODUCTION

Childhood autism, also referred to as Autism Spectrum Disorder (ASD), represents a complex and heterogeneous neurodevelopmental condition characterized by a constellation of impairments across multiple domains. These include deficits in verbal and non-verbal communication, restricted and repetitive behaviors, and significant challenges in social interaction (Lord et al., 2020; American Psychiatric Association, 2013). As Hunanyan (2013) notes, autism is not a singular pathology but a multifaceted syndrome in which the underdevelopment of speech functions is often accompanied by impairments in higher-order cognitive processes.

A key characteristic of ASD is the hierarchical or uneven developmental trajectory across functional domains. This means that a child with autism may show advanced skills in some areas (e.g., memory or visual-spatial reasoning), while simultaneously displaying significant delays in speech, language, and emotional regulation (Tager-Flusberg et al., 2005). If left unaddressed—particularly in the absence of early intervention and targeted developmental-corrective work—these disparities may lead to long-term difficulties in social integration, emotional resilience, and academic success (Dawson et al., 2010).

Practitioners working directly with children with ASD frequently encounter increasingly complex challenges during speech-language therapy sessions. These include behavioral disturbances such as non-compliance, aggression, or social withdrawal barriers that go beyond traditional language deficits and require multidisciplinary expertise to address effectively (Shipley & McAfee, 2020; Paul & Norbury, 2012).

Furthermore, the urgency and specificity of intervention decisions have grown in recent years, as speech-language pathologists (SLPs) are increasingly required not only to address speech and communication development, but also to adapt their methods based on behavioral manifestations. In many cases, the success of the overall therapeutic process depends on how effectively these behavioral and emotional challenges are managed (Wetherby & Woods, 2006).

LITERATURE REVIEW

ASD is widely recognized as a complex neurodevelopmental condition affecting communication, behavior, and social interaction (APA, 2013). Numerous studies highlight that early manifestations of ASD are frequently characterized by delayed or atypical speech and language development, coupled with behavioral challenges such as hyperactivity, aggression, and emotional withdrawal (Tager-Flusberg et al., 2005; Paul & Norbury, 2012). These symptoms significantly complicate traditional logopedic (speech-language) intervention models, particularly in inclusive educational settings.

Recent scholarship emphasizes the importance of early and interdisciplinary intervention to address

both communication deficits and behavioral symptoms concurrently (Dawson et al., 2010; Wetherby & Woods, 2006). In particular, (SLPs) play a central role in identifying speech and communication disorders in young children with ASD, but increasingly they must also navigate non-verbal behaviors, resistance to interaction, and emotional dysregulation (Shipley & McAfee, 2020). These challenges can serve as major barriers to therapy unless appropriate strategies, such as structured emotional contact and behavior-modulating techniques are implemented from the outset (Prizant et al., 2006).

Moreover, several studies have pointed to the uneven developmental profile of children with ASD, where advanced skills in one area may coexist with significant impairments in another. This developmental asymmetry reinforces the need for customized therapeutic approaches that adapt not only to the child's linguistic level, but also to their cognitive and emotional capacities (Lord et al., 2020; Hunanyan, 2013).

In the Armenian context, the ongoing educational reforms and expansion of inclusive schooling have led to a growing number of children with ASD entering general education systems (UNICEF Armenia, 2021). However, as literature suggests, educational professionals are not always adequately prepared to support these children, particularly when it comes to developing emotional contact and compliance skills, core prerequisites for successful logopedic and pedagogical work (Zwaigenbaum et al., 2015). There is thus a clear need for methodologically grounded practices that support SLPs in managing behavioral difficulties while promoting communicative development.

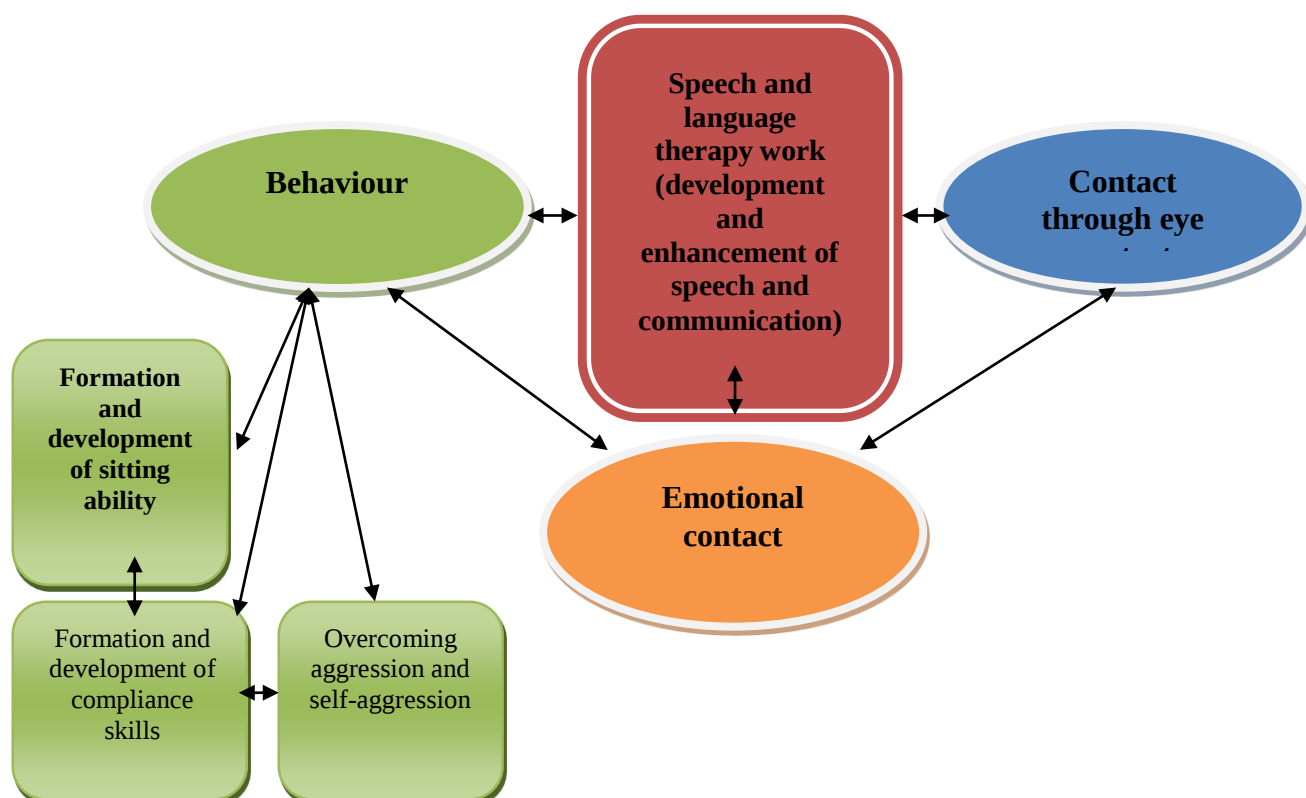
Scientific literature consistently documents that children with ASD often exhibit aggressive behaviors, maladaptive states, and inability to establish emotional contact, all of which significantly complicate intervention processes (Nikolskaya, Baenskaya, & Libling, 1997). These behavioral symptoms are particularly problematic as they further hinder the already impaired development of verbal and non-verbal communication skills (Novotvortseva, 2012).

Given the heterogeneous nature of behavioral disturbances in children with autism—ranging from self-isolation to severe outbursts of aggression, speech and communication therapy must begin by establishing certain foundational prerequisites. These serve as essential entry points for further speech-language intervention and include:

- Establishing emotional contact or interaction between the therapist and the child;
- Developing and reinforcing appropriate behavioral patterns, particularly:
 - The ability to sit calmly and consistently during sessions;
 - The ability to follow simple instructions and comply with adult guidance;
 - Implementation of techniques aimed at reducing both the frequency and intensity of aggressive behaviors;
- Enhancing attention and joint visual engagement, particularly through eye-gaze as a communicative tool (Picture 1).

Picture 1.

Prerequisites for the Development of Speech and Communication Processes in Children with Autism Spectrum Disorder



To address these prerequisites, the research team designed and modified a series of special pedagogical methods and supportive tools, tailored to meet the behavioral and emotional regulation needs of children with ASD. These were applied systematically during the experimental training phase, creating the necessary conditions for successful logopedic (speech-language) intervention.

METHOD

To evaluate the effectiveness of the proposed speech-language therapy goals, an experimental teaching intervention was conducted involving 28 children aged 4–7 diagnosed with Autism Spectrum Disorder (ASD). The participants were equally divided into an experimental group (n=14) and a control group (n=14).

Control Group Protocol

Children in the control group received individualized therapy based on traditional logopedic (speech therapy) methods, implemented through structured play and guided learning activities. These methods followed established protocols emphasizing articulation, vocabulary acquisition, and pragmatic

communication strategies.

Experimental Group Protocol

Children in the experimental group participated in both individual and group-based sessions utilizing a custom-designed, exemplar speech therapy framework aimed at fostering non-verbal and verbal communication. The intervention prioritized emotional engagement and the development of regulatory behaviors as prerequisites to speech and communication.

The initial sessions focused on:

- Establishing emotional contact and trust-based interaction between the child and therapist.
- Developing the child's ability to remain seated and sustain attention.
- Implementing motivational strategies tailored to the child's individual sensory preferences and behavioral traits, based on observational diagnostics (Greenspan & Wieder, 2013).

The therapeutic environment was carefully structured to:

- Ensure a safe, predictable, and low-stimulus setting to reduce anxiety and promote interaction.
- Provide access to visual aids, brightly colored educational materials, and interactive digital tools such as tablets and communication apps (Kafyan, 2010).
- Engage caregivers when necessary, particularly during the early sessions, to reinforce bonding and consistency.

Therapists applied a combination of traditional and innovative speech therapy techniques, including:

- Use of visual contact training, starting with 1-second eye contact achievements.
- Behavioral mirroring and imitation of echolalia or repetitive movements, to capture attention and create communicative openings.
- Progressive interaction building, leading to increased expressive and receptive language usage.
- Functional communication training methods, to promote alternative means of communication when verbal output was limited.

Additionally, therapists assessed the child's home environment and family dynamics, recognizing that communication is influenced by environmental and relational factors. Data was gathered through structured parent interviews and home visits when possible, allowing for more targeted and context-aware intervention planning.

This methodology aligns with research emphasizing emotional regulation as a foundation for communication development in children with ASD (Greenspan & Wieder, 2013), and underscores the need for customized, multisensory intervention environments (Novotvortseva, 2012; Nikolskaya et al., 1997).

RESULTS AND DISCUSSION

Autistic children often present heterogeneous behavioral profiles, with some exhibiting

hyperactivity, while others show marked hypoactivity (Gilbert & PETERS, 2005). These neurobehavioral patterns can pose significant challenges in organizing and maintaining logopedic interventions, particularly when the goal is to develop speech and communication competencies.

