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PSYCHOLINGUISTIC FOUNDATIONS OF FORMATION OF SPEECH COMMUNICATION IN PUPILS WITH SPEECH UNDERDEVELOPMENT

Abstract. The article substantiates modern conceptual approaches to teaching children with speech and language disorders to speak on the basis of comprehensive understanding of the nature and origin of their speech and language disorders. To construct a holistic rehabilitation-pedagogical model of teaching language, the author uses the psycholinguistic method based on the analysis of the process of spoken and linguistic activity of pupils with speech underdevelopment and presupposing inclusion of many factors that determine both general effectiveness of activity and its structural specificity. The purpose of the study is seen by the author in design and scientific substantiation of communication-oriented language teaching to children with speech and language disorders due to a theoretically and methodologically developed integrative approach to the systemic organization of language and its functional features. The process of unfolding expanded spoken communication of the pupils, designed in accordance with the main stages of speech generation is based on training them for active search activities through initiation of verbal behavior; on creating the semantic program of utterance involving the development of the initial idea into a spatial-conceptual scheme; and on forming the mechanisms of linguistic (grammatical structuring of the verbal material) and phonational organization of speech.

Keywords: communication-centered training; speech activity; speech behavior; speech development; speech disorders; children with speech disorders; logopedics; speech mechanisms; motivational process; utterances; linguistic semantics; speech underdevelopment; psycholinguistics.

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Working out psychological foundations of language teaching is impossible without experimental validation of certain arguable positions. The latter may include questions associated with specification of communicative methods, choice of linguistic notions to be learnt, determination of the content necessary for text analysis, its segmentation presupposing making up a plan, distinguishing the message of the utterance, etc. The solution of the given problems is substantially important, as long as both the approach to understanding speech development and the aspects of the work on it need further specification in the light of the recent data obtained by linguistics and adjacent disciplines.

There is a point of view that definitely dominates the theory and practice of language teaching. According to it, the academic process should be brought to the conditions of real communication as close as possible, which would guarantee communication-centered training [1; 2; 3]. Stepping from the psychological characteristics of the process of speech, the researchers in this field give scientific substantiation to the content and methods of teaching speech communication, determine the real conditions of optimization of the learning process, work out communication-centered systems of exercises and forms of control ori-

ented towards specific kinds of speech.

Most research conducted within the framework of the theory of speech activity proceed from the ideas of the modern linguistic science based on the acknowledgment of the structural-semantic approach to linguistic system analysis, choice and application of various linguistic means, and systematization of the lexical and grammatical material, unequal in their content. These theoretical positions are referred to by scholars when they single out coherent text as a unit of teaching, analyze the mechanisms of its generation and perception, work out the typology of communicative errors, and model learning texts for special study [4; 5; 6; 7].

Methodological realization of a complex of communicative tasks becomes possible only provided there is strict adherence to the basic assumptions of the general theory of linguistics. To our regret, we must admit, that far from all ideas of the linguistic science guide the work of the teacher and their choice of certain methods and techniques of teaching. In the first place, it is the specialists in methods that are responsible for the gaps in scientific elaboration of linguistic foundations of the theory of teaching methods. Instead, they are often preoccupied with the problem of systematic search for various kinds of exercises

not infrequently aimed at practicing one and the same element of linguistic structure. It is only natural that such position, being the cause of numerous linguistic mistakes of the students, brings about natural dissatisfaction of the scholars. Refusal from allegedly high scientific level, unwillingness to go too deep in the theory and make the inherently abstract linguistic material still more complicated, as well as a number of other reasons of methodological nature invariably lower the level of linguistic competences of the students, and bring about what is known in pedagogical practice as relapse into illiteracy.

Analysis of the pedagogical aspect of the problem suggests that the search for adequate ways and methods of formation of coherent utterances of children with speech underdevelopment should be conducted in different areas: in the field of teaching methods improvement and in the realm of the content of education itself. It should be noted here that we would like to recommend inclusion of a much wider range of issues in the scope of the science of methods than just concrete methods and techniques.

