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# Russian Scientific Trends on Specific Language Impairment in Childhood

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## Abstract

In Russia, there are many decades of experience in the scientific study of the problem of impaired language development in children. Today, the term “Systemic speech-and-language underdevelopment (SLU)” has firmly established in Russian science and practice, implying a complex developmental disorder of speech and language in children with a primary normal hearing and a conserved intellect, in which the main components of the language system are violated: vocabulary, grammar, phonetics, and, as a consequence, dialogic and monologic speech. Traditionally, a differentiated level-by-level analysis of the speech and language abilities of children is used. The variability of the manifestations and severity of speech-and-language disorders were initially systematized and characterized in four levels of underdevelopment: from the complete absence of phrase speech to the availability of simple and complex sentences with lexico-grammatical errors. Effective algorithms of speech therapist work with SLU are introduced. The effectiveness of the application of these models and algorithms on the material of various language groups is proved.

**Keywords:** systemic speech-and-language underdevelopment, specific language impairment, childhood, Russian scientific trends

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## 1. Introduction

In Russia, there is a decade of experience in the scientific study of the problem of impaired language development in children. Traditionally, a differentiated level-by-level analysis of the speech and language abilities of children is used. Effective models and algorithms of work of the speech therapist with children having violations of language development are introduced. The effectiveness of the application of these models and algorithms on the material of various language groups is proved.

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## **2. How did Russia develop the concept of systemic speech-and-language underdevelopment (SLU) in children**

In the middle of the last century, the concepts of the psychological school, laid by Lev Vygotsky, were reflected in the development of Russian speech therapy. The psychological approach to the study of verbal disorders, defined by the student and follower of the ideas of Lev Vygotsky, Professor Rosa Levina, and a team of research associates in Research Institute of Defectology (now Institute of Special Pedagogy), allowed in the 50–60 years of the last century to develop a psycho-pedagogical classification of speech/language disorders in childhood. Within its framework, a separate category of children with a general language underdevelopment was singled out and characterized. It was then for the first time that this condition was described as a systemic disordered development of speech/language and encompassing all components of the language and mechanisms of speech activity. Today, the use of the term “Systemic speech-and-language underdevelopment in childhood (translation, close in meaning to the Russian national term)” has been firmly established in Russian science and practice, implying a complex developmental disorder of speech and language in children with a primary normal hearing and a conserved intellect, in which the main components of the language system are violated such as vocabulary, grammar, phonetics, and, as a consequence, dialogical and monologic speech [3, 5, 6].

## **3. Reasons of systemic speech-and-language underdevelopment in children**

The causes of systemic speech-and-language underdevelopment (SLU) in childhood are unfavorable factors affecting both in the intrauterine period of development and during labor (birth trauma, asphyxia), as well as in the early years of the child’s life. Among the causes of these injuries or underdevelopment of the brain, the most frequent are infections or intoxications of the mother during pregnancy, birth trauma, asphyxia, maternal and fetal blood incompatibility by the Rh factor or blood grouping, blood grouping, brain trauma in the early years of the child. There can be various biological causes such as neuroinfections, inflammatory brain diseases that arise as complications in various infectious childhood diseases, rickets, metabolic disorders, craniocerebral trauma, organic damage to the central nervous system, general physical weakness of the child caused by severe and somatic diseases, and other. It is proved that the use of alcohol, nicotine, and drugs during pregnancy can also lead to violations of the child’s physical, nervous, and mental development, one of which is SLU. The socio-pedagogical factors that give rise to SLU include emotional deprivation, the need for intensive early and preschool child uptake of two or more language systems simultaneously with a pronounced common neurological problem; excessive stimulation of the child’s speech development; social and pedagogical neglect, manifested, for example, in the absence of proper attention to the development of the child’s speech, in the wrong education of the child, in the tendency toward social disadaptation, and so on [10]. To date, the most frequent reason for SLU is not so much one single factor, but the aggregate of several factors of biological and socio-psychological-pedagogical order [1, 3, 6].

#### 4. The variability of the manifestations and severity of systemic speech-and-language underdevelopment

The variability of the manifestations and severity of speech language disorders was initially systematized and characterized by Professor R. Levina in the form of *three levels* of speech development [3].