Therefore, alongside the establishment of emotional contact, one of the foundational prerequisites for initiating speech therapy with autistic children is the development of sitting tolerance a prerequisite skill that enables participation in structured learning contexts (Greenspan & Wieder, 2013). As noted in the literature, children on the autism spectrum may struggle with maintaining posture and engagement due to difficulties with self-regulation and attention (Leaf & McEachin, 1999).

To enhance sitting ability and sustain attention during sessions, the therapy incorporated highly individualized motivational strategies based on each child's interests. These included:

- Visually stimulating didactic materials (colorful cards, toys, tactile objects),
- Digital tools (smartphones, tablets, computers),
- And various forms of reinforcement, such as:
 - Object-based rewards (toys, gadgets),
 - Verbal praise (“Well done!”, “Excellent!”, “You did it!”),
 - Food-based rewards (chocolates, fruits, juices), used ethically and selectively based on individual profiles (Leaf & McEachin, 1999).

The “Sit Down” command was used as a key behavioral cue. In the experimental group, this directive was reinforced through the use of positive reinforcement and consistent session routines. The goal was not only to increase compliance but also to gradually extend the duration for which the child could sit and engage with the specialist.

Quantitative Outcomes

Over the course of a two-year systematic intervention, the following results were observed:

- Before the intervention: In the experimental group, only 3 out of 14 children (21.4%) could respond to the “Sit Down” command, with durations ranging from 10–15 seconds to 10 minutes.
- After the intervention: This number increased to 12 out of 14 children (85.7%), with sitting durations extended to up to 40 minutes. This marks a substantial improvement in both behavioral regulation and learning readiness.
- In the control group, the results were more modest: Starting at 4 out of 14 children (28.57%), and increasing to 7 children (50%) after two years with maximum sitting durations reaching only 30 minutes.

These results validate the effectiveness of the proposed logopedic system, particularly the structured emotional bonding phase followed by gradual behavioral shaping techniques, in supporting the communicative and educational development of autistic children (Novotvortseva, 2012).

Qualitative Reflections

An important element of post-session analysis was the logopsychological reflection process carried out by the therapist. This involved reviewing:

- Successes and challenges,
- Techniques applied, and
- Child-specific responses to reinforcement and instruction.

Such reflective practices allow the therapist to evaluate progress, recalibrate interventions, and plan future work more effectively, enhancing the personalization and success of further speech and communication interventions.

CONCLUSION

This study demonstrates that targeted logopedic interventions aimed at developing emotional contact and sitting tolerance can significantly improve the foundational conditions necessary for successful speech and communication development in children with ASD. The implementation of a structured, two-year experimental teaching program has proven effective in establishing early communicative behaviors, particularly those related to compliance with instructions and increased session engagement duration.

As supported by both the quantitative improvements and qualitative observations, creating a safe, emotionally responsive, and motivating therapeutic environment contributes not only to the acquisition of initial learning behaviors such as sitting and focusing, but also lays the groundwork for more advanced communicative competencies. These findings echo the assertions of Greenspan and Wieder (2013), who emphasize emotional engagement as a prerequisite for communication, and align with previous research on behavioral motivation in children with ASD (Leaf & McEachin, 1999).

Furthermore, the results highlight that systematic reinforcement techniques, when customized to the child's interests and sensory profile, can facilitate greater responsiveness and increase participation in therapy sessions. This is especially critical in preschool-aged children, for whom early intervention has been shown to reduce long-term social and communicative deficits (Paul & Norbury, 2012).

Ultimately, the study confirms that emotional contact, instructional compliance, and behavioral readiness are not only achievable goals, but also essential precursors to the success of speech-language therapy in inclusive and special education settings. The outcomes reinforce the importance of early, individualized, and emotionally grounded interventions as a cornerstone for fostering communication skills and enhancing the social integration of children with autism.

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AN INTEGRATED PEDAGOGICAL SYSTEM OF CAREER GUIDANCE WITH STUDENTS

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ABSTRACT

This article explores the organization of career guidance and mentoring activities at the university level by presenting a holistic model of career guidance within the "school–university" system. It examines key areas of career development and describes both passive and active methods employed in the implementation of these activities.

The research is grounded in the principles of the system-activity approach and the competence-based approach. To achieve the study's objectives, both theoretical methods (analysis, synthesis, generalization, and systematization of scientific literature) and empirical methods (observation and surveys) were utilized.

The study presents an integrated pedagogical system for career guidance aimed at students across different educational levels. It outlines the main directions of career guidance activities through examples of initiatives implemented at the university level with both school-aged students and university students. The authors highlight the benefits of implementing such an integrated system, using the case of the Institute of Defectological Education and Rehabilitation at the Herzen State Pedagogical University of Russia.

The findings emphasize that an integrated pedagogical system of career guidance is a critical component for a university's successful operation in a competitive educational landscape. A key feature of the proposed system is the continuity of career guidance ("school – university", "student – applicant – student – young specialist"), alongside targeted educational and professional orientation activities conducted for learners at various stages of education.

Keywords: *career guidance, mentoring, school, college, university, schoolchild, student, teacher, lecturer, pedagogical competencies.*

INTRODUCTION

In the current educational landscape, career guidance plays a pivotal role in general education and represents a critical phase in preparing students for future academic and professional pathways (Kondratyeva & Kovaleva, 2024b). For institutions of higher education, career guidance is increasingly important, particularly as they seek innovative approaches to attract prospective students before and during the admissions process. The need to establish an integrated pedagogical system for career guidance across various levels of education—general education, secondary vocational education, and higher vocational education—arises from educational, demographic, psychological, and pedagogical considerations.

Career guidance activities are designed not only to attract future applicants but also to support the continuity between academic stages (i.e., school–university, school–secondary vocational education–university). This continuity is especially relevant in the context of pedagogical education, where there is an ongoing need to generate interest in the teaching profession and attract students to pedagogical universities (Cherevko, 2022; Litvinova, 2021).

Simultaneously, career guidance at the university level is directed toward students who have already chosen the teaching profession. The aim is to enrich their experience not only with theoretical and scientific knowledge in psychology and pedagogy but also with practical skills necessary for working with children from various nosological groups. This includes building the capacity to collaborate with educators, engage families, and foster inclusive environments (Kondratyeva & Kovaleva, 2024d).

The urgency of training highly qualified specialists in the field of defectology cannot be overstated. The system of psychological and pedagogical support for children—from early childhood to school age with developmental disabilities demands professionals who are capable of addressing both standard and complex professional challenges. These specialists must be equipped to ensure inclusive education and promote the social integration of individuals with disabilities (Kondratyeva & Kovaleva, 2024d).

Research on training speech therapy professionals underscores the importance of dual competencies: a deep theoretical and practical understanding of speech pathologies and a strong motivation for professional practice. A speech therapist must master specialized methods for addressing various speech disorders and be able to work effectively with individuals from diverse nosological groups. Furthermore, these professionals need to establish productive collaboration with educators, support personnel, interdisciplinary teams, and the families of students. As Tyurina, Ushakova, and Filatova (2024, p. 101) note, a competent speech therapist should be "motivated to perform professional duties, capable of social interaction, tolerant, and able to promote humane treatment of individuals with disabilities within the socio-

cultural environment."

Given these demands, the creation and implementation of structured career guidance programs in higher education are more relevant than ever. Such programs contribute not only to academic success but also to the holistic development of students into socially responsible and professionally competent individuals.

In the context of training future specialists in so-called "helping professions," curatorial work assumes a central role. This guidance supports the development of both professional and personal competencies, enhances students' motivation for academic and professional engagement, fosters a sense of social responsibility, and strengthens awareness of the societal importance of their chosen profession.

Thus, career guidance can be organized into two main areas:

Pre-admission career guidance, aimed at attracting students to higher education institutions.

Intra-university career development, focused on supporting students in developing professional competencies and personal qualities during their studies.

At the university level, career guidance with students across different educational stages is based on competence-based and system-activity approaches. This work is implemented as part of an integrated pedagogical model, through the following relational formats:

"School–university"

"Student–student"

"University teacher–student"

"Student–employer (e.g., speech therapist, teacher)"

RESULTS

A key component in the development of career guidance systems in higher education is the effective integration of mentoring models. These models support students across various educational stages—school, teacher training colleges, and universities—by addressing their academic, professional, and psychological needs (Nugumanova & Yakovenko, 2018).

Survey on Mentorship Needs

To explore student demand for mentorship, particularly in the context of career guidance, an online survey was conducted among students training to become speech therapy teachers. The sample included 93 female students aged 19–22, enrolled in the 2nd to 4th years at the Department of Speech Therapy, Institute of Defectological Education and Rehabilitation, A.I. Herzen Russian State Pedagogical University.

Students were asked three core questions:

Is mentorship important during university studies?

Do you experience academic or personal difficulties during your studies?

If so, what qualities should a mentor possess?

Key Findings

Mentorship Demand: 92 out of 93 students confirmed the importance of having a mentor during their university education, particularly in the context of career guidance.

Challenges Faced:

Difficulties reported: 64 students ($\approx 69\%$) reported challenges, especially during the transition to the second year, coinciding with the start of specialized coursework in speech therapy.

Learning-related difficulties (41.9% of total responses): included increased academic workload, large volumes of theoretical material, memorization of technical terms, insufficient foundational knowledge in key school subjects, and requirements to study additional literature.

Psychological difficulties:

Time management (16.1%)

Uncertainty about career choice and adaptation to new groups (17.2%)

Emotional stress due to increased academic demands.

Mentor Qualities (as reported by students)

Quality% of Respondents

Empathy, responsiveness 62.3%

Professionalism 32.2%

Organizational skills 29.0%

Responsibility 19.3%

Respect for students 17.2%

Sociability 16.1%

Discipline 13.9%

Emotional balance 9.6%

These results highlight the central role of mentorship in the professional and personal development of university students and confirm that mentoring is integral to effective career guidance systems in higher education.

Mentoring as a Pedagogical Technology

In contemporary educational practice, mentoring is implemented through structured projects, programs, and institutional initiatives in academic, professional, and social spheres (Kondratieva &

Kovaleva, 2024a; Cherevko, 2022). It is both a method and a technology of:

- Professional adaptation
- Development of competencies
- Motivation for career growth
- Personal and social development

Mentoring is increasingly viewed as a bidirectional, mutually enriching process. It creates a supportive, individualized learning environment where both mentor and mentee benefit. This relationship is built on mutual respect, shared goals, long-term commitment, and trust.

Key Elements of Effective Mentoring

Mentor's Role: Possesses experience, knowledge, and professional expertise; actively transfers competencies; adapts mentoring to mentee's needs.

Mentee's Needs: Often surface during transitional or crisis phases in education or personal development; includes emotional, cognitive, and professional support.

Foundational Principles:

- Voluntary participation
- Role acceptance by both parties
- Shared interests and emotional connection
- Trust and mutual respect
- Willingness for joint reflection and development

Mentoring Models

Multiple mentoring models are used in educational and professional contexts:

Maxwell's Models (2008):

Guru and Follower

Description: Mentee learns through observation without direct instruction.

