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COGNITION AND SPEECH DEVELOPMENT IN A PRESCHOOL AGE

Abstract. The speech – a historically developed form of communication of people using language. The speech and language of the modern person – a result of prolonged historical development. Speech communication is carried out under laws of this language which represents the system of phonetic, lexical, grammatical and stylistic means and rules of interaction. The speech and language make difficult dialectic unity. Language is the expression of human communication through which ideas, information, emotions, and beliefs can be shared. Typically developing children master the fundamentals of language and speech in the toddler-preschool era. Language and speech skills serve a pivotal role in learning and social relationships. In our study, we compare two groups of toddlers from different kindergarten. The collected data showed us significant differences in speech development of city and rural preschool age children.

Keywords: speech, sensitive age, preschool and school age, thinking.

Speech is a historically established form of people's communication through language. Speech communication is carried out according to the laws of the given language, which is a system of phonetic, lexical, grammatical and stylistic means and rules of interaction. Speech and language constitute a complex dialectical unity. Speech is carried out according to the rules of the language, and at the same time, under the influence of some factors (the requirements of social practice, the development of science, the mutual powers of languages, etc.), it changes and perfects the language. A person all his life develops his speech, mastering the language. Each age stage introduces something new in its speech development. The most critical steps in mastering speech are in children's age - preschool and school periods. Mastering speech at the age of 3 to 7 years is vital because this period is the most sensitive to its assimilation.

Speech and language of modern man is the result of long historical development. The child learns the language in the process of communicating with adults and learns to use it in speech. Thanks to speech (especially in its written form), the historical continuity of people's experience is realized. Out of speech, it is inconceivable to master human's knowledge and form consciousness. Being a means of expressing the thoughts of people in the process of their communication. Speech becomes the central mechanism of their thinking. According to Vygotsky speech activity was as a fundamental activity of man, saw in it great opportunities for the development of the personality, consciousness, all cognitive processes of man.

In order to solve these problems, it is necessary to know about the intellectual development of senior preschool children. It is also necessary to make an analysis of Child Psychology principles and current domestic and foreign psychological research of the intellectual development of the child.

The Soviet Union school of psychology was based on the same methodology which was influenced greatly by Bolshevik revolutions and Lenin's ideas:
1. Stages of cognitive development as a result of the activity. (Leontyev, 1978; Ananyev, 2000; Vygotsky, 1978; Elkonin, 1972)
2. Law of “interiorization” and “zone of proximal development” (Vygotsky, 2000; Elkonin, 1972)
3. The variation of activities and learning strategies (Galperin, 1978; Davydov, 1992; Popov, 2002)
4. The role of individual differences in intellectual development and training activities (Averin, 2000; Ushakova, 2015).
Development can be described as a process of initiation and improvement of these internal means of activities, as the process of overcoming internal obstacles in the implementation of activities, as the process of expansion the borders of zones of actual and proximal development, as the process of assigning the ways of the joint activity by a child (interactionizing), as simultaneous movement in different directions, described by multi-vector model of the zone of proximal development, leading to the appearance of new vectors, to the quality changes of the state of vectors and the interrelationships between them (Vygotsky, 2000).

Intellectual development is understood as a continuous dynamic process by most Soviet authors. Different authors identify various aspects of intellectual development, indicating the quantity and quality of its structure, indicating out features of mental activity (operations and mental actions), different forms of thought (Galperin, 1978; Davydov, 1992; Volkov & Volkova, 1998; Zhukova, Mastyukova, Filicheva, 1998).

The Russian psychologists are guided by the principles of the system and structural-genetic approaches to the study of children’s intellectual development (Garber, 2013). They do not oppose education and intellectual development, general and special abilities, biological and social conditions of intellectual development (Kolomna and Panko, 1997).

Currently, it revealed that children’s intellectual development depends on brain structures and specially organized challenging activities. Education is a leading factor in the intellectual development of children. There are also some basic directions in the study of children’s intellectual development in Western psychological school. One direction is characterized by examining the child’s cognitive development as a result of the natural maturation of the nervous system and the whole organism (Hall C., Gesell A. et al.). The other direction of research of child intellectual development process is related to social environment (Hedegaard, 2012; Sannino, 2015).

