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**E. A. Pechenkina**
Moscow, Russia

# DIFFERENCES IN PRECONDITIONS OF VERBAL COMMUNICATION AMONG NON-SPEAKING JUNIOR PRESCHOOL AGE CHILDREN

**Abstract.** The article deals with the problem of differentiation of preconditions of verbal communication among non-speaking junior preschool children in the educational inclusive model. The author presents a modified variant of the method of differential diagnostics of modeling communicative game-based situations, which is a valid instrument of assessment of the level of formation of verbal linguistic functions. Based on the analysis of experimental research, the article defines the main diagnostic criteria of differentiation of preconditions of verbal communication among non-speaking children. The article contains a comparative description and assessment of the levels of formation of preconditions of communicative-verbal development on the basis of the personified approach. A qualitative-quantitative analysis allowed the author to single out three levels of development of verbal linguistic competence of the children corresponding to the distinguished areas and preconditions (parameters) of verbal communication. The differences between the preconditions in the non-speaking children of the junior preschool age are presented in the form of a "diagnostic profile". These specific features should be taken into account by the pedagogues realizing special individual-centered programs of rehabilitation-educational work, which would make it possible to develop the habits, skills and life competences in the children of the given category for their further successful socialization.

**Keywords:** differential diagnostics; verbal communication; preschool logopedics; junior schoolchildren; children with speech disorders; speech disorders; person-centered approach; means of communication; inclusive education; inclusion; non-speaking children.

**About the author:** Pechenkina Elena Anatol'yevna, Post-graduate Student, Department of Logopedics, Moscow State Pedagogical University.

*Place of employment:* Teacher-logopedist of the Educational Project "Inclusive Molecule", Moscow Technological School No 1540.

*E-mail:* elena-pech@mail.ru.

**Research urgency.** The content of education of non-speaking persons focuses rather on the formation of life competences than the acquisition of the academic component. These competences allow a non-speaking child "to achieve maximally possible independence in solving everyday life problems and facilitate inclusion in the life of society". Ability to communicate ensured by the mastery of verbal communication means is one of the significant and important life competences [1; 2; 7; 11].

Severe verbal communication disorders prevent due formation of mental (cognitive) activity, the development of certain personal traits, aspirations and needs significant for the developing personality [6].

Communicative-verbal development is the first kind of social activity, a most important factor which allows the child to successfully adapt to society, and the leading kind of human activity aimed at self-cognition and self-assessment by means of interaction with other people [18].

Special literature has many inferences about the polimorphemic nature of the contingent of non-speaking junior schoolchildren with *specific disorders of speech development* (absence of verbal speech, complete lack or inadequate comprehension of speech addressed to them, unintoned vocalizations); *disorders of sensory-integrative functions and intellectual activity* (degradation of auditory attention, disorders of visual-spatial perception, high inertia of psychological processes, etc.); *disorders of social communication* (absence of initiative in communication, selective contacts, introvert responses) [2; 3; 8; 9; 16; 17; 19].

At present, inclusion of the children with absence of general-purpose speech in inclusive educational space is one of the most urgent issues of rehabilitation-educational work. Inclusive education is a flexible, open, dynamic system taking into account educational needs of all children. In the process of inclusive education, the system is tailored to match the child, and not vice versa: "The goal of inclusive education is to create optimal conditions for the development of the potential of each child learning in the inclusive group" [12, p. 65].

Modern pedagogy interprets personified approach as a special form of organization of the education process taking into account individual features of the pupils, and as a means of designing an individual educational route [5; 19]. Even today, we may argue that the personified approach to logopedic work with non-speaking children meets the modern social challenges, and facilitates effective overcoming

contradictions in the general inclusive and special education; it is the most urgent approach in the field of diagnostics of non-speaking junior preschool children. Research in this field demonstrates the variable correlation of speech/language abilities of the children with motor, spatial-orientative, emotional-volitional and communicative disorders (S. Yu. Benilova, L. R. Davidovich, R. I. Lalayeva, O. S. Orlova, E. Yu. Rau, T. B. Filicheva, T. V. Tumanova, and others.). Such research focuses on personalization of the individual diagnostic profile, and due to attention to variable and combined components in the structure of defect of children with speech disorders, it provides foundations for further optimization of the general and individual algorithms of rehabilitation-educational intervention.