Pros: Efficient for high-skill acquisition.

Cons: Limited feedback, passive learning.

Master and Apprentice

Description: Mentor actively instructs and involves the mentee.

Pros: High engagement, team integration.

Cons: May limit independent decision-making.

Creative Tandem

Description: Mentor and mentee collaborate as equals.

Pros: Promotes autonomy, innovation, and shared responsibility.

Contemporary Models (Gerasimova, Fetisov, Gorbunova):

Group mentoring – One mentor with several mentees

Partner mentoring – Peer-based collaboration

Traditional mentoring – One-on-one guidance over time

Flash mentoring – Brief, one-time professional exchanges

Regardless of the model, effective mentoring demands both subject-matter expertise and interpersonal effectiveness, especially in special education, where the mentor must translate complex pedagogical practices into accessible, real-world applications (Fetisov & Gorbunova, 2023).

Mentoring and Career Guidance in Defectological Education

In the training of defectologists—specialists in educating children with disabilities—mentoring is essential for ensuring quality and accessibility in education. Personnel preparedness is a decisive factor in the success of inclusive education systems (Solovyeva, 2020; Filatova, 2023). Effective mentoring supports:

The adaptation of novice professionals

Talent development in gifted children and adolescents

Support for students in vulnerable social situations

Transitions between educational levels (school–college–university)

The university teacher remains a central figure in shaping graduate competencies. To maintain this standard, teachers must pursue ongoing professional development, update their qualifications, and stay aligned with educational standards and labor market needs. Moreover, educators should clearly understand how their courses contribute to the formation of future teachers' competencies.

Mentoring in the Speech Therapy Profession

The role of a speech therapist teacher is highly demanding, requiring:

Profound psychological and pedagogical expertise

Specialized knowledge of speech development and pathology

Commitment, emotional resilience, and creativity

Given these challenges, early career orientation—starting at the school level—and targeted mentoring between universities and schools/colleges are crucial to attracting and preparing future professionals in this field.

Justification for an Integrated Career Guidance System

The creation of an integrated pedagogical system of career guidance across educational levels is necessitated by several interrelated factors:

Demographic: Declining student populations reduce competitiveness in admissions.

Psychological and Pedagogical: Adolescents often lack readiness to choose a profession, necessitating earlier and more structured interventions.

Educational: The modern curriculum must foster creativity, emotional intelligence, patriotism, and cultural awareness.

Career guidance, when properly organized, becomes a key determinant of a university's competitiveness and sustainability. The development and application of systematic and targeted methods ensure long-term success for both the institution and its students.

Summary of Career Guidance Directions

Career guidance in higher education comprises two main areas:

Pre-University Orientation: Activities aimed at attracting prospective applicants.

Intra-University Development: Professional and personal guidance for enrolled students as they acquire key competencies and prepare for employment.

METHODS FOR THE IMPLEMENTATION OF AN INTEGRATED PEDAGOGICAL SYSTEM OF CAREER GUIDANCE

At the Department of Speech Therapy of the Institute of Defectological Education and Rehabilitation, A.I. Herzen Russian State Pedagogical University, a structured approach to career guidance is implemented based on agreements with educational organizations in St. Petersburg. These agreements are governed by institutional regulations on innovation and mentoring. A wide range of events and activities are designed to provide students with comprehensive information about the teaching profession, university admission opportunities, preparatory courses, and school Olympiads hosted by the university.

Passive and Active Methods of Career Guidance

The career guidance system employs both **passive** and **active methods**, each contributing uniquely to the integrated pedagogical approach (Kondratieva & Kovaleva, 2022). **Passive Methods**

These methods primarily involve the dissemination of information and initial exposure to teaching careers:

- **Conversations with applicants** about educational pathways, led by university faculty.
- **Participation in school events** by university staff.
- Development of **information stands, billboards, and printed materials** outlining university programs.
- Organization of "**Open Day**" events.

These engagements allow students to become familiar with the university environment and gain initial insights into the teaching profession.

Active Methods

Active approaches facilitate deeper involvement and experiential learning:

- **Involvement of school students in university student groups** and activities.
- **Production of promotional videos** highlighting academic programs and student life.
- **University faculty participation** in government training and retraining programs.
- **Faculty-led research initiatives** on relevant pedagogical, psychological, and managerial topics.
- **Professional weeks**, dedicated to specific faculties and specialties.
- **Organization of Olympiads** for diverse age groups, including schoolchildren.

These methods foster meaningful interaction between students and professionals, enhance communication skills, and create opportunities for early mentoring.

Career Guidance for University Students

Career guidance continues after enrollment. A survey of first-year students revealed a decline in professional interest due to factors such as:

- Academic overload
- Lack of independent learning skills
- Inconsistencies in teaching staff

To address this, the department promotes early involvement of students in **socially beneficial activities**, such as:

- Assisting in educational and practical seminars
- Organizing events in preschools and schools

Such experiences provide practical exposure, encourage initiative, and cultivate a sense of professional responsibility.

Workplace-Based Learning and Mentoring

To develop professional competencies, **master classes** are organized in collaboration with school teachers. These sessions function as **on-site mentoring experiences**, taking place in real educational environments. This direct engagement fosters:

- Practical skills acquisition
- Real-time knowledge transfer
- Understanding of modern teaching practices

Students observe that contemporary educators are not only competent professionals but also active contributors to pedagogical communities.

Educational Projects: "Speech Therapy in Faces"

A key element of the integrated system is the scientific and educational project "**Speech Therapy in Faces**", designed for second-year students and supervised by senior students and faculty. The project has multiple objectives:

- Popularizing the contributions of Russian scientists in corrective pedagogy and speech therapy
- Developing skills in working with scientific literature
- Stimulating cognitive interest and broadening professional horizons

Project Implementation

1. **Topic Selection:** Students, guided by faculty, choose a notable figure in speech therapy research.
2. **Literature Review:** They study the individual's life, scientific work, and contributions.
3. **Presentation Preparation:** Reports are developed and presented to peers, often aligned with International Speech Therapist Day.

Each presentation includes:

- Biographical background
- Scientific discoveries and key publications
- Supplementary materials for speech therapy students

This initiative strengthens both research and presentation skills and fosters an appreciation for the historical and scientific foundations of the profession.

Multimedia and School Partnerships

As part of the "Speech Therapy in Faces" project, students also produce **educational videos** in a

professional television studio. These videos cover the lives and work of notable defectologists and are created in partnership with **Secondary School No. 232**, Admiralteysky District, St. Petersburg.

This collaboration involves:

- University students
- School teachers and tutors

The multimedia aspect further enhances communication skills and expands public outreach.

Interactive Educational Initiatives

Among interactive formats, the **educational quest “From Theory to Practice”** deserves special mention. Timed to coincide with the Day of Russian Science, the quest includes:

- A **theoretical quiz** (blitz survey)
- A **code of rules** presentation for undergraduates
- A **practical segment** involving the creation and demonstration of teaching aids and didactic games

This activity develops teamwork, professional creativity, and applied skills.

"Herzen Environments" Project

The **“Herzen Environments”** initiative is a university-led career guidance project targeting students in psychological and pedagogical school classes. The project is structured as an **intensive academic course**, held in both autumn and spring semesters. Key components include:

- Campus visits and departmental tours
- Lectures on the university's history and departments
- Participation in **masterclasses**, **business games**, and **interactive sessions**

The project culminates in school-based **project presentations** by participating students. Those with successful defenses receive a **bonus of +5 to +10 points** on their Unified State Exam scores when applying to Herzen University.

This initiative not only boosts applicant motivation but also provides current university students with real-world experience in public speaking, event organization, and educational mentoring.

Distance Learning Initiatives

The university also actively contributes to the **“Extension at a Distance”** project. In this format:

- Students, under faculty supervision, develop and deliver **webinars** on school curriculum subjects (Grades 1–11), foreign languages, financial literacy, and university life.

- **Special webinars** are tailored for Grade 10–11 students, focusing on admission processes to Herzen University.

This digital component enhances the reach of career guidance efforts and reinforces students' teaching competencies.

Integration with Inclusive Education

The implementation of the holistic pedagogical system is carried out within the broader "**school–university**" **framework**, incorporating the active participation of educational practitioners from **inclusive and special education** settings. This integration ensures that future teachers are prepared for the challenges and diversity of the modern classroom.

Summary

The implementation of a comprehensive system of career guidance for students across all educational levels plays a vital role in the educational process and contributes directly to the university's development and competitiveness.

Career guidance during university education supports the formation of:

- **Professional motivation** (e.g., social significance, responsibility)
- **Socio-communicative and status-based motivation** (e.g., social achievement, career recognition)
- **Personal and professional self-realization** (e.g., applying talents and abilities to a chosen profession)

Ultimately, this integrated and multifaceted approach prepares future educators—especially those in speech therapy and special education—for meaningful, competent, and socially impactful careers.

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METHODS TO ENHANCE SPEECH PATHOLOGISTS' PROFESSIONAL QUALIFICATIONS IN COLLABORATIVE WORK

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ABSTRACT

This article proposes and outlines the essential role that speech-language pathologists (SLPs) play in oral health care, particularly in the context of speech therapy following major dental surgery in pediatric and geriatric populations. After major dental surgery, individuals may encounter a range of challenges related to speech and communication.

We emphasize the importance of collaboration between dentists and SLPs for pediatric patients with orofacial myofunctional disorders (OMDs), which refer to changes in the musculature of the mouth, face, and cervical areas that affect the growth, development, or functionality of orofacial structures and processes.

The craniofacial complex comprising bones, teeth, muscles and nerves, demonstrates significant adaptability influenced by both genetic and environmental factors, facilitating essential functions such as sensory perception and communication. The intricate anatomy and functions of the face contribute to sensory and motor tasks encompassing olfaction, vision, hearing, and taste. Hence, the collaborative efforts of speech-language pathologists and dentists are crucial for managing patients with concurrent dental, linguistic, and swallowing difficulties.

Dentists play a vital role in diagnosing, preventing, and treating disorders of the oral cavity and surrounding structures by addressing congenital and acquired conditions affecting the teeth, jawbones, and associated tissues. Orthodontists are critical in correcting dental and skeletal misalignments, such as malocclusion, and in facilitating healthy craniofacial development. Similarly, pedodontists possess specialized skills to meet the dental and communicative needs of children. They significantly contribute to early identification and intervention regarding developmental issues, ensuring comprehensive oral health and promoting timely communication development.

In conclusion, a multidisciplinary approach, characterized by the synergistic collaboration between SLPs and dentists, is vital for addressing both dental health and communication challenges. Encouraging healthy communication skills in children hinges on effectively addressing related dental and speech difficulties (Bryan & Gibbons, 2022).

Key words: *speech and language pathologies, speech therapy, communication development, oral health care, major dental surgery, pediatric patients, geriatric populations, orofacial myofunctional disorders, musculature of mouth and face, sensory and motor functions, swallowing difficulties.*

INTRODUCTION

Speech-language pathologists (SLPs) specialize in evaluating and diagnosing language disorders and communication difficulties, as well as developing targeted interventions. They work with diverse age groups, striving to enhance communication and expressive language skills. A critical focus of their work is preventing oral function problems and managing mouth movements throughout various life stages from infancy through adulthood to elderly populations.