Teaching coherent speech is considered in this article as a special direction in the general linguistic education of children with speech underdevelopment. Speech development classes devoid of theoretical foundation cannot properly

facilitate the skills of real speech communication and the skills of easy operations with various syntactical models of the language. We believe that the conceptual system of the course of language learning needs an additional revision and specification in the first place. Let us now pass on to the discussion of the main theoretical conceptions to support the process of designing rational methods of teaching speech communication.

Special linguistic education should be based on the ideas of a syntactical theory presupposing certain stages of construction of an utterance. A “principal structure” of the model of speech generation most adequately corresponding to the modern interpretation of language can be found in the works by A. A. Leont'ev and A. R. Luriya [2; 8]. The model includes the following sequence:

- 1) stage of utterance motivation;
- 2) stage of initiation and planning (creation of an internal semantic program);
- 3) stage of plan realization (lexicogrammatical unfolding the utterance);
- 4) stage of external (phonational) organization of speech.

A brief description of the content of the methods of special teaching speech communication the main parts of which fully correspond to the abovementioned stages of speech

generation should begin with the consideration of its initial stage (Stage 1). The present state of the conceptual apparatus in the field of motivation psychology is characterized by terminological polysemy. Meanwhile, on the background of the existing differences, there emerges a positive tendency allowing one to consider *the motive* as a complex integral whole. The thought that initiation of speech behavior is determined by a unity of many factors having their own functions and performing quite evident roles in the general process of motivation is becoming more and more salient [9; 10; 11].

It is well known that the motivation process has a phasic nature. The initial stage of its organization is the formation of demand (primary domineering motive) which emerges as a certain abstract aim devoid of concrete details and methods of designing possible paths of its realization. The next step in the motive organization manifesting the beginning of live search activity is associated with creation of the motivation purpose capable of changing the direction of the verbal behavior of the speaker and exercising decisive influence upon their determination.

In order to be motivated towards a certain kind of behavior (in our case linguistic behavior), the child should be sure of the existence of direct tie between the behavior realized and its consequences. If the

consequences turn out to be negative for the speaker, they stop feeling the intention, and the desire to perform the speech act vanishes; the motivation process wanes or disappears altogether.

Finally, the finishing stage of the motivation process formation is directly connected with the goal setting and decision making, the consequence of which consists in a purposive speech act performed according to the rules of speech behavior. By giving the linguistic process speech orientation, the speaker, according to the well-known conception of J. Austin, turns it into an illocutionary act realizing the previously adopted purpose, in order to bring about the desired consequences, i.e. to influence the consciousness and behavior of the addressee, and to create a new communicative situation [12]. Analysis of the stage of speech generation organization, targeted at the transformation of a demand into conscious inducement to perform a speech act and into a desire to reach the aim, helps to realize that the role of motivational factors is not limited to direct determination of linguistic behavior, but rather leads to participation in the formation of cognitive assessment schemes with the help of which the speaker interprets the situation.

Marked decrease of demand of speech communication in children with speech underdevelopment

caused by the specificity of their speech defect makes the teacher face the necessity to create positive motivation of speech activity. Speech practice of such children should be organized in such a way that the need to say something, to convey certain information, to express an opinion or attitude to something, to assess the situation should arise each time in the process of learning. A panel talk or discussion in which all pupils (including the teacher) take direct participation is the most efficient form of organization of such lessons.

Being one of the components of the inner structure of speech activity, the level of motivation and inducement defines and controls it to a great degree. The mechanism of speech motivation, as I. A. Zimnyaya notes, is deeply intimate, individual and inherently indivisible, but, which is still more important for the practice of special education, can be regulated indirectly [3]. Such interpretation of the motive presupposes the corresponding organization of the whole process of learning, and, primarily, of the object of speech activity itself: original solution of the topic, its informative and cognitive potential; continuity and accessibility of material presentation; semantic completeness of texts under analysis, the necessary amount of action and dialogue in them.

A significant place should be occupied by various game-based techniques, problem situations presupposing the solution of simple mental problems, analysis of interesting linguistic paradoxes (language quizzes) – all that allows involving children in active speech due to the presence of a motive. Under the conditions of such education, it is necessary to single out behavioral patterns which are more desirable from the point of view of the pedagogue modeling the learning process: high speech activity of pupils at the lesson, stable cognitive interest, and good discipline. Improvement of the abovementioned components of a well organized education process markedly increases the learning motivation providing the children with an opportunity of free speech communication in learning situations of unequal complexity.