Thus, as a result of special education literature analysis and education practice, it is possible to single out the following discrepancies and contradictions:

– between the fact of stating differences among non-speaking junior preschool age children in terms of formation of verbal communication preconditions and the absence of criteria of differential diagnostics in this area;

– between the need to differentiate and personify the content of rehabilitation-educational work on formation of communication means in the children of the given category and the inadequate study of the "individual diagnostic profile" of preconditions of verbal communication in non-speaking junior preschool children (aged 3-5 years).

Hence, the problem of the study of preconditions of non-verbal and accessible verbal means of communication in non-speaking junior preschool children becomes especially urgent. With this end in view, in 2015-2016, a summative experiment was carried out in special education institutions of the South-Western Administrative Okrug of Moscow within the framework of an educational inclusive project. 50 children with absence of general-purpose speech took part in the experiment. In accordance with the purpose of the study and the abovementioned contradictions, the following tasks were formulated:

1. To modify the existing methods to realize the aim of the summative experiment.
2. To distinguish the areas and criteria of differential diagnostics of absence of speech in junior preschool age children in terms of preconditions of verbal communication formation.
3. To delimitate the state of the means of communication as preconditions of verbal communication in non-verbal children according to the defined criteria.
4. To single out the typological groups of learners among the children of the given category signifi-

cant for differentiation of rehabilitation-educational work within the framework of the inclusive educational program.

To realize the first task, we *have designed a diagnostic logopedic environment*, in which it would be feasible to use the combination of traditional and innovative approaches.

We refer to the innovative diagnostic techniques integrative polysensory (verbal, visual, acoustic, tactile) environment, as well as a complex of exercises aimed at analysis of mimetic and verbal motor activity according to the procedure of work with non-speaking children worked out by T. N. Novikova-Ivantsova and modified to suit our study [14]. Information computer-based technologies were represented by the hardware methods of investigation of neuro-motor coordination and auditory perception with the help of the Tomatis method or Audio-Psycho-Phonology and the computer program *Interaction Metronom*. In observation of neuromotor skills, we used tasks on rhythmic coordinated movements of arms and legs in the sitting and standing positions, taking into account speed, tempo, rhythm and self-control.

The experimental study was carried out in the form of dynamic observation of the child in the form of modeling communicative game-based situations stimulating their emotional lift. The advantage of game-based methods consists in the opportunity of polymodal impact of various components of the speech/language system. Moreover, game is the basic form of communication of preschoolers, in which children's interpersonal relations and communicative abilities are formed. The game-based role-playing situations have been worked out on the basis of ability to imitate and the children's gender-role interests which allow taking into account gender-relevant behavior of preschoolers [4; 9; 10; 11; 19].

The experimenter modeled 4 communicative situations which maximally conformed to everyday life, elicited dialogue at the corresponding moments of communication, and stimulated the child's verbal activity.

1. Looking at pictures in a personal album. The child is asked to look at family photos and asked the questions: "Whom do you see? Whom are you hugging? Whom do you love? Whom are you kissing?"
2. Object-oriented manipulative activity with toys (wind-up toys; walking and dancing doll; car that moves and produces sounds), and sensory-integrative board.
3. Verbal communication game on mimetic responses with verbal and motor stimuli: "Happy Hands" and "Echo".
4. Plot-driven role-playing games "Hide-and-Seek" (Whom (what) are

you hiding?"), "In the Supermarket" ("What are you buying?"), "In the Kitchen" ("What are you washing?")

Communicative situations were modeled to make up a sequence. The length of usage of each interaction model depended on the child's enthusiasm but did not exceed 10 minutes. The sequence of diagnostic procedures conformed to the uniform line of observation of general communicative abilities and concrete speech/language skills.