Anatomical differences, particularly in children with cleft lip or palate, can significantly impact the oral cavity, leading to challenges in sound production. For instance, these children may struggle with plosive sounds, experience hypernasality characterized by overly nasalized speech or face language delays (Nagarajan, Savitha, & Subramaniyan, 2009).

The collaborative efforts between dental professionals and speech-language pathologists are crucial for addressing a spectrum of orofacial conditions. This interdisciplinary approach ensures that patients receive comprehensive care, particularly those experiencing challenges related to myofunctional disorders, speech impediments, and craniofacial anomaly. By combining proficiency in dental health and communication sciences, these clinicians can more efficiently detect and manage complications affecting oral function, respiration, and general development, resulting in enhanced patient outcomes. By integrating expertise in dental health and communication sciences, these professionals can more effectively diagnose and manage conditions that impact oral function, breathing, and overall development, leading to improved patient outcomes (Feștilă, Ciobotaru, Suci, Olteanu & Ghergie, 2025).

This collaborative diagnostic method enables the early detection of dentofacial disharmony that could affect speech articulation, hence enhancing treatment planning and functional outcomes. (Bode et al. 2023; Costanzo, Puleio, Lo Giudice, Alibrandi & Campione, 2024). This integrated communication facilitates early intervention that can prevent the advancement of malocclusion and related speech disorders (Fontoura, 2021). Preliminary multidisciplinary evaluation has demonstrated efficacy in treating speech sound disorders linked to dentofacial malformations, highlighting the importance of integrated care (Bode et al., 2023; Chandrashekhar, Bommangoudar, Shetty & Sidral, 2020). Thus, the incorporation of orthodontic assessment with speech therapy protocols enables focused therapies that tackle both structural and functional problems, thereby enhancing therapeutic results (Bode et al., 2023; Heit et al., 2022; Vanz, Rigo, Vanz, Estacia & Nojima, 2012).

In Armenia and globally, it is essential to enhance the professional qualifications of speech-language pathologists to effectively implement therapeutic methods and practices. Continuous professional development is a critical component of this enhancement. In the 21st century, a one-time primary education is inadequate as a prerequisite for becoming a special educator or speech-language pathologist. Therefore, the current demands of a rapidly evolving and expanding educational system necessitate the implementation of qualification enhancement programs, particularly in developed countries (Hovyan, Harutyunyan, Papoyan, Kosyan, & Margaryan, 2025).

The concept of continuous professional development (CPD) serves as a foundation for collaborative work among health professionals, emerging as a critical prerequisite for the reconstruction and implementation of educational system reforms. Scientific studies have highlighted the necessity of improving the professional qualifications of speech-language pathologists (SLPs) through the diagnosis and evaluation of speech disorders, followed by the implementation of targeted speech therapy. This pursuit requires new approaches supported by multi-level and extensive scientific investigations aimed at enhancing the competencies of speech therapists (Kalfayan Ashekian, 2025; Costanzo, Puleio, Lo Giudice, Alibrandi & Campione, 2024).

A primary challenge in ensuring ongoing professional development for SLPs often lies in the selection of collaborative practices, especially in scenarios where a child or adult with a speech disorder needs the intervention of various medical professionals. This concern is particularly pertinent regarding the assessment of articulation disorders, maxillofacial surgeries, and issues like lip and tongue ties that are crucial for correcting conditions such as apraxia of speech and rhinophonia, as well as voice problems (e.g., Phonasthenia, dysphonia, aphonia, dyslalia, and chronic laryngitis). The effective selection of medical and pedagogical approaches for treatment is fundamentally dependent on close collaboration among professionals.

Importantly, the choice of appropriate interventions to address speech disorders often proves

unfeasible without the cooperation of SLPs. Moreover, no existing model for continuous professional development specifically caters to paramedical professionals, including speech pathologists, in Armenia. This gap limits the establishment of state-defined standards necessary for organizing complementary and ongoing professional development (Morrison, McKee & Hovey, 2021).

To address these challenges, it is essential to establish a new model for continuous training and professional development for speech therapists in Armenia. This model must align with legislative changes resulting from educational reforms and integrate functional research alongside innovative teaching and evaluation methods. The aim is to equip professionals with the requisite knowledge, skills, and competencies that reflect recent educational advancements. Furthermore, this initiative must adhere to the standards set by the World Health Organization (WHO) under the International Classification of Functioning, Disability, and Health, emphasizing the evaluation, prevention, treatment, and rehabilitation of speech disorders within educational settings. Efforts to address speech issues in children must occur in schools, thereby fostering opportunities for new scientific inquiries in this field of research (Kalfayan Ashekian, 2024).

METHODOLOGY

Our research was conducted at prominent institutions, including the Yerevan Dental Center, the Speech Therapy Department of the Izmirlian Medical Center, and Sarkissian DDS and Harmony Speech Therapy & Diagnostics in Los Angeles, California. In this context, we emphasize the need for collaborative approaches to correcting dyslalia, rhinolalia, and voice disorders. Such cooperation with medical professionals is critical for delivering effective speech therapy, considering the specificities of postoperative and orthodontic care.

Study Design

This article utilizes a qualitative, descriptive review design, integrating evidence from recent clinical practices, interdisciplinary collaboration models, and peer-reviewed literature to highlight the role of speech-language pathologists (SLPs) in the oral rehabilitation process following major dental interventions. The methodology is structured to analyze and synthesize existing knowledge across dentistry, orthodontics, pedodontics, and speech-language pathology.

Data Collection

Information was gathered through a comprehensive literature review from few databases: PubMed, Scopus, Web of Science, Google Scholar.

The search was restricted to studies and guidelines published between 2012 and 2023. Keywords used included:

- *"speech therapy after dental surgery"*

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- *"orofacial myofunctional disorders (OMD)"*
 - *"interdisciplinary dental care"*
 - *"SLP and dentist collaboration"*
 - *"pediatric speech disorders post-dentistry"*
 - *"craniofacial development and speech", etc.*

Relevant clinical guidelines, systematic reviews, case studies, and position papers from recognized associations (e.g., American Speech-Language-Hearing Association, American Dental Association) were also analyzed.

Inclusion Criteria

- Studies involving pediatric (0–18 years) and geriatric (65+ years) patients undergoing major dental interventions.
- Research that involved collaborative approaches between SLPs and dental professionals.
- Literature that included functional outcomes related to speech, swallowing, or myofunctional therapy.

Exclusion Criteria

- Studies focused solely on cosmetic dentistry.
- Articles not available in English.
- Reports lacking clinical relevance to communication or swallowing functions.

Analytical Approach

The selected literature was thematically coded into categories such as:

- Postoperative speech deficits,
- Orofacial muscular rehabilitation,
- Swallowing difficulties post-surgery,
- Early intervention protocols in dental-SLP collaboration.

Emergent themes were compared across pediatric and geriatric populations, with particular attention to:

- The timing of referral and intervention,
- The role of SLPs in the management of OMDs,
- The impact of craniofacial growth or degradation on speech and feeding functions.

Additionally, existing collaborative models were evaluated to understand barriers and facilitators to multidisciplinary care planning, with an emphasis on functional rehabilitation outcomes.

RESULTS, AND DISCUSSION

Our research primarily focused on developing a clearly defined collaborative work process for

speech and language therapy in children and adults who have undergone medical interventions for speech disorders. This focus stemmed from the pressing need to ensure the continuous professional development of professionals involved in speech and language development. The detection, study, diagnosis, prevention, and correction of speech disorders are among the most critical challenges in speech therapy, emphasizing the significance of therapeutic work in promoting proper pronunciation development.

Inadequate development of the articulation system and difficulties with phonetic perception significantly influence learners' literacy processes. We argue that speech therapy addressing articulation disorders specifically dyslalia and rhinolalia among Armenian-speaking children should be prioritized in elementary grades. These foundational years are crucial for establishing spelling and orthography skills (Bryan & Gibbons, 2022; American Academy of Pediatric Dentistry, 2021; Aslanyan, 2021a). Dyslalia, recognized as the most common phonological disorder in preschool and elementary education, impedes the learning process due to persistent and repetitive pronunciation errors. These errors hinder the development of phonetic and articulation functions, making early intervention imperative.

Special attention is warranted regarding the implementation of appropriate methods for preventing and correcting dyslalia, alongside ongoing collaboration with native language instructors in the early grades. To address these challenges, we recommend integrating methods for correcting dyslalia, rhinolalia, and other phonetic disorders, facilitated through collaboration with medical professionals. Such collaboration will enhance practical logopedic efforts in more social contexts as well.

Often, the post-surgical cases involving orthodontists and oral surgeons are overlooked, which should inform our methodology regarding pronunciation correction and voice disorder treatment. Additionally, the lack of awareness among parents, educators, and teachers complicates the challenges surrounding pronunciation and voice disorder correction, particularly in the context of universal inclusivity, where multiple professionals may be involved in intervention efforts.

To support these objectives, our methodological recommendations focus on several key areas essential for understanding and addressing speech disorders in children. First, we advocate for investigating children's ontogenesis to delineate the stages of speech development, which is crucial for identifying typical versus atypical progression. Additionally, determining the extent and nature of speech disorders will provide a clearer picture of the challenges faced by affected children. Clarifying the underlying causes of these disorders is vital for tailoring effective interventions. Furthermore, we emphasize the need for developing robust evaluation methods that can accurately assess speech disorders, which will enhance the effectiveness of treatment plans. Establishing coordination mechanisms among professionals and implementing appropriate correction techniques are critical to fostering comprehensive support for these children. Lastly, we highlight the importance of enhancing preventive strategies and improving logopedic assistance protocols to ensure early identification and intervention, ultimately facilitating better outcomes

for children with speech disorders.

Through the implementation of these strategies, we hope to facilitate a more comprehensive approach to diagnosing and treating speech and language disorders, ensuring enhanced professional collaboration and improved outcomes for affected individuals.

Application of Theoretical and Practical Materials

The theoretical and practical materials can be effectively utilized by the pedagogical staff of special educational institutions, public schools, and rehabilitation centers. These resources aim to address the speech needs of Armenian-speaking children with articulation disorders, thereby enhancing both the educational and social adaptation processes. The materials also promote the application of specialized methods and the organization of speech therapy-oriented games.

Acoustic Characteristics of Speech Phonemes

The acoustic characteristics of language phonemes define the phonetic qualities of speech. Language sounds originate from the physical vibrations of air waves produced by the articulators of speech. However, phonemes are limited both by the auditory organs that perceive them and by the speech apparatus responsible for their production (Aslanyan & Grigoryan, 2022).

Phonetics examines various aspects of sound, such as type, pitch, strength, timbre, duration, and tension. Tone is produced through periodic fluctuations of the vocal cords, whereas noise results from non-periodic vibrations of pronunciation organs, such as the lips (Aslanyan & Grigoryan, 2022). The pitch of a sound is influenced by the number of vibrations, as well as the length and distance of the vocal cords. The amplitude of these vibrations determines the intensity or power of the sound.