*The first* is the absence of a commonly used speech, embracing children who do not know the phrase themselves, who have difficulties in understanding the speech addressed to them, and who carry out verbal communication in a sharply limited volume. The *second level*—the beginnings of common speech—characterizes children who have basic skills in constructing simple agrammatic sentences but have noticeable difficulties in understanding the speech of others, using only primary lexical, grammatical, and other means of verbal communication. The *third level* is characterized by a detailed speech with pronounced elements of phonetic-phonemic and lexical-grammatical underdevelopment [3]. This testifies, in turn, to the increased speech and language abilities of children who reached the third level of speech development, while still significantly reduced compared to ontogenesis data. In 1999, Professor Filicheva was supplemented with a description of children with SLU, in connection with which the periodization was supplemented with one more—the *fourth level* of speech development [8, 9, 11].

It encompasses children with undeveloped residual manifestations of underdevelopment of each of the components of the language system. The opportunities for transition from one level of the speech development to the next level are determined by the appearance in the child of new linguistic means and ways of using them, increasing speech activity, strengthening the motivational basis of speech, expanding its subject-semantic content, phrase development, mobilizing the compensatory background, etc.

A correct understanding of the structure of the SLU and the reasons underlying it, for example, different ratios of primary and secondary violations, is necessary for the practitioner, as it provides the basis for competent differential diagnosis; selection of children in special groups for training with them; and determining the most effective ways and content of working with children. All this makes it possible to plan an optimal warning of anticipated difficulties during school education. The individual rate of progress of a child in speech development depends on the severity of the primary defect and its form, timeliness and correctness of correction work, and compensatory mechanisms.

#### 5. Common features inherent in all children with SLU

It is possible to single out a number of common features inherent in all children with SLU as follows:

- Decreased intensity and delayed prenatal development (babbling).
- Late appearance of the first words (including babbling words and amorphous root words).
- Delay in mastering the skills of constructing simple phrases.

- Inaccurate understanding of the meaning of words and a limited amount of vocabulary.
- The broken understanding and use of grammatical categories of words and prepositional constructions.
- Insufficiency of sound reproduction.
- Difficulties in the reproduction of complex in terms of syllabic structure and sound filling of words, reduction of phonemic hearing, and perception.

At the same time in everyday practice, there are rare clearly defined levels because new elements gradually supplant the previous forms. Such children can be fixed combinations of gross gaps in linguistic development with simultaneous manifestations of fragmented dynamics of the development of linguistic possibilities of the previous ones. According to the majority opinion, the general hypoplasia of speech can be an independent defect, and, besides, it is combined in the structure of the most complex disorders [2, 3, 8, 7]. Since the last century, research has been conducted in Russia on the ability of a speech therapist to work with children with SLU. Mutual connections in the development of speech, language, motor, and cognitive abilities of children with SLU are proved.

## 6. Psychological and pedagogical characteristics of children with SLU

While characterizing children with SLU, we can note a number of features that distinguish them from normally developing peers [1, 4, 9]. Incomplete speech activity leaves an imprint on the development of the sensory, intellectual, and affective-volitional sphere. There is a marked instability of different types of perception, a decrease in the stability of attention, and a limitation in the amount of memory. With a relatively conserved semantic logical memory, the memory efficiency suffers. Children with SLU find it difficult to remember three- to four-step verbal instructions and the sequence of the task. All of the above does not exclude a fairly critical attitude of children with the SLU to their abilities. At the same time, the connection between speech disorders and other aspects of mental development causes specific features of thinking. Possessing, on the whole, full-fledged prerequisites for mastering mental operations accessible to their age, children can demonstrate slowness and a certain lack of verbal-logical thinking. Without special training, they hardly master the sound analysis and synthesis. Children with SLU inherent some lag in the development of the motor sphere—uncertainty in the performance of metered movements, reduced speed, amplitude, as well as the dexterity of their implementation. It is important to correctly assess the state of not only the expressive, but also the impressive, side of speech of such children. Thus, Zhukova singled out five possible degrees of development of understanding speech in these children [12] as follows:

- Zero—the child responds only to emotional intonation, its name.
- Situational—responds to the names of friends and close relatives, is guided in the display of favorite toys, household items.



- Nominative—shows the subjects that he encounters in everyday life, correlates them in pictures, but does not understand the questions of indirect cases (to whom? with whom? with what?).
- Predicative—understands the names of many everyday objects and actions, differentiates issues related to indirect case constructions, including prepositional ones. It is not enough to distinguish grammatical forms of words.
- Dismembered perception—understands the meanings of words expressed by different prefixes, suffixes.

Thus, the complex approach put forward by R. Levina to the analysis of the structure of impairment in children with SLU was further developed, which made it possible to depart from describing only certain manifestations of speech insufficiency and present a picture of the abnormal development of the child with respect to a number of parameters reflecting the state of linguistic means, mechanisms of speech activity, and communication processes.

