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International Scientific Conference**TREATMENT OF STUTTERING IN PRESCHOOLERS WITH
SPECIFIC LANGUAGE IMPAIRMENT**

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**Abstract**

Speech contributes to the development of higher mental functions in children; well-developed speech is considered necessary for harmonious mental development. This is what makes this research relevant. Statistics shows that stuttering is one of the most common, complicated, and long-lasting speech disorders in children. Stuttering children are a diverse population with regard to speech development: stuttering can manifest on top of a general underdevelopment of vocabulary and grammar, often on top of specific language impairment (SLI). Such combinations often compromise the child's ability to communicate, as developmental language disorder (DLD) jeopardizes the development of communication skills, worsening the speech symptoms and causing paroxysms of stuttering as a result. For diagnostic research, the authors hereof used modified and adapted guidelines by L.I. Belyakova, V.I. Seliverstov, T.A. Fotekova, and A.V. Chulkova, which helped evaluate the development of language and communication skills, and see how far the children had mastered stuttering-free speech. This is a bi-stage study: the introductory stage and the main stage. During the introductory stage, we compared a group of stuttering children and a group of SLI-affected; the finding was that stuttering children were making speech errors characteristic of SLI. The main stage then complemented the symptomatic patterns in stuttering children. This research found out that beside spasms, preschoolers' speech had the characteristic signs of SLI. This means that the treatment should seek not only to improve oral fluency, but also help such children develop their communication skills applicable to different situations, and enrich their expressivity.

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1. Introduction

Timely and complete mastery of speech is the first and most important prerequisite of appropriate mental development. Limited communication has negative implications with regard to personality development.

Leontiev (2019) describes communication as the process of a specific activity: communication activity. Lisina (2009) analyses communication skills as part of communication and notes that in children whose speech develops normally, communication skills are learned consistently to meet the communication needs. However, in children suffering from speech impairments, spontaneous development of such skills might be insufficient.

Stuttering is a common and long-lasting speech impairment in children. With the onset during the speech emergence stage, stuttering limits the child's communication opportunities, distorts their personality development, and compromises social adaptation.

Harutyunyan (2006) and Belyakova and Filatova (2015) in their papers argue that stuttering is first and foremost a communication system disorder, as it can affect the patient's personality.

Stuttering has been researched from different perspectives including that of neurological and cognitive processing of information (Nil & Bosshardt, 2000).

Stuttering in children usually manifests when the child needs to produce lexically and grammatical complex utterances or when the communication situation is emotionally significant; DLD not only compromises the development of communication skills but also worsens the speech symptoms in general.

Borisova (2009, 2015) Levina (2009) and Seliverstov (2001) note that stuttering children often have expressive language disorders, are unable to speak in phrases, and have manifestations of SLI, which further complicates the symptoms of this speech impairment.

Due to change in school curricula and teaching methods, as well as in the context of the recent preschool education concepts, teaching children to positively communicate with others is seen as an important prerequisite for their successful development, which is only possible if the child masters speech. The society's need for healthy communication makes addressing stuttering in SLI-affected preschoolers a pressing issue.

2. Problem Statement

Review of literature and analysis of the treatment practices applicable to stuttering children highlight an important inconsistency: on the one hand, the society's demand for proper speech development is ever more apparent; on the other hand, treatments and interventions intended to help stuttering children address impairments typical of SLI are insufficient; the teaching process needs evidence-substantiated methodologies that would help address stuttering in such children—methodologies based on a system of methods, techniques, forms, and tools of teaching; and yet the theory behind such methodologies remains underdeveloped.

It is this inconsistency that determines the problem covered herein and the goal hereof, which is to study DLD in stuttering and SLI-affected children, to find the correlation between language and

communication skills, and to provide a theoretical substantiation for stuttering treatments applicable to preschoolers with SLI.