Language sounds consist of a primary tone considered the strongest sound and overtones (subtones), which are secondary. The main tone defines the pitch, while the overtones contribute additional qualities known as timbre. Timbral quality arises from the combination of the main tone, noise, harmonic subtones, and resonant tones. It distinguishes sounds with the same pitch, intensity, and duration; for instance, it enables differentiation between musical instruments like the piano, violin, and duduk, which may produce sounds at the same tonal height.

The duration of sound refers to the time it is emitted, characterized by the frequency of specific vibrations, and it can vary based on speech pace (Aslanyan & Grigoryan, 2022). Absolute duration pertains to the length of language sounds, influenced by the temporal units required for sound production.

Resonance and Tension in Sound Production

Sound resonance occurs when sound waves transiting through the oral cavity encounter no obstructions, maintaining their integrity and allowing them to be perceived as tonal or vocal sounds. Periodic sound waves gain distinct overtones characterizing vowels, resulting in fuller articulation and perception of the vowel sound. This fullness of sound is referred to as resonance.

Resonance is contrasted with sound tension, which describes the firmness of the barrier formed during sound articulation. The degree of tension directly affects sound resonance: the weaker the tension used in articulation, the more resonant the sound. Conversely, greater tension results in diminished resonance. Thus, it can be inferred that the resonance of sounds is inversely proportional to their tension.

Sound Tension and Speech Regulation

The tension of sounds reflects the strength of the barrier created during articulation. A stronger barrier results in greater disturbance and weakening of sound waves, potentially leading to their complete extinction. Conversely, a weaker barrier allows sound waves to traverse more easily, resulting in a more powerful sound (Aslanyan & Grigoryan, 2022).

Understanding this dynamic is crucial for regulating pronunciation processes, particularly in situations where a dentist has performed prosthetic procedures or implanted palates and teeth in children with rhinophasia (rhinocerosis). In such cases, the methodology of speech therapy should focus on addressing language polyphony and associated sound issues.

Language Variations and Pronunciation Challenges

The plurality of languages introduces a diversity of pronunciation abilities. Rare sounds, such as the Armenian consonants /dz/, /tʃ^h/, and /ts/, are not found in many other languages. Consequently, Armenians may struggle to pronounce sounds like the English /th/ or the German /pf/, and similarly, speakers of other languages may find it challenging to produce these specific sounds (Aslanyan & Grigoryan, 2022).

Oral articulations are closely tied to the vibrations of the vocal cords. Oral sounds are formed during oral pronunciation when the soft palate elevates, effectively separating the oral cavity from the nasal cavity, which prevents air from escaping through the nostrils during speech and swallowing. In developing surgical interventions, logopedic work must be guided by the advice of relevant medical professionals, particularly orthodontists and dentists. This cooperation is essential to prevent postoperative complications and to implement appropriate corrective methods, underscoring the necessity of continuous professional training and collaboration among specialists.

Phonetic Variances in Armenian and Speech Therapy Challenges

Given that Armenian is rich in voiced consonants, the primary challenges in speech therapy during the postoperative period relate to the correction of these sounds. As previously noted, phonetic bases across various languages display subtle distinctions. These distinctions can also manifest within regional variations of the same language. For instance, English pronunciation differs among British, American, and Canadian speakers, and there are notable variations between Eastern Armenian and Western Armenian pronunciations (Kalfayan Ashekian, 2024).

Pronounced phonetic differences exist within dialects of the same language; the sounds of the literary language, particularly vowels, exhibit significant variations in different dialects. Dialectology

employs methods that reveal the characteristic phonetic features inherent to each dialect (Kalfayan Ashekian, 2024).

Speech and Learning Process

The learning process is intricately connected to speech. Incorrect pronunciation, limited vocabulary, grammatical errors, and reading and writing disorders can hinder knowledge acquisition and verbal communication, adversely impacting an individual's overall development (Aslanyan & Grigoryan, 2022).

The Syllable as a Phonetic Unit

In the phonetic structure, the syllable stands as the next significant volume after a sound. A syllable is defined as the minimum natural unit of pronunciation in a language's sounds. While syllables may not convey meaning on their own, they serve as fundamental sound units within words, comprising sounds or groups of sounds pronounced in a single breath. Thus, a syllable can be characterized as a singular pronunciation unit (usually a vowel or a combination of a vowel and consonants) within the pronunciation chain (Aslanyan & Grigoryan, 2022; Aslanyan, 2021b).

Articulation and Sound Production

Producing a specific language sound necessitates the coordinated effort of multiple speech articulators. The generation of any sound requires these articulators to work in unison and in a precise sequence, an intricate process that a speech therapist can optimize through effective medical consultation and collaboration.

Phonetic pronunciation encompasses various actions including physiological, motor, and expiratory functions that culminate in the production of a phonetic unit (sound or syllable), along with the development of phonetic properties and their formation.

The Scientific Basis of Sound and Letter

The relationship between sound and letter, though seeming simple, necessitates a scientific examination, especially in relation to communication difficulties. It is essential to highlight that techniques for correcting pronunciation issues must correspond with the pedagogical frameworks of the primary language. This alignment will improve the effective implementation of logopedic procedures in society. The distinctive characteristics of the primary language, Armenian, are frequently disregarded, rendering comprehensive research imperative.

The Mechanism of Pronunciation

The articulation of language sounds is complicated by the fact that it involves the activity of several articulators. The mechanism responsible for producing the articulation of a particular phonological unit is referred to as the articulator. Even in rapid pronunciation, speakers prepare for upcoming pronunciation units, often without completing the previous sound (Aslanyan & Grigoryan, 2022).

There are three main stages in the pronunciation of a phonetic unit (sound): entry, storage, and

conversion. In the pronunciation of the "T" sound, the process involves several actions: the vocal cords move apart, a weakening occurs, the soft palate rises, pressing against the back wall of the oral cavity, and the tongue's tip touches the upper teeth.

In contrast, the pronunciation of voiceless consonants such as /p/, /k/ exhibits minimal phonetic behavior. Conversely, sounds like /l/, /m/, /n/, or voiced consonants like /b/, /g/, and /d/ display clear phonetic behavior. The conversion phase occurs when the articulators, after completing the production of a given sound, return to a neutral position or get ready for the articulation of the next sound. For instance, in the word "tram," the tip of the tongue elevates toward the hard palate while the vocal cords stretch and come together. Rapid conversion can influence the impending sound, potentially leading to the shift of an unvoiced consonant to a vowel sound or causing vowel weakening (Aslanyan & Grigoryan, 2022; Aslanyan, 2021b).

Challenges in Mastering Pronunciation

Mastering tone can involve variances, timing discrepancies, and mistakes in sound production. As children adapt to their speech environment, they generally confront challenges that they often learn to overcome independently. However, children or individuals who have undergone surgery, implantation, or prosthetic procedures face persistent difficulties in acquiring the correct pronunciation system. These challenges are compounded by the complexity of language sounds, as clients must learn to perceive and reproduce them accurately.

During the perception process, a child is exposed to the phonetic diversity of the fundamental units of language. They must be able to identify and isolate the necessary pitches within a continuous flow of sounds. Recognizing sounds by their distinctive characteristics is essential for distinguishing one sound from another. If a child fails to develop this ability, they will struggle to differentiate between words and recognize them consistently across various contexts of speech.

As speech develops, a child's auditory discrimination evolves, predicated on their ability to distinguish and recognize sounds. This development of auditory skills is critical, as phonetic listening involves following sounds in a continuous stream of syllables. Since sounds are vocal manifestations of pronunciation, they must be articulated in accordance with the standards established by the language system; otherwise, listeners may find them difficult to comprehend (Aslanyan & Grigoryan, 2022).

The Role of Speech Organs in Sound Production

Children with speech disorders often experience specific challenges in speech development directly related to the anatomical structures involved in respiration and sound formation. Phylogenetically, there are no distinct organs exclusively for sound and perception; rather, humans have adapted general anatomical structures for speech and auditory functions throughout historical development.

The organs of speech can be categorized into two main groups:

Respiratory Chambers: This group includes the lungs, bronchi, and respiratory tract. The lungs contract and expand, supplying air to the articulatory chambers, producing vibrations necessary for sound creation. The bronchi serve as extensions of the lungs, branching into two bronchial paths. During respiration for speech, air flows through the respiratory system. Notably, the volume of air entering the lungs is greater than the volume exiting, ensuring that sufficient air remains available to create the necessary vocal cord vibrations. Proper spoken respiration facilitates harmonious sound formation aligned with the outgoing air current.

Articulators: These are the structures actively and passively involved in sound formation. Active articulators (moving) and passive articulators (immovable) work together to produce speech sounds. Among the essential active articulators, the throat (larynx) is pivotal in sound production. Key structures within the larynx include:

- **Thyroid Cartilage:** This prominent structure houses the vocal cords and is often most easily identified as the "Adam's apple."
- **Arytenoid Cartilages:** These brick-shaped, mobile structures are located within the larynx and play a crucial role in vocal cord function. The vocal cords, attached to the thyroid cartilage in the front and resting on the trachea at the back, form the glottis.

When air is expelled from the lungs, it passes through the larynx, causing the vocal cords to vibrate, which generates sound. This intricate interplay between air flow and articulators in speech production

The soft palate, often described metaphorically as a curtain, plays a vital role in speech therapy. When elevated, it blocks airflow to the nasal cavity, effectively separating the nasal passages from the oral cavity. Conversely, when it lowers, it allows air to flow into the nasal cavity, influencing speech sounds produced.

The tongue is instrumental in sound production, capable of executing a diverse range of movements due to its three major components: the front, middle, and back. Additionally, the tongue's surface can assume various configurations, such as curled or flattened. Together with other oral articulators, the tongue transforms sound waves into distinct sounds.

Lips also contribute significantly to sound production by adopting rounded or spread positions, a flexibility that enhances their ability to produce various speech sounds. The lower jaw operates as one of the active articulators. Passive articulators consist of the upper and lower teeth (along with the gums, known as alveoli), hard palate, upper jaw, and nasal cavity.

These oral articulators can come close to each other, interacting and creating barriers that obstruct the outflow of air. Where these barriers form, noise necessary for consonant formation is generated. The upper and lower teeth, along with the hard and soft palates, serve as principal operational sites, while the nasal cavity contributes resonant qualities to certain sounds; thus, some sounds resonate not only in the

mouth but also in the nasal cavity.

It is important to note that speech articulators do not function in isolation. The role and actions of each articulator during pronunciation are characterized by their interdependence and interaction with one another (Grigoryan, 2023; Aslanyan & Grigoryan, 2022).

Importance of the Oral Cavity in Sound Production

The oral cavity plays a crucial role in sound production, housing various active and passive articulators essential for speech. The active articulators are: Upper and lower lips, upper and lower teeth, alveolar ridges (gums), hard palate, soft palate (velum), and tongue.