## **7. Detailed description of the speech-language abilities of children with systemic speech-and-language underdevelopment**

The first level of the speech development by the definition of R. Levina is “the absence of common speech.” A vivid feature of the dysontogenesis of speech is the complex and lengthy absence of verbal imitation. It is possible that in some children, with the help of parents, the ability to repeat individual sounds for adults is developed with complete inability to combine them into the lightest words. Often a child can repeat only the words he has initially acquired (five to ten titles), but new concepts and their verbal designations are not formed.

A similar phenomenon can occur during several years of the child’s life. People around him often create the erroneous impression of sufficient understanding of speech by such a child, because he performs simple verbal instructions: can show the called object, action, etc. In reality, children with the first level of the SLU in the perception of speech are guided by the suggestive, well-known situation, intonation, and facial expressions of the adult, whereas for understanding of the meanings of words, their grammatical form is violated very roughly. Regardless of whether the child began to pronounce the first words entirely or only some of their parts, it is necessary to distinguish between speechless children according to the levels of their understanding of someone else’s speech. In some children, impressive speech includes a rather large vocabulary, which provides an understanding of the names of many subjects, the most frequently used actions, and even individual characteristics of objects. Other children are able to more or less adequately perceive only the names of close people, the name of objects often encountered in everyday life. Only a detailed speech therapist examination will help to reveal the degree of underdevelopment of the impressive side of speech.

Children are able to reproduce, basically, one-two syllable words, while words that are more complex are subject to abbreviations. Along with individual words, paralinguistic means of communication also appear in the child’s speech: accompaniment of speech facial expressions,

gestures, and different intonations. At this level, for understanding the grammatical categories of the number of nouns and verbs, the kind and the tense of verbs is practically inaccessible. In independent speech, blur and diffusion in the reproduction of the sonic appearance of words are traced.

The second level of speech development—the “Initial development of phrase speech”—is characterized by the increased speech activity of the child with the use of a constant, albeit very distorted, limited supply of commonly used words. A distinctive feature of their speech is the presence of two- to four-word phrase: in the speech of such children, as a rule, even simple prepositions, noun, and a verb can be with wrong endings, or without them. There is a polysemy of words when the same word denotes several different objects, phenomena of the type of monotonous lexical substitutions, for example, the word “beetle” serves to indicate not only the beetle itself but also the ant, the butterfly. Insufficient possession of the morphological system of language prevents the assimilation of word-building operations. Children are significantly affected by understanding the meanings of many derived words. In connection with this, the use of these words in a narrow sense is noted. Word-forming actions and operations are still not very accessible to children, and word-making at this level is not observed. Using simple phrases, children admit in them the omissions of both main and secondary members, violate the order of words (inversion). Complex sentences for these children are not widely available for understanding and use, because they do not absorb those logic-temporal and cause-effect relationships that are embedded in such constructions. Self-preparation of stories for them is still difficult, but with the help of an adult child, they try to cope with the simplest types of text. In this case, as a rule, children are limited to enumerating the objects of action with them and do not transmit cause-effect relationships. The phonetic side of speech is not formed, and all kinds of violations of sound reproduction occur.

The third level of speech development is characterized by the presence of unfolded phrase speech with pronounced elements of lexico-grammatical and phonetic-phonemic underdevelopment. Children use simple sentences. Attempts to use structures of complex sentences (compound and complex) are noted. It improves understanding of speech and reaches a low age norm. At the same time, the understanding of complex two- to three-step speech instructions, complicated by the inclusion of semantically difficult words, words with a portable and abstract meaning, is still difficult for children to access. The volume of lexical and grammatical categories used and the words of different syllabic structure and sound-completeness, including the correct pronunciation of vowels and the simplest consonant sounds, are expanding. At the same time, the results of specially selected assignments demonstrate a marked lag in the formation of each of the components of the language system: violations of the lexical, grammatical, and phonetic norms of the language are noticeable. The very nature of agrammatism testifies to the incompleteness of the formation of the grammatical system. The presence of lexical errors is illustrated by such substitutions: the name of the part of the subject, the name of the object itself (tree roots, tree branches, teapot at the teapot), replacement of the names of the subject with the name of actions, etc. In the speech of the child, there are no names of many words denoting the animal and vegetable world, the phenomena of nature, the profession of people, and the attributes of professions. The lack of morphological possibilities is expressed in the difficulties of understanding grammatical relations, the meaning of derivative words,

the operation of morphemic elements, their construction in the structure of a word, and so on. This confirms that children do not yet have the necessary cognitive, linguistic, and speech capabilities to fully use the lexical and grammatical means of the language in communication. Analysis of the above errors indicates that the substitutive words, most often, are those that children mostly use to strengthen themselves in everyday speech practice. When assessing coherent speech, difficulties in programming one's own statements, missing members of the sentence, and violations in them of the order of words are noted. When using constructs of complex-subordinate sentences, their structure is violated: the absence of a principal or secondary member of the sentence.