3. Research Questions

Stuttering mainly manifests itself as a speech-associated communicative malfunction. According to Emelyanova et al. (2018, 2019), stuttering must be treated to prevent difficulties learning and writing.

Levina (2009) points out that in most cases, stuttering is part of oral communication complications, which has been confirmed by the authors' observations. Stuttering can be more or less apparent depending on the complexity of an utterance. Stutters become most frequent when a person needs to formulate their thinking or evaluate their own behavior. Many authors note the triggering effects of semantically, grammatically, or emotionally complex utterances.

Seliverstov (2001) notes that the child's inability to correctly express their thoughts verbally is one of the causes of stuttering. That might be due to the lack of understanding of what the child wants to say, where the child fails to track the logic of their utterance, resulting in incoherence; or due to lack of vocabulary, where the child has difficulties choosing the right words or phrases.

Belyakova and Filatova (2015) associate the manifestations of stuttering with the grammatical and syntactic complexity of phrases, the emotional content of the text, the applicability of the vocabulary, etc. Many authors associate the prevalence of stutters in the phrasal/clausal opening with the inability to choose vocabulary/syntax appropriately.

Speech symptoms in stuttering preschoolers are diverse, aggravated in some children by SLI, which results in a lack of lexicon and grammar they need for communication. This has negative implications for oral communication in case of stuttering children while also making treatment less effective. Thus, the assumption is that there is a causal relation between language and communication skills; it might be the case that the treatment of stuttering in SLI-affected preschoolers requires a targeted study and development of their language.

The core idea behind this research is that stuttering treatment can be improved by applying a novel approach to SLI-affected children, which should be facilitated by a detailed analysis of their language and communication skills.

4. Purpose of the Study

Research involved two speech therapy groups (one comprised of stuttering children and one of SLI-affected children) at Kindergarten 21 for Children with Special Needs, Birobidzhan. The goal was to study speech capabilities and communication skills in preschoolers affected with stuttering and SLI. The novelty of this research lies in the fact that it presents substantial evidence that complements the available scientific data on speech symptoms in stuttering and SLI-affected children.

5. Research Methods

The sample herein consisted of 90 preschoolers that attended Kindergarten 21 for Children with Special Needs, Birobidzhan; 60 of them had stuttering and 30 had SLI. Both groups were involved in a comparative study early in the experiment.

The research team studied the specifics of speech symptoms and communication skills in stuttering and SLI-affected preschoolers.

For experimental research, we used modified and adapted guidelines by L.I. Belyakova, V.I. Seliverstov, T.A. Fotekova, and A.V. Chulkova, which helped assess the development of language and communication skills as well as the mastery of cohesive, stuttering-free speech.

6. Findings

To find whether the sample was representative, we tested the language skills of the preschoolers during the introductory stage, see Table 01.

Table 1. Comparison of test results: stuttering vs SLI-affected children

Subjects, %	Components of speech			
	Sound production	Vocabulary	Grammar	Connected speech
Stuttering	66	72	68	54
SLI	74	74	72	46

We were therefore able to see common speech errors in both groups. Given that the test results differed insignificantly, we concluded that stuttering children had signs of SLI as well.

Each of speech components was considered duly developed if the child passed the respective tests successfully. Thus, stuttering preschoolers had medium grammar, vocabulary, and word formation skills. However, even high skills are only indicative of relative wellbeing, since the lower percentage and the presence of characteristic speech errors showed a pronounced general delay in these children (Borisova, 2009).

The main stage of the experiment only involved such stuttering children who had also been diagnosed with SLI after the introductory part.

Testing the communication skills of stuttering children revealed the following typical weaknesses. When tested for the mastery of speech etiquette, these children's responses were dull, the speech patterns lacked diversity. The children lacked knowledge of etiquette-appropriate patterns, as they were only able to use such patterns confidently in the most common day-to-day situations, i.e. when there was need to greet somebody, to ask for something, or to apologize. Expanded sentences were rare; most utterances were short and reduced to the pattern alone. Besides, the children had difficulties replacing a given speech pattern with a similar one. Notably, the children did not use any forms of address; besides, their syntax and grammar were error-ridden in any attempt to make a complex or compound sentence.