The passive articulators are: Structures that do not move, providing points of contact or obstruction for airflow; these include the same upper and lower teeth, along with the hard palate.

The coherent functioning of all these components is necessary for successful articulation. Modern logopedics, which draws from general principles of special education, intersects with several scientific disciplines such as psychology, anatomy, physiology, and linguistics. This multidisciplinary approach views speech as a multifaceted existence that significantly impacts systematic psychological development.

Causes of Speech Disorders

Organic disorders can arise from various prenatal infections, including those occurring during pregnancy and infections that affect the fetus postpartum, such as meningitis and meningoencephalitis. These conditions can lead to significant developmental challenges (Hovyan, Harutyunyan, Saratikyan, Muradyan, Marukyan & Grigoryan, 2025).

Functional causes may not directly alter the structure of the speech apparatus but can substantially hinder normal functioning. Examples include prolonged stressful situations, frequent illnesses in children, an inappropriate speech environment, inadequate pedagogical support, negative parental attitudes, and overly harsh corrections regarding speech development (Costanzo, Puleio, Lo Giudice, Alibrandi & Campione, 2024). Prompt intervention is essential to prevent the escalation of these issues into secondary and tertiary problems.

The Complexity of Phonetic Development

The formation of the phonetic aspect of speech is a complex process wherein a child learns to perceive the speech directed toward them and manage its reproduction through their speech apparatus. Effective development of pronunciation is not only a crucial factor in communication but also a critical element in teaching the mother tongue. Inadequate development of the pronunciation system and issues with sound perception can significantly complicate learners' educational experiences, including literacy development.

For instance, apraxia, a neurological disorder characterized by the inability to plan and execute coordinated movements, can affect speech capabilities despite intact muscle function (Rausch, 2023).

Specifically, acquired apraxia of speech often emerges following brain injuries, such as strokes or trauma, impacting neural regions responsible for planning and coordinating the movements necessary for speech production. This underscores the importance of addressing pronunciation and communication disorders in a holistic and timely manner.

Impact of Apraxia After Dental Surgery

In the context of dental surgery, apraxia can temporarily hinder an individual's ability to execute specific oral movements, complicating tasks such as manipulating food or articulating speech. Patients who have undergone dental procedures and subsequently experience apraxia may struggle with word articulation and daily activities requiring oral motor skills, such as chewing and swallowing. This condition can lead to dissatisfaction in communication, affecting day-to-day interactions and overall quality of life.

Apraxia is often managed through targeted speech and language therapy. In this therapeutic approach, a speech-language pathologist works collaboratively with the patient to enhance motor planning and improve speech production. Rehabilitation efforts aim to restore essential oral skills and foster better communication, ultimately promoting participation in social and functional activities. It is equally important to address any discomfort or difficulties associated with the dental procedure to support recovery.

Neurophysiological Implications

The disruption of neural circuits responsible for motor planning can lead to the development of apraxia, a condition sometimes aggravated by trauma caused during dental operations. Patients may exhibit many symptoms, including linguistic impairments, speech inconsistencies, and difficulties with nonverbal abilities, such as mastication and proper mouth closure. Numerous factors, such as post-operative edema, discomfort, and changes in the oral environment, may aggravate these difficulties, resulting in heightened dissatisfaction and limiting efficient communication. To maximize the benefits of targeted speech and language therapy, it is important for patients to communicate any issues they encounter to their healthcare practitioners. Therapy techniques often utilized include modeling and repetition, which focus on enhancing motor planning and coordination to facilitate the recovery of communication abilities. The significance of early intervention cannot be overstated, as it plays a crucial role in optimizing healing and mitigating long-term impacts on speech and overall quality of life (Rausch, 2023).

Connection with Orofacial Myofunctional Disorders

The presence of Orofacial Myofunctional Disorders (OMDs) can further complicate communication, swallowing, and general oral function for patients. OMDs involve dysfunctional patterns of oral and facial muscle use, which may intensify challenges following dental surgeries, such as tooth extractions or orthodontic interventions. The physical changes in the oral cavity resulting from these procedures can exacerbate pre-existing conditions or even trigger new complications.

Given this context, a comprehensive approach to post-surgical care is paramount. This approach

should encompass not just physical healing but also targeted speech therapy and myofunctional therapy. These therapeutic interventions aim to address the motor planning and muscular function issues arising from both apraxia and OMDs, ultimately leading to improved communication abilities and enhanced quality of life for affected individuals.

Understanding the interplay between dental surgery, apraxia, and OMDs is essential for healthcare professionals. This knowledge enables them to provide holistic care that effectively supports patients' speech and overall oral health needs (Orofacial Myology, 2024).

Apraxia and Dental Surgery: Impacts on Functionality

Following dental surgery, apraxia can emerge because of factors such as anesthesia, pain, or swelling, all of which can negatively impact muscle control and coordination in the mouth and throat. Patients may struggle with articulating words or performing simple actions, such as lifting a drink or placing food in their mouths. The severity and duration of apraxia can vary considerably from person to person. Contributing factors include the complexity of the surgical procedure, the type of anesthesia administered, any pre-existing neurological conditions, and individual recovery processes.

For patients experiencing apraxia following dental surgery, open communication with healthcare providers regarding any difficulties encountered is essential. Rehabilitation strategies, such as occupational therapy or speech therapy, can be pivotal in helping individuals regain normal function. Incorporating supportive techniques such as practicing simple movements or utilizing adaptive tools can further enhance recovery outcomes (Mount Sinai, n.d., August 2025).

The Role of Speech Therapy Post-Surgery

Speech therapy plays a critical role after major dental surgery, particularly in pediatric and geriatric populations. It addresses specific communication and swallowing challenges that may arise following surgical interventions.

Dental procedures in children can profoundly affect speech development and articulation, frequently resulting in reluctance to communicate due to discomfort or worry. Speech therapy seeks to enhance confidence in verbal abilities by concentrating on the improvement of articulation, fluency, and the management of swallowing difficulties to guarantee sufficient nourishment during recovery. Collaborative therapeutic activities can build a nurturing atmosphere that promotes successful communication.

Dental surgery in the older population can aggravate pre-existing conditions, including decreased motor control and sensory impairments, hence complicating speech and swallowing. Speech-language pathologists personalize their interventions to improve communication precision and facilitate safe swallowing. These therapies include training sessions aimed at improving mouth musculature and enhancing vocal quality. The participation of speech-language pathologists is crucial for both demographics, promoting efficient communication and safe swallowing, which are fundamental for

rehabilitation and overall quality of life (Morrison, McKee & Hovey, 2021).

Challenges in Pediatric Dental Patients

In pediatric patients, oral surgeries can affect the alignment and function of teeth and oral structures, potentially resulting in challenges with articulation and phonation. Children may also face emotional challenges during recovery, impacting their willingness to communicate or engage in conversations. Speech-language pathologists can implement targeted interventions to assist these children in recovering their speech capabilities and promoting appropriate communication skills post-surgery.

Challenges in Geriatric Dental Patients

The impacts of substantial oral surgery in elderly people can significantly differ from those in pediatric patients. Older persons may encounter challenges like reduced motor control, modified sensibility, and chronic oral health problems, all of which can negatively impact speech and swallowing abilities. This group frequently possesses pre-existing problems that hinder healing. Speech-language pathologists play a vital role in assessing and treating speech and swallowing difficulties in elderly patients' post-dental surgery. They offer customized techniques that encourage safe eating and drinking habits, alongside activities designed to strengthen mouth muscles and improve speech clarity (Bryan & Gibbons, 2022).

Supporting Development in Pediatric Patients

Given that children are in critical phases of speech and language development, dental issues can significantly hinder their capacity to articulate sounds or produce speech clearly. Speech therapists work closely with pediatric patients to address changes in their speech patterns, helping them regain confidence in communication and ensuring their language development remains on track. This assistance may involve exercises designed to strengthen oral musculature, improve articulation, and enhance overall communication skills.

Therapy may include tailored exercises that focus on vocal quality enhancement, muscle strength, and coordination, along with strategies to compensate for any loss of function. By addressing the distinct challenges presented by each age group, speech therapists play a crucial role in facilitating recovery and supporting effective communication (American Academy of Pediatric Dentistry, 2021).

Methodological Foundations for Speech Disorder Correction

The scientific foundation for proper methodological criteria, resources, and procedures in the rehabilitation of speech impairments in Armenian-speaking youngsters can substantially improve the verbal capacities of affected learners. This is possible when speech therapists utilize scientifically proven, experimentally developed techniques that depend on effective collaborative efforts. Evaluating linguistic needs, executing modifications, and coordinating consultation efforts while employing strong scientific and practical techniques can substantiate the logopedic process effectively.

We advocate for systematic logopedic approaches that align with the accepted paradigms of basic language instruction. A structured strategy like this will make it easier to include logopedic methods that honor the distinctive phonetic features of the Armenian language. This alignment is essential for identifying, assessing, and coordinating initiatives to address pronunciation challenges among pupils, thereby assisting children in overcoming their speech difficulties and enhancing their learning processes.

As previously discussed, collaborative efforts and ongoing training are essential for effective assessments and the selection of appropriate logopedic methods. These practices enable informed conclusions regarding the organization of a child's education, the establishment of necessary special conditions, and the implementation of support services. This collaboration can include advisory visits to educational institutions and the organization of training sessions to ensure all stakeholders are aligned and informed about best practices.

To achieve the specified objectives, multiple research problems were formulated. A thorough literature assessment was performed to examine and evaluate diverse viewpoints on the research issue as recorded in scholarly literature. Examining the support programs pertinent to the issues at hand and the extant criteria for logopedic evaluation was a component of this. Secondly, the study examined collaborative assessment initiatives between speech-language experts and medical practitioners in performing evaluations. The practical value of scientific, methodological, and educational materials was examined, emphasizing their influence on pedagogical-psychological specialists working with children with speech difficulties. Finally, an evaluation was conducted to examine the knowledge of medical professionals concerning logopedic assessments, including their awareness of available services that conform to established standards and individual service program instruments.

To address these problems, we have examined and studied specialized literature on functional assessment, as well as scientific works that outline the methodologies for structuring logopedic tests for children with speech disorders. We also analyzed material concerning developmental psychology and physiology in relation to children with speech difficulties (Hovyan, Harutyunyan, Saratikyan, Muradyan, Marukyan & Grigoryan, 2025; Bryan & Gibbons, 2022).

Specialized literature directly tied to the research problem has been surveyed and synthesized, allowing for the identification of key trends in developing theoretical and practical approaches necessary for communication and speech development among children with speech disorders. This effort aims to expand the accessibility of educational psychological services for these children (Grigoryan, 2023; Bryan & Gibbons, 2022; Harutyunyan & Hovyan, 2018).