While characterizing the deficiency of the phonetic side of speech, it is important to note the presence of different types of errors in the reproduction of hissing and whistling, sonorous, hard and soft, and sonorous and deaf consonants. Omissions, replacements, and distortions of sounds are the typical factors. The most negative is mixed or unstable pronunciation of sounds; when the child speaks in isolated or simple words, he sounds correctly, but in a speech, context confuses them.

The fourth level of speech development is characterized as residual manifestations of underdevelopment of the elements of the lexical-grammatical and phonetic-phonemic components of the language system. The speech of such children only at first glance produces a relatively favorable impression. With careful examination using specially selected tasks, it became possible to identify the incompleteness of the formation of all language systems. Thus, the need to reproduce words that are complex in meaning or sound-descriptive design leads to the appearance of typical childish difficulties such as missed sounds and violation of the filling of syllables and words. Typical for children at this level will be somewhat sluggish, blurry articulation, inadequate expressiveness, and international poverty of speech. These phenomena, along with the difficulties of differentiating phonemes, indicate the incompleteness of the processes of phonemes as a whole. Because of this, it is possible with a high degree of probability to predict the corresponding difficulties in mastering the phonetic principle of Russian writing.

When composing a narrative and retelling a text, there is often a mixture of main and minor events. Typical is the inaccuracy, limited narration of the storyline, the broken relationship of parts of the text, the omission of elements of the narrative, and the disrupted use of linguistic means. Disproportion in the formation of lexical and syntactic systems lead to the fact that the structure of a complex sentence is acquired later than it occurs in peers, even if there is a sufficient vocabulary. Inadequate knowledge of word formation skills is manifested in a variety of mistakes in the formation and explanation of derived words, especially in cases where such words are not often used in everyday life. Typical for these children is that they are not as effective as peers, they use the help of adults: a sample of the correct answer, one-time support does not give the proper result, the phenomenon of transferring grammatical models to a new language material is very difficult. It takes a whole series of training exercises, additional conditions, so that children adopt the normative grammatical form or category.

The violation of the understanding of sentences and texts, in turn, turns out to be closely related to the limited possibilities for owning a dialogical and monologic speech. Children



are inclined to stereotypical statements, cannot adequately convey the outset, the culmination and the semantic denouement of the storyline.

Many children with four levels of speech development in a number of cases have low motivational readiness for schooling, lack of optic-spatial relations, instability of attention, a limited amount of memory, reduced efficiency, and fast fatigue.

## 8. Examination in children with SLU

Overcoming of diagnosed in children disorders requires a competent comprehensive examination of speech and non-speech functions. Taking into account the variability of the pathological manifestations of the disrupted development of all components of the language in such children, the strategy adopted in Russia for carrying out the speech therapist examination is determined by a number of principles formulated by leading Russian scientists (L Vygotsky, R Levina, V Lubovsky, S Zabramnaya, O Usanova, and others) [1, 3, 6, 7].

### 8.1. Methods and content of examination of children

Before starting the examination of the child, the speech therapist needs to analyze the preliminary data on his development. In this regard, the Russian speech therapist studies the information recorded and available to him, including ethical standards, in the available medical documentation. As a rule, these are the conclusions of the following specialists: a neurologist or neurologist (on the state of speech and intelligence), an otorhinolaryngologist (on the condition of the hearing and speech organs), an ophthalmologist (about the condition of the eyes), a surgeon, a pediatrician, etc. In order to clarify the information on the nature of early speech, mental and physical development, the speech therapist conducts a preliminary conversation with the parents of the child. In its course, it turns out whether there were any features of the course of pregnancy, childbirth; whether there were pathological factors that influenced their course; and whether the originality or lag in development of speech and motor functions of the child was observed. The information on the status of the social and psychological environment in which the child was from early childhood is detailed: whether the family is complete, what is the attitude towards the child, whether there are people with bilingualism in the family or close circle, or having speech disorders, etc.