The level of creation of the idea of the utterance and construction of its semantic program (Stage 2) is of special interest for psychological analysis of the linguistic process. The structure of this stage is complex and heterogeneous. The stage has its own, quite definite characteristics which cannot be disregarded in the course of creation of the corresponding links of the linguistic process. Let us now look at its psychological essence.

Defining various approaches to the study of the process of sense

generation, specialists in the sphere of psycholinguistics are apt to regard speech intention as the initial stage, or starting point of inner programming. In this interpretation, intention is nothing but the most general whole sense of the utterance; and the semantic program is interpreted as a complex dynamic unity emerging as a result of intention unfolding. It follows from this assumption that the first phase of the sense generation stage lies in the sphere of semantics, whereas the second phase controlling the unfolding of intention in time and in correspondence with the rules of language constructing is regulated by the laws of syntax.

For many years, linguistic research has been dominated by the conception practically absolutely excluding semantic issues from view. The experimental research of recent years has convincingly shown to the scientific world the power of the ubiquitous semantic criterion as, according to R. Jakobson, any component of the linguistic specter, beginning with sound complexes of linguistic signs and finishing with speech as a whole, is inevitably endowed with semantic and transformational significance [13]. This conclusion is of principal significance for methodological organization of the process of acquisition of language because the typology of learning texts needed for linguistic

analysis may be correctly defined on the semantic level only.

Under the conditions of special education, when the children's speech experience is insignificant (group of children with semantic disorders), it is necessary to teach them to establish various variants of semantic connection easily, which is not always possible within the framework of the traditional approach to teaching methods. Purposeful linguistic training in this case is based, first of all, on discovering the notional content of the words children use (level of interconceptual semantic ties). This initial link in the system of regular development of elementary semantic concepts of the pupils is especially important, because interconceptual relations are viewed upon as the basis of free combinability of words. The formation of the utterance, in accordance with rigorous linguistic logic, begins with establishing predicative relation, because this type of semantic relations constitutes the basis, or "kernel model" of speech generation [14]. Then, teaching is carried out in the direction of a search for additional, adverbial and attributive semantic relations, successively unfolding predicative relations with their concretization and complementation.

The content of linguistic work on lexical combinability of words needs special commentary in the

light of what has been said, because violation of the lexical norms of the language is one of the most widespread variants of semantic flaws in the linguistic production of children with speech underdevelopment. In view of the fact that this section is not singled out as a separate chapter in the program material in Russian, the pupils have to learn the real rules of combinability of lexemic units in the process of study of linguistic polysemy, synonymy and antonymy, i.e. at all stages of analysis of the lexical material without exception.

The second level of organization of semantic relations embraces relations between the members of the sentence emerging as a result of connection of simpler semantic relations with each other. The nature of semantic relations of this type is determined, according to I. A. Zimnyaya, by the logic of the thought, word valency and inter-conceptual semantic relation [3]. Valency, in its turn, is interpreted as indication of the necessity to extend the word with words of certain types implied by the meaning of the word or implicitly expressed in it [15]. It follows from this statement that the word valency depends exclusively on its meaning (*“pis'mo komu — bratu”, “pis'mo kuda — v Moskvu”, “pis'mo s kakoy tsel'yu — s pros'boy”*).

With reference to the abovementioned linguistic landmarks, the

methods of special teaching at the given stage should be aimed at establishment of semantic ties of a higher level (*“Vchera mnoyu byla prochitana interesnaya kniga”*) than just elementary inter-conceptual relation (*“Kniga — interesnaya”, “Kniga prochitana vchera”, “Ya prochital interesnuyu knigu”*). The examples illustrate that the difference of the relation of the first type from that of the latter one consists in its much greater degree of abstraction. Various lexico-semantic exercises are widely used in the process of such work: completing a sentence, building word combinations from separate words, connecting names of objects and their qualities with names of actions, replacing a word combination with a word, making up sentences with given words, etc.