As a result of analysis of the data obtained, we have singled out the main diagnostic areas of differential diagnostics of speech absence in junior preschool age children in terms of the level of formation of preconditions of verbal communication (see Table 1):

– communicative-verbal development;

– sensory-integrative abilities;

– socio-communicative development.

In the framework of realization of the **third research task,** we have singled out three groups of children according to the level of formation of the preconditions of verbal communication.

**Table 1**

Criteria of differential diagnostics of preconditions of verbal communication

| Areas | Preconditions | Communicative situations |
|---|---|---|
| Communicative-verbal development | Non-verbal signs:<br>– expressive means (facial expressions, gestures);<br>– prosodic means (breathing, intonation, maximum phonation time), rhythmic categories.<br>Verbal signs:<br>– onomatopoetic words;<br>– babbling words. | Looking at pictures in a personal album. |
| Sensory-integrative abilities | – Visual-spatial perception;<br>– Auditory gnosis;<br>– Tactile perception;<br>– Motor repertoire (differentiated movements in the area of shoulder-girdle, hands and fingers, articulatory part of the vocal apparatus);<br>– Imitation activity (reflected-accompanied-independent) | Object-oriented manipulative activity with toys.<br>Games "Happy Hands", "Echo". |
| Socio-communicative development | Initiative in communication | Plot-driven role-playing games |

With reference to the total results of completion of the tasks, we have determined the levels of formation of preconditions of verbal communication, and singled out three groups of children with absence of general-purpose speech. We have found a low level of formation of the preconditions under study in 28 children (52 %), who scored the total from 1 to 30 points in all exercises (group 1); group 2 (below intermediate level) was made up of 17 children (40 %), who scored 30-60 points; group 3 (intermediate level) comprised 5 children (8 %), who scored from 60 to 90 points (Fig. 1).

Our study showed that each group was characterized by different degree of disorders. The parameters included disorders of motor and speech rhythms, and poor formation of prosodic components and imitating (mimetic) activity.

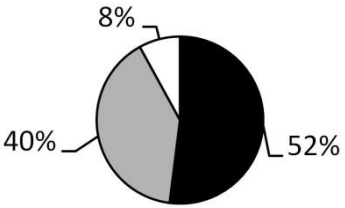


**Figure 1.** Groups of non-speaking children according to the formation of preconditions to verbal communication

*Note:* ■ — Group 1 (low level); ■ — Group 2 (below intermediate level); □ — Group 3 (intermediate level)

*Characteristic of Group 1 (low level).* The total number of points is from 1 to 30. The children of this group are characterized by strong violation of voice modulation. Voice disorders made communication difficult, sound pitch variations could hardly be perceived. Breathing was shallow, uneven; there was discoordination between inhalation and exhalation. The average maximum phonation time was up to 4 sec. The children demonstrated poor onomatopoeic skills: frequent replacement of sound complexes by non-speech sounds, use of separate vocalizations, echolalias. They could not produce mimetic responses to verbal and motor stimuli (in reflected-accompanied form – games "Happy Hands" and "Echo"), which testifies to non-formation of imitating activity. We recorded instruction misunderstanding, refusal from performing the task, and autostimulation. They do not show initiative in communication, and additional stimulation is necessary to actualize reactive response utterance.

*Characteristic of Group 2 (below intermediate level).* The total score of points is between 30 and 60. Moderate violations of the voice function were recorded in phonation. The children of this group could produce insignificant sound pitch variations. Breathing was shallow but even; inhalation and exhalation were coordinated. The

maximum phonation time was reduced to 5 sec. Vocalizations showed reference with the object, there were fewer exchanges of onomatopoetic words by non-speech sounds; there was a tendency to enlarge the number of sounds in a sound complex; there appeared autonomous speech and pseudowords. Due to the utterly limited nature of verbal means, the children used facial expressions and gestures, tried to accompany babbling words and sounds with gestures and demonstrations of their own actions and those of other people, used differentiated gestures and facial expressions, but were constrained in communication with the experimenter.