The examination with the participation of a speech therapist begins with an introductory conversation, the purpose of which is not only to establish a positive emotional contact with the child, but also to determine the degree of his willingness to participate in speech communication, the ability to adequately perceive questions, give answers to them (one-word or expanded). In addition, the introductory conversation makes it possible to form an idea of the general sounding of the child's speech, the presence or absence of pronounced difficulties in the sound, lexico-grammatical or syntactic formulation of the speech utterance. The content of such a conversation is determined by the circle of cognitive and age-related possibilities and interests of the child of preschool age: my family, favorite toys, summer vacations, pets,

my hobbies, favorite books, favorite cartoons, and even “Computer games” (for children 6–7 years old). Samples of speech statements of the child, received during the introductory conversation, are recorded in the speech card, filled in by the speech therapist. The survey methodology presented below covers all potentially possible directions in their extended version. When examining children with any specific level of speech development, the volume and quality of the spoken language options are differentiated based on the prospective potential of the child and the survey schemes that are variable in degree of difficulty, developed in the Russian education system (T. Filicheva, T. Tumanova).

## **8.2. Vocabulary examination**

The content of this section is aimed at identifying the qualitative parameters of the state of the lexical system of the native language of children with speech therapist. The nature and content of the tasks assigned to the child are determined in accordance with the age of the child and his speech-language capabilities, including an examination of the skills of understanding, the use of words in different situations and activities. As examination methods, you can use the display and naming of pictures depicting objects, actions, objects with pronounced signs; objects and their parts; parts of the human body, animals, and birds; professions and related attributes; animals, birds, and their young; actions that denote emotional reactions, natural phenomena, the selection of antonyms and synonyms, the explanation of the meanings of words, the addition of sentences with the necessary word meaning, etc.

## **8.3. Examination of the grammatical structure of the language**

The examination of the state of the grammatical structure of the language is aimed at determining the possibilities of a child with SLU to adequately understand and implement in the speech and various types of grammatical relations. In connection with this, children are offered tasks related to understanding simple and complex prepositions, using different categorical forms, word forming of different parts of speech, constructing sentences of different constructions, etc. In tasks, you can use techniques such as composing a phrase based on a question, on demonstrating actions, on a picture, a series of pictures, by reference words, by a word given in a certain form, transforming a deformed sentence, etc.

## **8.4. Verification of dialogical and monological speech**

The examination of the state of the coherent speech of the child with SLU includes several directions. One of them, learning the skills of dialogue, is realized at the very beginning of the survey, during the so-called introductory conversation. To determine the degree of formation of the monologic speech, tasks are proposed, aimed at compiling the child various types of stories: narrative, descriptive, creative, etc. An important criterion for assessing coherent speech is the ability to compose a narrative in the native language, the ability to build a storyline, to convey all important parts of the composition, the primary and secondary details of the story, the richness and diversity of linguistic resources used in narrating, and the ability to compose and implement monologic statements with support questions, pictures, and without it. Children's

stories are also analyzed according to the parameters of the presence or absence of facts missing the parts of the narrative, the members of the sentence, the use of complex or simple sentences, the acceptance of the help of the teacher and the adult native speaker, the presence in the narrative of direct speech, literary turns, the adequacy of the use of the lexical and grammatical means of the language, and the correctness phonetic speech in the process of telling.

### 8.5. Examination of phonetic and phonemic processes

An introductory conversation with a child gives an initial impression of the features of pronunciation of the sounds of the native language. In order to have a complete picture of the phonetic side of speech, it is necessary to present a number of special tasks, having first ascertained that the instructions to them and the lexical material are clear to the child with SLU. The sound composition of the words corresponding to these pictures is the most diverse: a different number of syllables, with a concourse of consonants and without it, with different sounds (whistling, hissing, affricates, etc.).

Realization of such tasks allows to reveal the possibilities of correct pronunciation of sounds by children, belonging to different phonetic groups (in comparison with the data of normative development). It checks how the child pronounces the sound in isolation, in the composition of syllables (direct, inverse, with the confluence of consonants), in words in which the test sound is in different positions (in the beginning, in the middle, and in the end of the word), in the sentence, and in the texts.

To determine the degree of mastery of children by the syllabic structure of words, subject and subject pictures are chosen according to thematic cycles, familiar to the child, for example, indicating the various types of professions and activities associated with them. The examination includes both reflected pronouncing of words and their combinations by the child, and independent. Particular attention is paid to the repeated reproduction of words and sentences in a different speech context. To determine the degree of mastery of children by the syllabic structure of words, subject and subject pictures are chosen according to thematic cycles, familiar to the child, for example, indicating the various types of professions and activities associated with them. The examination includes both reflected pronouncing of words and their combinations by the child, so in phrase too.