Topic-Focus relations, which are regarded in linguistic literature as functional sentence perspective and are treated in a very ambivalent way, represent the highest link in the organization of semantic relations. These semantic-functional categories are associated with text construction and unfolding speech communication more closely than any other units of syntax. Under the conditions of speech communication formation, topic-focus analysis is given special attention to, because it allows modeling semantic relations functioning in various syntactic constructions.

The special organization of the process of language acquisition at the given stage presupposes successive development of the skills to orient in the semantic structure of the text, to determine the nature of connections between separate sentences and between short utterances, to analyze various ways of expression of the logic of the plot, to shorten the text preserving its main content, to unite separate parts of the utterance into a complete whole, to single out the message, to title the text, to logically support one's point of view, to assess the related facts from the point of view of their credibility, etc. The establishment of semantic relations between the parts of the text, creation of an adequate composition associated with identification of the significant and the secondary and with the ability to determine the logical character of transition from one thought to another are the main moments in this work. The techniques of text compression need special specification in the course of learning. Here, transformations of the semantic structure of the text and identification of the secondary elements of narration, as well as compression of the outward, linguistic structure of the text keeping the basic components of its semantic content intact, are quite possible.

Even a brief analysis of the semantic organization of speech communication gives us every

ground to say that the process of speech generation is identical in its essence to the process of emergence and formation of thought. This uniform indivisible psychological scheme displays three successive phases of sense generation with a complex hierarchical structure. The adequately established semantic ties at each of the abovementioned stages determine the semantic unity and indivisibility of the utterance.

The third level of speech generation (Stage 3) presupposes the construction of the inner grammatical scheme of the utterance, its grammatical unfolding (structuring). The given stage is considered in most detail in all models of speech generation because it is this stage only that reflects the process of linguistic organization of speech communication, being the most difficult link in the realization of the semantic program. The transformational model of N. Chomsky, giving a chance to look at the language from the positions of a holistic grammatical system organized according to certain rules, has every right to be considered the most perfect model of grammatical generation [14]. Though not all linguists share this point of view, no one can deny the importance of this linguistic theory for understanding the specificity of the process of speech.

The mechanism of speech utterance organization is extremely complex. It is known that the fol-

lowing psychological operation lie at its basis:

- choice of semantically necessary words and syntactic structures (the process of decoding);
- their reproduction in inner speech in correspondence with speech situation;
- combination of linguistic units connected with the search for adequate grammatical form of the word, and syntactic organization of words in the sentence (the process of coding).

The abovementioned operations are associated, first of all, with a complex of concrete rules based on the unity of interacting syntactic, semantic and phonological constituents. Orientation towards them in the process of teaching may allow forming efficient skills to organize the intention of the future utterance using to this end the corresponding lexico-grammatical means of the language, to independently choose the right words connected with associative ties, to define and transform the grammatical structure of the sentence filling it with certain lexical content proceeding from the knowledge of the complex of syntactic rules reflected in the system of language.

Stable deviations in the acquisition of linguistic grammatical rules by children with speech underdevelopment (immaturity of morphological and word derivational ideas about the word, inadequate usage of

syntagmatic and paradigmatic linguistic means, problems with syntactic analysis) allow us to speak about the need to work out theoretical foundations of such teaching, and its grammatical course in the first place. Without going deep into the essence of the problem, we would like to note that such approach to teaching presupposes salient orientation of the process of acquisition towards the stage-by-stage development of the pupils' grammatical thinking, not limiting language learning to formal acquisition of ready-made grammatical models and constructions, as it is often done at school [16].

A series of communicative exercises proper, gradually training pupils for independent utterances and successive expression of thoughts should be separated into a special group. Question answering and asking, making up sentences on certain grammatical models, on the given clause (main or subordinate), on the analogy; grammatical transformations, verbal description of various speech situations and work with deformed text may refer to this group. Much attention should be paid in the process of organization of coherent utterance to understanding the words expressing the connections and relations between the elements of the text. To this end, exercises on summing up, explaining the reason or stating a fact can be used.