Enhancing Professional Development

It is essential to initially assess the present condition of supplementary and ongoing professional development for speech therapists in Armenia. This involves teaching innovations and establishing updated

guidelines for educational assessments designed to measure children's individual educational requirements using specific training instruments. Such actions are crucial to guarantee the continuous professional advancement of the participating teams. In this context, educational training is a crucial component of Armenia's educational system, aimed at modernizing the content, structure, and processes of vocational education. Additionally, it seeks to enhance the cultural awareness for lifelong learning, emphasizing its significance in the holistic advancement of educational professionals.

In conclusion, this initiative addresses the ongoing challenge of effectively equipping specialists in general and vocational education with the necessary skills and resources to support children with speech disorders. Our research underscores the critical need for accessible professional theoretical and practical materials in the realm of educational psychological support. The findings from our study reveal that a structured approach combining standard analyses with continuous training and supplementary resources can empower professionals in enhancing their practices.

We anticipate a marked improvement in the logopedic process, ultimately enabling specialists to offer high-quality, tailored support to children in need. Cultivating a training-oriented environment is essential for ensuring that education professionals are adept at addressing the diverse needs of their students, thereby facilitating effective communication and language development.

Moving forward, it is essential to promote collaborative efforts within this field, highlighting the significance of interdisciplinary partnerships that can greatly enrich the educational landscape. Our commitment to ongoing professional development and a focus on the unique requirements of each learner will help foster a more inclusive and supportive environment for children facing speech challenges. By prioritizing these partnerships and focusing on actionable strategies derived from our research, we can ensure that every child has the tools and support necessary to succeed in their communicative journeys.

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ADDRESSING SPEECH DISORDERS: A QUICK REVIEW AND DESCRIPTION

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ABSTRACT

As in the rest of the world, in the Republic of Armenia too, the number of preschool and school-age children with various speech disorders is increasing year by year. Today, it is essential to emphasize the importance of identifying developmental issues commonly observed among students of different age groups in preschool and general education institutions—particularly the statistically frequent speech disorders, including dyslalia, rhinolalia, dysarthria, dyslexia, dysgraphia, stuttering, and aphasia.

Each type of speech disorder has its own manifestations, developmental causes, and clinical indicators. Today, various methodological approaches are applied in clinics to identify these disorders. Interventions aimed at deepening understanding, prevention, and treatment are implemented, incorporating medical, speech therapy, and pedagogical-psychological approaches. Awareness of such information is crucial not only for parents but also for educators and tutors, as it enables the early detection and prevention of speech disorders and their more severe manifestations.

In this context, the close connection between biomedical sciences and pedagogy is especially important. This collaboration helps organize the educational process more effectively and ensures the upbringing and education of a healthy, problem-free generation within society.

Keywords: *Speech disorders, dyslalia, rhinolalia, dysarthria, dyslexia, dysgraphia, stuttering, aphasia, treatment.*

INTRODUCTION OF THE MOST COMMON SPEECH DISORDERS

Speech, as the second signaling system, a higher mental function, a means of communication, and a tool for thinking, is unique to humans. In the brain, the main centers responsible for speech are Broca's area and Wernicke's area (Khudaverdyan, 2020).

Depending on the causes underlying the development of speech disorders (SD), symptoms may appear at different stages in individuals of different sexes (Bobylova, Braudo, Kazakova & Vinyarskaya, 2017; Stepanenko & Sagudinova, 2010). In particular, among children, congenital issues or complications arising during childbirth can be noticeable from an early age.

In adulthood, speech disorders (SD) may manifest as a result of brain tumors, stroke, neurodegenerative diseases, or traumatic brain injuries (Makarov & Emelina, 2017).

In speech therapy, SDs are typically classified into three groups:

1. Oral speech disorders,
2. Written speech disorders, and
3. Disorders of speech tempo and rhythm.

Since oral speech is related to articulation, two types of oral speech disorders are distinguished: disorders of the external and internal formation of speech. Included among the disorders of external speech

formation are dyslalia, rinolalia, and dysarthria, while internal speech formation disorders include alalia and aphasia.

Two types of written speech disorders are distinguished: dyslexia and dysgraphia.

As for disorders of speech tempo and rhythm, they are divided into non-convulsive and convulsive types. Specifically, non-convulsive disorders include tachylalia and bradylalia, while stuttering is considered a convulsive disorder.

Speech External Formulation Disorders

Dyslalia (partial tension or stuttering of spoken language): This is a speech articulation disorder. Depending on the nature of the disorder, dyslalia is categorized into the following types: functional, mechanical, physiological, monomorphic, and polymorphic. Functional dyslalia is further divided into the following forms:

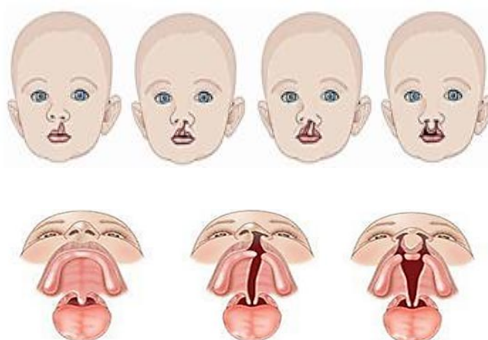
- **Acoustic (phonetic):** In this case, although the child does not have hearing impairments, the underlying issue is the underdevelopment of phonetic hearing. As a result, the child has difficulty recognizing and differentiating one sound from another.
- **Articulatory (phonetic):** This occurs when the speech apparatus is impaired, meaning the child cannot pronounce certain sounds correctly. Articulatory phonetic dyslalia is statistically one of the most common speech disorders among students in middle and secondary educational institutions. The causes of the two well-known types of dyslalia mechanical and functional are quite different.

In mechanical dyslalia, there are anomalies in the structures involved in speech production, such as pathological changes in the tongue, particularly a short frenulum, and underdevelopment of the maxillofacial system (Newbury, et al., 2009).

In functional dyslalia, the causes may include somatic or bodily illnesses, as well as complete functional changes in the auditory analyzer.

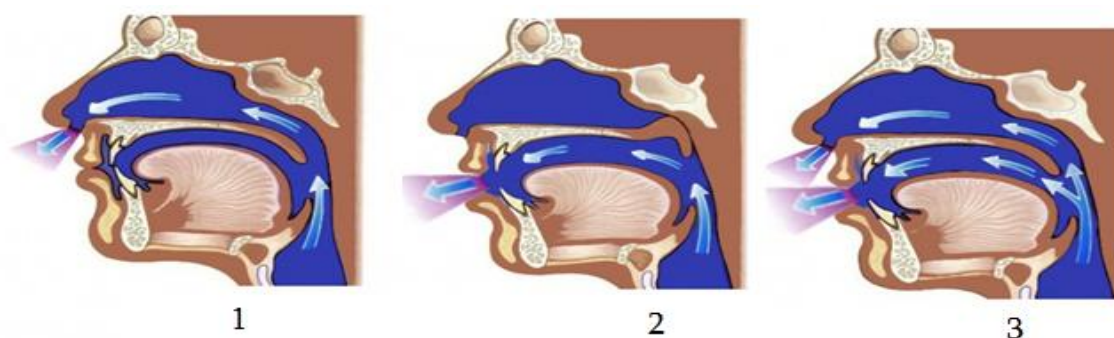
Rhinolalia: This is a disorder of articulation and voice timbre, which is accompanied by morphofunctional deficiencies of the speech apparatus. Clinical signs include changes in voice timbre, articulation, the perception of sounds, grammatical aspects of speech, and speech clarity. Particularly notable are the defects in the maxillofacial system, such as the presence of congenital clefts of the lip and palate, which are manifested as deformations in various parts of the maxillofacial area, either unilaterally or bilaterally (Picture 1).

Picture 1. Congenital clefts of the lip and palate.



Depending on the nature of the impairment in the palatopharyngeal area, different forms of rhinolalia are distinguished: closed, open, and mixed rhinolalia, each of which can be either organic or functional in nature (Picture 2).

Picture 2. Open (1), closed (2), and mixed (3) rhinolalias.



In the case of open rhinolalia, there are clefts of the lip and palate. In closed rhinolalia, although clefts of the lip and palate are absent, there are formations in the nasal cavity that obstruct the airflow into the nasal passage. In mixed rhinolalia, both clefts of the palate and lip are present, along with other formations.

Dysarthria (or speech articulation disorder): Dysarthria is a speech disorder caused by damage to the speech apparatus, resulting from impairments in the central and peripheral nerve innervation processes of the speech organs. The pathogenesis of dysarthria emphasizes the following causes: damage to the nuclei of cranial nerves, the transmission pathways in the brain, the influence of numerous exogenous harmful factors during intrauterine development and postnatal life (Belousova, Utukzova, Gamirova & Prusakov, 2013), disorders of cerebral circulation, brain neoplasms, poisoning, and more. There are various criteria for classifying dysarthria. According to the time of onset, dysarthria can be congenital or acquired (due to the conditions of childbirth). Based on the degree of expression, it can be mild, moderate, or severe. Based on the location of the affected area, there are several types of dysarthria: bulbar dysarthria (caused by damage to neurons in the brainstem, resulting in dull speech, soft voice, and noticeably impaired respiratory

speech), pseudobulbar dysarthria (caused by damage to nerve fibers projecting from the cortex to the cranial nerves, where speech is often interrupted, fragmented, and certain sounds and vowels are difficult to articulate due to relaxation of facial muscles), subcortical or extrapyramidal dysarthria (caused by damage to subcortical brain nuclei and their nerve connections, where speech becomes rough with changes in pitch and rhythm), cortical dysarthria (caused by lesions in the cortex, where all words are articulated but not clearly, with nasal voice, difficulty pronouncing consonants, slow and prolonged speech, and impaired coordination of purposeful movements), cerebellar dysarthria (caused by lesions in the cerebellum, resulting in changes in voice loudness, modulation, and pitch), and Parkinsonian dysarthria (caused by neurodegeneration of dopaminergic centers in the brain, typically seen in Parkinson's disease).

Written speech impairments

Currently, the number of students with reading and writing difficulties is significant in general education institutions. The processes of reading and writing are complex psycho-physiological processes involving various analyzers, such as visual, speech-motor, auditory-speech, and motor functions. Written speech disorders, such as dysgraphia and dyslexia, are the result of uneven development of the hemispheres, bilingualism in the family, hereditary predisposition, and Rh incompatibility (Eicher, et al., 2014).

Dysgraphia is a unique and persistent disorder of writing. Currently, there is a significant number of preschool and school-aged children with reading and writing difficulties in both preschool and general education institutions. This is due to the underdevelopment of the functions of different areas of the cerebral cortex in the brain hemispheres (Yagunova & Gainetdinova, 2018) as well as both overt and hidden left-handedness.

Dyslexia is a unique and persistent disorder of reading, where a child is unable to understand written or printed text. The child cannot accurately recognize letters, combine them into syllables and words, and therefore cannot read quickly and correctly, nor comprehend or retain the text they have read (Gibson & Gruen, 2008).

Speech tempo and rhythm disorders

Speech is not merely a sequence of words, but a structured expression that relies heavily on tempo and rhythm to convey meaning. Emphasis on key words is typically achieved through deliberate articulation, while less critical elements are spoken more fluidly. However, certain speech disorders distort this natural rhythm, either accelerating or decelerating speech to such an extent that comprehension becomes impaired (Shipley & McAfee, 2020).