*Characteristic of Group 3 (intermediate level).* The total score of points is between 60 and 90. Insignificant violations of the voice function were typical of the children of this group. Sound pitch variations were produced in full. Long enough, though rather lax exhalation was recorded. There was a slight reduction of the average maximum phonation time under load (6 sec.). Their speech demonstrated a small active vocabulary including words of everyday language. Alongside these words, there were onomatopoeias and beginnings of elementary situational speech. Speech is little intelligible to others. The children used gestures trying to comment on task completion.

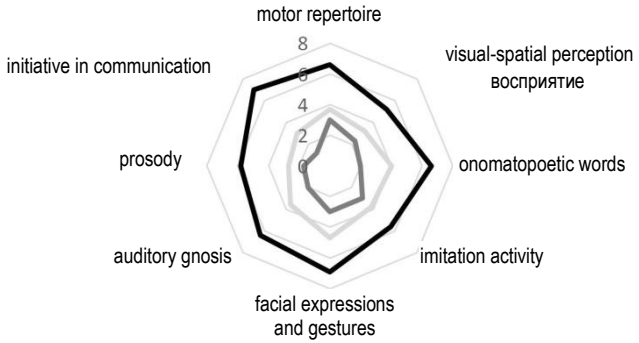


**Fig. 2.** Comparative profile of preconditions to verbal communication across Groups

*Note:* — Group 1; — Group 2; — Group 3

**Table 2**

Comparative analysis of the level of formation of preconditions of verbal communication

| Preconditions | Groups according to the level of formations of preconditions | | |
|---|---|---|---|
| | Group 1 | Group 2 | Group 3 |
| motor repertoire | 2.8 | 3.0 | 6.6 |
| visual-spatial perception | 2.3 | 4.2 | 6.0 |
| onomatopoetic words | 2.0 | 4.0 | 6.6 |
| imitation activity | 3.0 | 3.8 | 5.6 |
| facial expressions and gestures | 3.0 | 4.7 | 6.9 |
| auditory gnosis | 2.0 | 3.6 | 6.4 |
| prosody | 1.7 | 2.7 | 5.8 |
| initiative in communication | 1.2 | 3.7 | 7.0 |

On the results of the complex differential diagnostics held we have found out which preconditions of verbal communication were damaged to a greater degree, and which of them preserved their neuro-compensatory potential. As long as it was necessary to personify the content of rehabilitation-educational work on formation of communication means in non-speaking children of the junior preschool age, we have designed a profile of the preconditions of verbal communication formed in the abovementioned groups (Fig. 2).

The children were distributed into three groups depending on the level of formation of the preconditions of verbal communication, but there were variable problems within the groups, for example, in Group 1, all children demonstrated problems with getting in contact and low initiative in communication, but had higher indicators in imitating activity. The indicators of the children of group 2 were heterogeneous: low in the motor sphere (poor coordination of movements, unsure performance of limited movements), and high enough in the level of using gestures and facial expressions, interest in object-oriented manipulative activity, which influenced the choice of correct method of task performance. Group 3 demonstrated wish and initiation of communication, but at the same time, we observed violations of phonic breathing and other prosodic components (see Table 2).

Thus, on the basis of the specific features of the preconditions of verbal communication, we have distinguished 3 typological groups of non-speaking junior preschool age children different in the level of development of speech/language competence, and have presented a “diagnostic profile” that allows assessing the dynamics in the process

of rehabilitation-educational intervention.

The analysis of the research results have shown the effectiveness of the methods approbated for the category of children under observation, which serves as one more proof of the diagnostic value of the suggested methods of investigation. Modeling communicative game-based situations is an efficient and valid means of diagnostics of the preconditions of verbal communication in non-speaking children, and may allow exercising the personified approach to the organization and content of rehabilitation-educational work in future.

The experimental study allowed us to figure out the urgent problems of differential diagnostics of non-speaking children and to characterize the levels of formation of the preconditions of communicative-verbal development. The suggested diagnostic methods may be recommended both for further similar research and for broad implementation in practical activity of educational, and specifically inclusive institutions.

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