Testing the children's ability to independently ask for information showed that they had difficulties wording their questions, and the sequence of questions was often logically inconsistent, making the whole

interrogation unproductive. The children would often try to guess the animal in question instead of asking questions and deducing said animal from the answers, which was their task. Some of the children asked their questions formally, but failed to retrieve information from the answers and use it to further guide the ‘interview’.

Speech activity was low, as response to oral stimuli was limited, and children spoke very little when not stimulated. 27% of the children spoke actively and used oral stimuli; they initiated the conversation with the experimenter themselves.

However, all children needed the experimenter’s assistance to draw up a dialog. 53% spoke in short, single-word sentences, would often use gestures instead of words, could not initiate or speak independently, and reduce their dialogues to isolated utterances. The rest managed, with the experimenter’s help, to make structurally short dialogs that, however, included one or two internally cohesive segments. Children’s utterances were mostly simple sentences, often consisting of a single word. Thus, the weaknesses revealed by previous experimentation (lack of speech etiquette knowledge, inability to ask for information, lack of diversity in speech patterns, etc.) manifested themselves in these dialogs.

Table 02 summarizes the results of testing the communication skills of stuttering children during the conclusive stage of the experiment.

Table 2. Stuttering children: breakdown by the development of communication skills

Subjects	Test performance					
	high		medium		low	
	number	%	number	%	number	%
60	6	10	30	50	24	40

Thus, stuttering preschoolers were found to be unable to speak actively, to lack initiative and independence in communication, to use very short and similarly patterned sentences, and to be incapable of combining them into a cohesive dialog; all of these factors indicate the underdevelopment of communication skills. At the same time, the development and quality of such skills were compromised by the lack of language skills as well as by SLI manifestations.

Analysis of the children’s abilities to speak properly without stuttering showed that all of them had pronounced spasmodic symptoms, and that the quality of speech and the occurrence of stutters were more-or-less affected by the verbal independence of such children, their preparedness to speak, the situation, and the structural complexity of speech.

The experimental results thus lead to the following conclusions:

- the children had lexical and grammatical difficulties typical of SLI, which was shown by their incapability of connected speech;
- the quality of communication skills was compromised by the lack of language skills as well as by SLI manifestations;
- most of the problems that the stuttering children had were related to the ability to ask questions and conduct a conversation;

- the underdevelopment of language and communication skills would on the one hand limit the speech activity of preschoolers and jeopardize their fluency, as such conditions would only trigger paroxysms of stuttering.

Therefore, the finding is that the stuttering preschoolers had, in addition to spasms, typical signs of SLI. This means that the treatment should seek not only to improve oral fluency, but also help such children develop their communication skills applicable to different situations, and enrich their expressivity while also improving grammar and vocabulary for more effective teaching and therapy of such children.

7. Conclusion

This research shows that underdeveloped language skills compromise communication skills in children and worsen their speech symptoms by triggering paroxysms of stuttering. If stuttering occurs on top of SLI, intervention and treatment need to be modified accordingly. To that end, we propose using teaching methods designed to help overcome stuttering in SLI-affected children. Vocabulary enrichment and activation exercises must be done to teach word formation and word declination/conjugation skills whilst maintaining a lifestyle that supports such efforts; besides, it is advisable for stuttering children to exercise their breathing, articulatory expiration, optimal voicing, voice management, prosody, etc. Children need to practice and master not only speech alone, but also the ability to use the existing and newly learned speech patterns and lexica in communication, i.e. they acquire communication skills.

This approach to the treatment of stuttering in SLI-affected children will help them overcome speech deficits and impairments more effectively to activate oral communication and to use speech to the fullest.

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