These tempo and rhythm abnormalities-such as tachylalia, bradylalia, and stuttering are observed in both children and adults. Research suggests that such disorders are often rooted in neurological imbalances,

particularly in the cortical excitation and inhibition processes of the brain hemispheres (Bloodstein & Bernstein Ratner, 2008). For instance, tachylalia (abnormally rapid speech) is linked to dominant excitation, while bradylalia (abnormally slow speech) is associated with inhibition dominance in neural functioning (Kent, 2000).

Despite parents and educators recognizing anomalies in speech patterns, only a qualified speech-language pathologist can accurately diagnose the type and severity of the disorder and identify its underlying causes.

Bradylalia (Slow Speech) is characterized by pathologically slow speech due to heightened inhibitory neural activity. Causes may include hereditary predisposition, emotional fatigue, and even environmental factors, such as parenting style or imitation of slowed speech. Children with bradylalia often display motor skill delays, diminished facial expressiveness, and slow or uncoordinated movements (Paul & Norbury, 2012).

Tachylalia (Rapid Speech) arises from a hyperactive excitation process in the brain. It can stem from dysfunctions in the extrapyramidal motor system, genetic predispositions, or deficits in central speech regulation. Clinically, tachylalia is marked by hyperactivity, rapid motor movements, emotional instability, and a noticeable disparity between cognitive speed and speech output (Conture & Curlee, 2007).

Stuttering (Logoneurosis) is a convulsive disruption in the rhythm and fluency of speech, typically manifesting during the preschool years in children with fragile nervous systems or heightened emotional sensitivity. Symptoms include involuntary sound repetitions, spasms in speech musculature, and significant psychological distress, such as fear of speaking. Triggers often include trauma, familial conflict, neurological illness, or imitative behaviors (Yairi & Ambrose, 2013; Conture & Curlee, 2007).

The disorders of speech rhythm and tempo reflect deeper neurophysiological and psychological mechanisms. While visible to non-specialists, their accurate diagnosis, classification, and intervention require expert assessment and support.

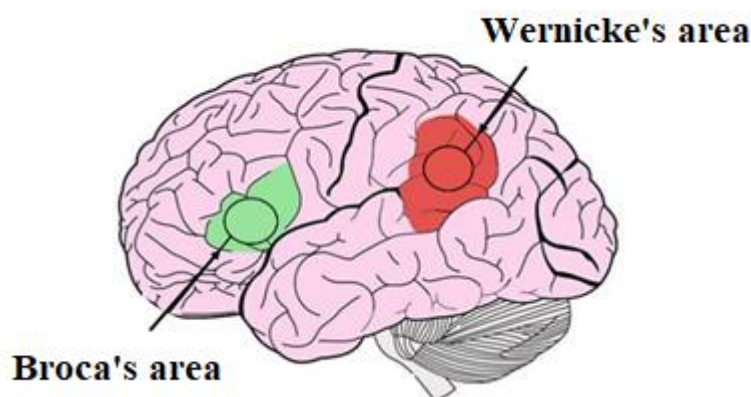
Disorders of internal speech formation

Aphasia is a disorder of already developed speech, in which the patient partially or completely loses the ability to understand others' speech or to express their own thoughts using words and sentences. It is caused by localized damage to the cortical areas of the brain hemispheres responsible for speech. The causes include brain injuries, ischemia, tumors, infectious diseases, lack of innervation of the blood vessels supplying the brain, and impaired cerebral blood circulation (Gainetdinova & Karimova, 2014).

Two main types are distinguished: sensory and motor aphasia. In sensory aphasia, the Wernicke's area located in the posterior part of the left superior temporal gyrus of the cerebral cortex is affected (Picture 3). In this case, the patient hears speech but cannot understand it, neither others' nor their own. It is often

accompanied by difficulties in reading and writing as well.

Picture 3. Localization of the brain centers responsible for speech



Motor aphasia is caused by damage to Broca's area, located in the posterior part of the left inferior frontal gyrus of the cerebral cortex. As a result, although the patient understands spoken language and the speech organs are physically intact, they are unable to speak because the speech-motor center of the cortex does not send the necessary instructions.

In motor aphasia, not only spoken language is impaired, but also reading and writing. Aphasia is often accompanied by alexia (reading disorder) and agraphia (writing disorder).

Alalia is a systemic underdevelopment or absence of speech, most commonly observed in early childhood (Belousova & Merkulova, 2013). The causes include maternal toxic pregnancy, organic damage to the cortical speech centers during fetal development or in the early postnatal period, intrauterine infections, premature or complicated labor, cranio-cerebral trauma in newborns, and unfavorable social conditions in the family. Clinical indicators include delayed speech development, a limited vocabulary, absence of grammatical structure in speech, and lack of phonation and articulation (Kovshikov, 2006). Depending on the location of cortical damage in the brain hemispheres, different manifestations of alalia are distinguished, including sensory or impressive alalia (caused by damage to the auditory speech analyzer; the child does not understand the meaning of speech directed at them, and their own speech is also incomprehensible; they speak excessively and continuously, with impaired pronunciation of syllables and sounds), motor alalia (caused by damage to the speech-motor analyzer; the child understands speech but, due to impaired function of the muscles involved in speech, cannot respond or produce articulated speech), and mixed sensory-motor alalia (caused by damage to both auditory and motor speech analyzers). To prevent and detect alalia early, a comprehensive diagnostic approach is required (Belousova & Merkulova, 2016).

MODERN APPROACHES OF SPEECH DISORDERS TREATMENT

Speech disorders encompass a wide range of conditions that impair an individual's ability to produce sounds that create words. These disorders include stuttering, articulation disorders, apraxia of speech, dysarthria, and voice disorders. Modern treatment approaches are evidence-based, multidisciplinary, and often tailored to the individual's age, diagnosis, and neurological profile.

For the treatment of all types of speech disorders, it is essential to create a friendly and calm environment at home and in the community, and attention should not be drawn to the existing problem of the child or adult. To prevent and eliminate the speech and non-speech symptoms in young children and adults, combined approaches are also used, namely medical, medical-pedagogical, and psychological methodological approaches.

It is necessary to consult specialists with narrow professional expertise, such as speech therapists, psychologists, neurologists, doctors, neuropsychologists, physiotherapists, psychotherapists, and ENT specialists (Zavadenko, 2019). Their correct professional advice, as well as technical or practical approaches, are crucial to detect various speech disorders at an earlier stage and, if necessary, carry out corrective work (Bobylova, Braudo, Kazakova & Vinyarskaya, 2017; Yasin, 2017; Volodina & Shklovsky, 2015). Below is a brief overview of different methodological approaches.

1. Neuroplasticity-Based Therapies

Recent research emphasizes leveraging neuroplasticity-the brain's ability to reorganize itself-to improve speech outcomes. Repetitive, targeted speech tasks can enhance neural pathways involved in motor speech control.

Constraint-Induced Language Therapy (CILT), initially developed for aphasia, is now applied to speech disorders by encouraging use of affected speech functions while limiting compensatory strategies (Pulvermüller & Berthier, 2008).

Intensive speech therapy programs, such as the PROMPT technique, use tactile-kinesthetic cues to guide articulatory movements (Hayden et al., 2010).

2. Cognitive-Behavioral and Mindfulness Approaches

For fluency disorders like stuttering, Cognitive-Behavioral Therapy (CBT) is used to address psychological components such as anxiety, avoidance, and negative self-perception.

Mindfulness-Based Stress Reduction (MBSR) helps clients remain present and reduce anticipatory anxiety during speaking tasks (Boyle, 2011).

These methods are particularly effective for adolescents and adults who have developed secondary behaviors and social fears.

3. Technology-Assisted Interventions

Modern speech-language pathology incorporates digital tools and apps for both assessment and therapy.

- Biofeedback tools (e.g., real-time spectrography or EMG) allow clients to see and correct speech production in real-time.
- Apps and AAC (Augmentative and Alternative Communication) devices support individuals with severe speech impairments or apraxia (Beukelman & Light, 2020).
- Telepractice has grown significantly, especially post-COVID-19, offering access to remote and rural populations (ASHA, 2022).

4. Motor-Based Approaches

For disorders such as Childhood Apraxia of Speech (CAS) and dysarthria, treatments focus on motor learning principles.

- Dynamic Temporal and Tactile Cueing (DTTC) is widely used for CAS, emphasizing repetition, visual and tactile prompts, and fading cues over time (Strand et al., 2006).
- LSVT LOUD is a structured program designed for individuals with Parkinson's disease that improves vocal loudness and clarity (Ramig et al., 2001).

5. Multimodal and Family-Centered Approaches

Modern therapy incorporates the child's environment, family, and educational team into the therapeutic process.

- Family-centered intervention ensures consistent carry-over of strategies in home and community settings.
- Multimodal interventions integrate speech, gestures, visuals, and technology to enhance communication, particularly for nonverbal or minimally verbal individuals.

Besides all these the **breathing exercises** are widely used by speech therapists in order to help strengthen the respiratory muscles, expand the lungs' vital capacity, activate diaphragmatic breathing, and develop the ability for sharp and deep inhalation and prolonged exhalation. Children can regulate prolonged exhalation during speech production and coordinate breathing pauses with the content of speech. **Barotherapy** is used as a special physiotherapy method conducted in special barochambers, where the application of high or low atmospheric pressure activates the body's metabolic processes (which already provides powerful energy resources for the entire functioning of the body), improves blood circulation to the brain, corrects and regulates speech disorders, and overall adjusts the functioning of the nervous system and plasticity, allowing the organism to flexibly adapt to the continuously changing environmental conditions.

ALS therapy is a modern approach used for corrective, developmental, as well as therapeutic, psychological, and medical purposes. Its goal is to activate the brain's neurons through classical music and

neuroplastic exercises.

Bobath therapy is aimed at the physical rehabilitation of individuals with organic damage. It is used for conditions such as cerebral palsy, birth injuries, surgical complications, coordination disorders, and other cases.

Psychotherapy aims to free individuals from various problems, including emotional, anxiety, and social issues. It is conducted using specific and diverse methods. Thanks to psychotherapeutic approaches, children develop appropriate psychological behavior and regain interest in their surroundings.

CONCLUSION

A comprehensive understanding of speech disorders is essential for parents, educators, and caregivers, as it facilitates the early identification, timely intervention, and prevention of speech pathologies and their potential progression. The findings underscore the interdisciplinary interdependence between biomedical sciences and pedagogy, which is pivotal for the effective design and implementation of educational strategies tailored to children with speech disorders.

This integrative approach is particularly critical within preschool and general education settings, where the alignment of medical insights with pedagogical practices contributes not only to the rehabilitation and development of children with communicative impairments but also to the formation of a healthier and more socially integrated generation. Thus, the collaboration between healthcare professionals and educators represents a key determinant in promoting inclusive, equitable, and sustainable educational outcomes.

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