Leontiev (1978) defined speech activity as "the process of using a language for communication by a person". According to him, speech activity is represented by three parties: motivational, target and executive, highlighting several stages (phases):
- the preliminary orientation phase;
- the planning phase;
- the implementation phase;
- the phase of control.

The development of speech of children of different ages is part of the interests of methodological science, which relates to applied and solving practical tasks of teaching, developing and educating children. Traditionally, language teaching involved studying elements of different levels of the language system, the features of their expression plan and content plan, the patterns of functioning. The current state of the methodology of speech development is characterized not only by the use of data from linguistics and psychology but also by the connection with modern science such as psycholinguistics. Specialists involved in the development of children's speech should know well the general laws of speech ontogeny, the main stages, and features of speech formation. The ontogenetic principle describes the development of verbal expression in ontogeny (Levina, 1968). This principle is especially important in Special Education, which let us use prediagnostic of speech disorders. In this article, we will consider some aspects of the theory of speech development. One of the essential concepts considered in psycholinguistics is the concept of speech activity. By the definition of Zimnya (2001), "speech activity is a process of active, purposeful, mediated by the language and conditioned by the situation of communication between people." Speech as one of the types of human activity in general, however, is an extraordinary activity that is not comparable with any labor or with the game".

Leontiev identifies some distinctive features of speech activity:
- objectivity,
- purposefulness,
- motivation,
- hierarchical ("vertical") organization
- phase ("horizontal") organization.

It is quite obvious that the development of a child's speech is the training of his speech activity, which possesses all the characteristics mentioned.
The concept of "phase structure" is part of the activity (Rubinshteyn, 1940). According to him, human activity consists the following stages: motivation, orienting actions, activity planning, plan implementation and control phase.

Vygotsky paid attention to the phase structure of speech activity. The process of speech generation was considered by the scientist as the process of movement from thought to word, "from the motive that generates thought to the formulation of the thought itself, to its mediation in the inner word, then in the meanings of external words and finally in words". Leontiev applies Rubinstein scheme to speech activity, singling out such links as a link of motivation and formation of speech intentions, a link of orientation, a link of planning, an executive and a loop of control. Zimny (2001) develops a three-phase model of the structure of speech activity, which, according to Glukhov (1988), is the most acceptable from the technique of speech work.

The motives for the verbal communication is in the natural condition of upbringing. Motivations for writing the speech at the stage of education are created by the teacher, explaining the need for such a form of speech communication and interest the student in it. Particularly relevant is the situation when teaching a student to write creative work (statements, essays). The teacher has to create an environment in which the student feels "vital necessity" in the creation of written text. One of the possible implications of this method is the task where students have to write a story. Vygotsky states cognitive development stems from social interactions from guided learning within the zone of proximal development as children and their partner's co-construct knowledge. In contrast, Piaget maintains that cognitive development stems mainly from independent explorations in which children construct the understanding of their own. For Vygotsky, the environment in which children grow up will influence how they think and what they think about.

According to the cultural-historical theory of Vygotsky (1987), the specificity of a child’s development relates to a social and historical basis. The main mechanism of a child’s intellectual development is associated with the formation in their mind of verbal meanings (generalizations), the restructuring of which characterizes the direction of the growth of their intellectual capacities.

The main way of a child’s concepts development depends on changes in the generalization of the word. Vygotsky (1978) believed that intellectual development is characterized by the level individual mental processes development and also by cross-functional relationships and their changes. Each period of intellectual development is inherent in the structure of certain mental processes. According to Vygotsky (2000), higher mental functions such as perception and memory intensively develop during preschool age.

Language is the expression of human communication through which ideas, information, emotions, and beliefs can be shared. Typically developing children master the fundamentals of language and speech in the toddler-preschool era. Language and speech skills serve a pivotal role in learning and social relationships. Delays in the early development of language and speech skills, which are prevalent in the population, may affect several domains of function (Ushakova, 2015; Alexandrov, 2013; Butusova, 2012).

According to Vygotsky (1978), much important learning by the child occurs through social interaction with a skillful tutor. The tutor may model behaviors and provide verbal instructions for the child. Vygotsky refers to this as cooperative or collaborative dialogue. The child seeks to understand the actions or instructions provided by the tutor (often the parent or teacher) then internalizes the information, using it to guide or regulate their performance.