Under the conditions of special education, considerable effort should be given to practicing grammatical means which are used to code complex paradigmatic relations. Here belong the techniques aimed at improvement of understanding of the genitive attributive case (“*sestra materi*”, “*mat' sestry*”), functional words (prepositions) expressing spatial, temporal and causal relations (“*zima pered vesnoy*”), sentence word order (reversible and irreversible constructions); decoding of comparative (“*Petya sil'nee Vani*”) and distant constructions (multiple and hierarchical government), and the constructions that demand semantic inversion (“*On ne mog ne ponyat' etogo*”). It is only meticulous analysis of the complex forms of speech communication (“relations communication”), as well as the grammatical means used to decode these constructions that allow the pupils to deeper understand the process of their generation.

In the course of learning syntactic constructions larger than the sentence, it is necessary to pay special attention to the specificity of dialogue construction. The degree of completeness of the initial and response utterances, the nature of their components, the construction of the whole dialogue to a great extent depend on its communicative direction presupposing the solution of a concrete linguistic problem. In

view of this, the ways of dialogue organization may be rather varied: making up a dialogue on a model, continuing a dialogue, transformation in accordance with situation change, etc.

Monologic speech, as different from dialogue, is more often than not unplanned. It is known to be characterized by higher degree of coherence: certain word order, structural and semantic completeness. The development of monologic speech presupposes a wide use of such communicative tasks as continuation of the text, inventing a beginning or end of the text, segmentation of the text, modeling a text from separate sentences, reconstruction of various variants of a “violated” text (desemanticized and degrammaticalized), shortening of the text, singling out a set of key-words, and extraction of new information and its brief reproduction. The teacher’s attention should be concentrated in this case on gradual practice of the skill to reproduce the content of the read (seen and heard) material logically and coherently, to establish causative-consecutive relations using elements of speculation, argumentation and assessment.

Taking into account the psycholinguistic characteristics of the given stage of acquisition, it seems possible to outline a certain approach to the systematization of the grammatical material which should include grammatical schemes of

construction of textual units functioning as ready-made linguistic constructions (word combinations and sentences), generalized grammatical information disclosing the inner organization of morphological and syntactical material stage by stage (rules of constructing and usage of ready-made grammatical patterns), sets of concrete communicative tasks and aims, and characteristics of the actions performed by the children in the process of learning.

The final level of speech generation (Stage 4) consists in its external realization (articulatory, phonational and intonational) with its own quite definite specific features. Analysis of the peculiarities of construction of the articulatory program shows that the process of word pronouncing represents a sophisticated speech mechanism including commands and movements realizing the external program and the ability of the operative memory to keep and unfold the units of this program.

As long as the direction of the speaker's attention towards the semantic organization of the utterance is the main condition of efficient speech communication, its external unfolding, naturally, presupposes complete automation of the articulatory actions which ensure the speech act realization. It is only natural that in case of typical development these actions are easily automated as a result of numerous reiterations over a long period of

time; but under the conditions of pathological development of the speech function, they should be practiced specially at logopedic lessons presupposing active speech rehabilitation. In view of the complexity and great diversity of speech disorders, the methods of conduct of rehabilitation intervention techniques should be rigorously differentiated to match the child's speech defect. It is only on the basis of such position that a complex approach to the issues of logopedic rehabilitation where each concrete section of speech-oriented rehabilitation activity takes a strictly subordinate position in the methodological system and, at the same time, is a constituent part of classes on formation of phono-articulatory aspect of speech and its phonational and prosodic mechanisms can be formed.

Practical teaching of children with speech underdevelopment shows that under the conditions of special education, most time is allotted to work with mechanisms of external organization of the utterance. Work over other links of the speech and language mechanism targeted at revealing the semantic orientation in the content field of the text of utterance, the definition of the logical plan of events occurrence, the expansion of the range of linguistic means of expression of various semantic text constructs and the formation of the skills of lexicogrammatical editing of the resulting

speech product and the methods of its adequate translation are, as a rule, disregarded. Meanwhile, meticulous development of the psycholinguistically oriented methods of diagnostics and rehabilitation of speech disorders in children with speech underdevelopment, and regular implementation of innovative psycholinguistic technologies in their practical teaching may allow intensification of the rehabilitation process via active usage of linguistic exercises embracing all levels of structural organization of the language.

These are the main characteristic features of our psycholinguistic approach to the process of formation of extended speech communication of children with speech underdevelopment, based on the structure of their speech defect, and designed in accordance with the main stages of speech generation.

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