Particular attention is paid to the repeated reproduction of words and sentences in a different speech context. When examining phonetic processes, various methodical techniques are used: independent naming of lexical material, conjugate and reflected pronunciation, naming based on visual and demonstrational material, etc. The results of the survey record the nature of the violation of the sound, the replacement of sounds, omissions, distortion of pronunciation, mixing, unstable pronunciation of sounds, the nature of violations of the sound-syllabic organization of words, etc. Examination of phonemic processes of a child with speech disorders is carried out by generally accepted methods aimed at revealing the possibilities of differentiating the phonemes of the native language by ear with the possible application of adapted information technologies.

The readiness to learn at school for children with speech impairments is determined by the formation of a whole set of prerequisites, knowledge, skills, and skills of their practical application.

Mastery of them is determined by sufficient maturation of the functions of the central nervous system, anatomical and physiological factors, as well as speech and non-speech components, which include the usefulness of development:

- All systems of the language in which the training will be conducted
- Operations of language analysis and synthesis
- Higher mental functions (thinking, attention, perception, memory)
- Activity maturity
- Spatial-visual orientations
- Emotional-volitional maturity
- Motor-graphic skills and so on.

As part of the examination, the speech therapist analyzes the degree of formation of all components of the language, communicative, and speech skills, as well as operations of language analysis and synthesis.

The analysis of the survey results in accordance with the content of these sections makes it possible to comprehend the readiness of the child with the SLU to master the requirements of the school curriculum in the future. All of the above is a generalized unified algorithm for examining a child with speech disorders. However, depending on the age and basic communicative and speech skills, it is advisable to apply several differentiated schemes for examining the speech-language capabilities of children.

## **9. The work of the speech therapist for overcoming SLU**

In Russia, the main directions and content of the speech therapist's work with children who have a general hypoplasia of speech were laid in the studies of R. Levina, L. Spirova, N. Nikashina, G. Chirkina, A. Yastrebova, T. Filicheva, T., R. Lalaeva, T. Tumanova, N. Zhukova, L. Efimenkova, and others [6, 12]. Educational institutions in Russia have created complex conditions for working with children with disrupted speech development. In accordance with this, specialists perform their professional functions within the framework of several blocks:

- Diagnostic unit (clinical, speech therapist, psychological, and psycho-pedagogical study of children) in the structure of which it is appropriate to include neuropsychological studies of children adapted for preschool age.
- Treatment-and-prophylactic unit (medicinal treatment, physiotherapy exercises, massages and hydromassages, physiotherapy, computer-hardware technologies, phytotherapy, and other areas of rehabilitation).
- Educational and correctional-developing unit (pedagogical and speech therapist work, psychological correction).

- Social block (psychological and pedagogical assistance to parents and optimization of macrosocial conditions).

In Russia, there are such tendencies in the work of the speech therapist, in which the following are taken into account:

- structures and manifestations of disrupted development;
- patterns of development of children's speech in conditions of ontogeny;
- analysis of objective and subjective conditions for the formation of the speech function of the child, identifying the leading speech defect, and the resulting shortcomings of mental development;
- early impact on speech activity for the purpose of;
- prevention of secondary violations;
- the interconnected formation of phonetic-phonemic and lexico-grammatical components of the language system;
- a differentiated approach to the directions, and receptions speech therapist work with children of different ages, having a different structure of speech disturbance;
- taking into account the relationship of speech with other aspects of mental, as well as motor development [3, 12].

Given the manifestation and structure of the defect in the general underdevelopment of speech, work with children of different ages is built on an alternative combination of traditional, special pedagogical and adapted to the needs of children rehabilitation technologies.

### **9.1. Teaching children with SLU who do not know the phrase (the first level of speech development)**

Teaching children with SLU who do not know the phrase (the first level of speech development) involves the development of understanding speech and the development of active imitative speech activity. First of all, we teach children to recognize, understand display objects, actions, signs, understand the general meaning of the word, differentiate between "who?", "where?", from where?, understand the appeal to one and several persons, grammatical categories of the number of nouns, verbs, guess subjects by their description, to determine the elementary cause-effect relationships. In the second direction of work, active imitative speech activity develops (in any phonetic design, parents, close relatives, imitating animal and bird cries, sounds of the surrounding world, musical instruments, giving orders—sleep, eat, go.) Making the first sentences of amorphous root words, Transform the verbs of the imperative mood into the verbs of the present time of the singular, formulate sentences for the mode: Noun plus verb, noun plus verb plus addition. For example, Tata (mom, dad) sleep; Tata, eat the soup. At the same time, exercises are carried out to develop verbal memory, attention, logical thinking (memorization of two to four subjects, guessing of a cleaned or added object, memorization and selection of pictures two to four parts). As a result of work at this stage of