Social interactions define the mechanism of distribution of functions on the one hand and the means or method of mastering those functions on the other hand (Vygotskiy, 1987; Vygotskiy, 1988). Thus, for example, guided social interactions, which initially serve as instruments for social realization of the processes of cognition and communication later, begin to play the role of the cognitive function of self-regulation and mental representation of various kinds of information. These social interactions activate the not yet developed cognitive functions, which allow the child to act on a higher cognitive level. The gap between that which a learner is able to do on his/her own (the actual level of development) and that which he/she is capable of with proper guidance is called “zone of proximal development”. Therewith, according to Vygotsky (Cole, 1996; Daniels, 2008; Daniels, 2010), learning is successful only when it goes ahead of development, when it awakens and brings to life those functions, which are yet in the process of maturing or are in the zone of proximal development. This, in his view, is the way how education plays a crucial role in development.
Vygotsky (1978) sees the Zone of Proximal Development as the area where the most sensitive instruction or guidance should be given - allowing the child to develop skills they will then use on their own - forming higher mental functions.

Vygotsky also views interaction with peers as an efficient way of developing skills and strategies. He suggests that teachers use cooperative learning exercises where less competent children improve with help from more skillful peers - within the zone of proximal development.

Vygotsky (1987) differentiates between three forms of language: social speech which is external communication used to talk to others (typical from the age of two); private speech (regular from the age of three) which is directed to the self and serves an intellectual function; and finally private speech goes underground, diminishing inaudibility as it takes on a self-regulating role and is transformed into silent inner speech (typical from the age of seven).

Perhaps the main criticism of Vygotsky's work concerns the assumption that it is relevant to all cultures. Rogoff (1990) dismisses the idea that Vygotsky's ideas are culturally universal and instead states the concept of scaffolding - which is heavily dependent on verbal instruction - may not be equally useful in all cultures for all types of learning. Indeed, in some instances, observation and practice may be more efficient ways of learning particular skills.

Children use private speech most often during intermediate difficulty tasks because they are attempting to self-regulate by verbally planning and organizing their thoughts (Winsler et al., 2007).

The frequency and content of private speech are then correlated with behavior or performance. For example, individual speech appears to be functionally related to cognitive performance: It seems at times of difficulty with a task.

Berk (1986) provided empirical support for the notion of private speech. She found that most private speech exhibited by children serves to describe or guide the child's actions. Berk also discovered that child engaged in private speech more often when working alone on challenging tasks and even when their teacher was not immediately available to help them. Furthermore, Berk also found that individual speech develops similarly in all children regardless of cultural background.

Solitary speech is the most complex form of speech activity. It has the character of a consistent, systematic, detailed presentation.

Ability to coherently convey their thoughts - one of the primary indicators of language proficiency. The creation of a coherent, detailed statement is a process that requires concentration, the concentration of the speaking child, proper preliminary preparation, significant volitional efforts, compositional, logical and verbal skills.

Oral monologic speech is a more complicated form of expression, which, according to Vygotsky, presents a specific compositional complexity. A monologue is a coherent, coherent presentation of thoughts and knowledge by one person without reliance on the interlocutor's speech.
According to Ushakova (2015), "the formation of skills in monologic speech requires the compulsory qualities such as coherence and integrity, which are closely interrelated and characterized by a communicative orientation, the logic of presentation, structure, and also a certain organization of linguistic means."

The monologue is spoken speech addressed to other people. A monologue depends on what tasks the speaker sets himself and what type of specific activity.

Vygotsky says that a monologue is a higher, more complex form of speech than a dialogue. Monologic statement, in addition to linguistic means, also has a number of additional expressive factors that distinguish the new and essential. Various information and facial expressions can give different meanings to the same syntactic constructions.

Its specificity characterizes monologue speech. Relative completeness describes the monologue. At the initial stage, the trainees master the basics of monologic utterances of various kinds: narratives, reasonings, descriptions. Forming the skills and skills of monologue requires the obligatory development of such qualities as connectivity and integrity, which are strictly interrelated and characterized by a communicative focus, the logic of presentation, structure, and also a particular organization of linguistic means.