formation of speech development, children learn to relate objects and actions to their verbal designation, to understand the general meaning of words. The active and passive vocabulary should consist of the names of objects that the child often sees; actions that he or others are doing themselves, some of their states (cold, warm). Children need to communicate with the help of elementary two-three-word sentences. Verbal activity can be manifested in any speech sound without correction of their phonetic design. Throughout the whole period of training, the correctional and developmental work involve encouraging the child to perform tasks aimed at developing the processes of perception (visual, spatial, tactile, etc.), attention, memory, thought operations, and optical-spatial orientations. The content of the correction-developmental impact includes the directions of work related to the development and improvement of motor-spatial (with respect to the possibilities of general, minor and articulatory motility), the formation or correction of personality development disorders, and emotional-volitional spheres.

## **9.2. Teaching children with the beginnings of phrasal speech (with a second level of speech development)**

Teaching children with the beginnings of phrasal speech (with a second level of speech development) suggests several directions mentioned below:

- Development of understanding of speech includes the formation of the ability to listen to speech, highlight the names of objects, actions, and certain characteristics; formation of an understanding of the general meaning of words; Preparation for the perception of dialogical and monologic speech.
- Stimulation of speech activity and development of the lexical and grammatical means of the language. Teaching the naming of words from 1 to 3 syllables, to teach the original skills of word-change, then word-formation.
- The development of an phrase speech; the assimilation of models of simple sentences; a noun plus a coordinated verb in the imperative mood, a noun plus an verb in the indicative inclination of the single number of the present tense, a noun plus an verb in the indicative inclination of the single present date plus a noun in the oblique case ("Vova sleep," "Tolya is asleep," "Olya is drinking juice").

The assimilation of simple prepositions (on, under, in, out, etc.). Combining simple sentences into short stories. To consolidate the skills of drawing up proposals for demonstrating actions based on questions. Learning short couplets and nursery rhymes. Moreover, any child's available phonetic design of independent statements is allowed, while attention is paid to the correctness of the sound of grammatical elements (endings, suffixes, etc.).

- Development of the pronunciation of speech: to learn to distinguish between speech and non-speech sounds to determine the source, strength and direction of sound. Clarify the correct pronunciation of sounds available to the child. Automate the delivered sounds at the level of the syllables of the sentences, form the correct sound and syllabic structure of the word. Learn to distinguish and reproduce clearly syllabic combinations from the stored sounds with different emphasis, voice power, and intonation. Reproduce syllables with a

concourse of consonants. Work on the syllabic structure of words ends with the assimilation of a rhythmic-syllabic drawing of words from two to three syllables. Violations of sound reproduction are permissible.

Correction and development work with children includes areas related to the development and harmonization of the child's personality with SLU, the formation of moral, moral, willful, aesthetic, and humanistic qualities. The systemic approach to overcoming speech violation provides for a comprehensive correction-development work that integrates the aspects of speech-language work with the purposeful formation of the psychophysiological capabilities of the child with SLU, namely, the processes of attention, memory, perception, thinking, motor and optical-spatial functions according to age guidelines, and personalized opportunities for children with SLU. By the end of this stage of education, children should have a simple phrase, learn to align the main members of the sentence, understand and use simple prepositions, certain categories of case, number, time, and gender. The understanding of some grammatical forms of words, simple stories, and short fairy tales is expanded.

### **9.3. Teaching children with unfolded phrase speech with elements of lexico-grammatical underdevelopment (the third level of speech development)**

Teaching children with unfolded phrase speech with elements of lexico-grammatical underdevelopment (the third level of speech development) provides the following:

1. The development of understanding speech (the ability to listen to speech, to differentially perceive the names of objects, actions of signs, to develop an understanding of the finer values of generalizing words, to prepare for mastering monological and dialogical speech)
2. Development of the ability to differentiate by ear and in speech opposition sounds of speech
3. Fixing the pronunciation of words from 2 to 4 syllables with different variants of concurrence of consonant sounds. Use these words in spontaneous speech.
4. Strengthening the skills of sound analysis and synthesis. The differentiation of sounds at all stages of training is given great attention. Each sound, once its correct pronunciation is achieved, is compared by ear with all articulatory or acoustically close sounds (1st stage of differentiation). Later, after the assimilation of the articulation of the second of a pair of interchangeable sounds in speech, differentiation is made not only by hearing, but also by pronunciation (the second stage of differentiation).
5. Teaching elements of literacy. Acquaintance with letters corresponding to correctly pronounced sounds. Learning the elements of sound and letter analysis and synthesis when working with syllable and word patterns. Reading and printing of individual syllables, words, and short sentences.
6. Development of the lexical and grammatical means of the language. This section includes not only an increase in quantitative, but primarily qualitative indicators: the expansion of

the meaning of words; formation of the semantic structure of the word; and the introduction of new words and phrases into independent speech with changing grammatical forms of words. The ability to explain the figurative meaning of words, to choose synonyms and antonyms, and so on.

7. Compilation of narrative based on events of a given sequence, composing sentences with different kinds of subordinate clauses, fixing skills to compose stories on a picture, a series of pictures, on presentation, on demonstrating actions, transforming a deformed text; inclusion in the stories of the beginning and end of the plot, elements of fantasy.

The complex correction and development work are aimed at the formation and improvement of the speech-language capabilities of children with SLU, on the further development of higher mental functions, emotional-volitional status, harmonization of the personality structure, enrichment of motor skills, skills and experience of their application in socially significant situations in accordance with age requirements, and the personified abilities of children with SLU.

As a result of education, children must learn the skills of using simple and complex sentences, be able to make a story on a picture and a series of pictures, retell the text, master grammatically correct conversational speech in accordance with the basic norms of the language; phonetically correctly formulate statements, transferring the syllabic structure of words, to own some certain elements of reading and writing (reading and typing individual letters, syllables, and short words). However, their detailed speech can have some lexical, grammatical, phonetic inaccuracies, the elimination of which must be combined with the teaching of children to complex forms of speech, which is suggested to be done at the next stage of the training.

#### **9.4. The education of children with residual manifestations of an imperfectly expressed underdevelopment of all components of the linguistic system (the fourth level of speech development)**

The education of children with residual manifestations of an imperfectly expressed underdevelopment of all components of the linguistic system (the fourth level of speech development) prescribes the following directions of work connected with the comprehensive preparation for the school:

- Improving the lexical and grammatical means of the language: expanding the lexical stock in the process of learning new words and lexical groups, stimulating word-forming processes, practicing synonyms and antonyms, explaining them, explaining the figurative expression of words and whole expressions, transform one grammatical category into another.
- Development of an expanded phrase speech: to consolidate the skill of using sentences for basic words, to expand the scope of proposals by introducing homogeneous members of sentences, to consolidate the skills of the story, retelling with elements of fantasy and creative plots.

- To improve the pronunciation of speech: to consolidate the skills of clear pronunciation and distinction of the delivered sounds, to consolidate their correct pronunciation in polysyllabic words and statements, to bring up the rhythmic intonation and melodic coloring of speech.
- Preparation for mastering primary basic skills of writing and reading: fixing the concepts of “sound,” “syllable,” “word,” “sentence,” learning to analyze and synthesize backward and direct syllables and monosyllabic two or three complex words, slit alphabet, syllables, words and read them, develop optic-spatial and motor-graphic skills, prepare for reading with awareness of the meaning of what has been read.

Throughout the entire period of training, the correctional and developmental work envisages a purposeful and systematic implementation of a general corrective action strategy aimed at overcoming/compensating for the shortcomings of speech, emotional-volitional, personal, motor development, imperfection of mental, spatial-oriental, motor processes, and memory, attention, and so on. This systematic approach provides for mandatory preventive work aimed at preventing potentially possible, including delayed, consequences and complications resulting from a violation of the speech-language development of a child with SLU.

## 10. Conclusions

With the competent work of the speech therapist and all the members of the multidisciplinary team of specialists, the result of the corrective-developmental impact is expressed in the fact that the speech of preschool children is as close as possible to the age norms.

The above-mentioned Russian experience in planning and implementing, a strategy for working with pre-school children with THP has a proven effectiveness for many decades. At the same time, the possibility of an optimal variational combination of different methods, technologies, and methods of work of the speech therapist with such children in the general “space” of the chosen pedagogical strategy has been proved.

It is important to note that the Russian trends and strategies for overcoming language abnormalities in childhood have fully confirmed the effectiveness of application in other language groups (Belarusian, Lithuanian, Latvian, Ukrainian, Armenian, Azerbaijani, and other languages).

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