Let us consider the results of a study on the features of constructing connected speech in the control and experimental groups. We conducted the experimental research with children of 4-5 years of kindergarten No. 9 in Aktobe and kindergarten No. 12 in the Aktobe region, who are trained and brought up according to one standard program of education and upbringing. In total, 50 children participated in the experiment.

- Experimental group - 27 children, age 5-6 years, №9.
- Control group - 23 children, age 5-6 years, № 12.

The experiments were carried out in the first half of the day individually with each child for 30-35 minutes.

Table 1 – Results of the study of speech activity

<table>
<thead>
<tr>
<th>Group</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very high</td>
</tr>
<tr>
<td>Experimental</td>
<td>25</td>
</tr>
<tr>
<td>Control</td>
<td>14</td>
</tr>
</tbody>
</table>

As can be seen, from Table 1, the children of the control group have the following indicators:

- very high level - 14 children;
- average level - 6 children;
- low level - 3 children.

In the experimental group, children have the following indicators:

- High and very high level - 26 children;
- low level - 1 child.

Thus, we see the existence of differences in the control and experimental groups, in the parameter of psychological readiness.

In the control group, we found children with specific difficulties in monologic speech activity. It is necessary to form elementary knowledge about the structure of the text (beginning, middle, end) and ideas about the ways (means) of communication between sentences and the structural parts of the statement. It is the methods of connection between phrases that serve as one of the critical conditions for the formation of the coherence of a speech utterance. In any completed sentence, there are the most typical ways of combining phrases. The most common of these is the chain link. The primary means of this connection are pronouns, lexical repetition, synonymous substitution. Chain communication makes speech more flexible and diverse, as, mastering this way, children learn to avoid duplication of the same words and constructions. Sentences can also be connected using parallel communication when they do not adhere but are compared or even opposed.
At the initial stage of learning the construction of coherent monologic texts, it is necessary to develop the ability to disclose the topic and the main idea of the utterance, the ability to title the document.

Table 2 – Results of statistical testing of the hypothesis on differences in the control and experimental groups

<table>
<thead>
<tr>
<th>Mann-Whitney U</th>
<th>95.000</th>
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</thead>
<tbody>
<tr>
<td>Wilcoxon W</td>
<td>220.000</td>
</tr>
<tr>
<td>Z</td>
<td>-1.182</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.237</td>
</tr>
<tr>
<td>Exact Sig. [2 * (1-tailed Sig.)]</td>
<td>.257 (a)</td>
</tr>
</tbody>
</table>

As can be seen, from the above table 2, \( U_{emp} = 117.5 < U_{0.05} = 138 \), therefore, we can safely assert about the existence of statistically significant differences between children from the experimental and control groups.

The modern methods of the coherent speech development for the preschool child based on linguistic, communicative, personal approaches. Formation of conscious construction of a cohesive statement is the essential step of progress for preschool age children. It's necessary to use a wide range of methods of development of the coherent speech. In the process of communication and interaction of the child with reality, baby seizes the coherent speech, and the adult creates this condition, organize the material and language environment, involves in joint activity.

The results of our study let us make certain conclusions. The child communication during different type's activity helps to build a basis for further speech development. But daily communication for the formation of language competence is not enough. A lesson is a primary form of education of preschool children as an organized cognitive activity. On lessons, the tutor systematically and consistently forms children speech skills which could be fixed at further communication of children in everyday life.

REFERENCES

Научная статья:

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Аннотация. Речь – исторически сложившаяся форма общения людей посредством языка. Речь и язык современного человека – результат длительного исторического развития. Речевое общение осуществляется по законам данного языка, который представляет собой систему фонетических, лексических, грамматических и стилистических средств и правил общения. Речь и язык составляют сложное диалектическое единство. Каждый возрастной этап вносит что-то новое в его речевое развитие. Наиболее важные ступени в овладении речью приходятся на детский возраст – дошкольный и школьный периоды. Овладение речью в возрасте от 3 до 7 лет имеет ключевое значение, ведь этот период наиболее сензитивен к ее усвоению. Ребенок усваивает языки в процессе общения с взрослыми и учиться пользоваться им в речи. Благодаря речи (особенно в ее письменном виде), осуществляется историческая преемственность опыта людей.

Ключевые слова: речь, сензитивный возраст, дошкольный и школьный возраст, мышление.