

# Assessing the Level of Verbal Intelligence in Preschool Children as Important Element of Cognitive Abilities

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**Abstract:** *The article presents the concepts of verbal intelligence as one of the main elements of a person's cognitive abilities, as well as basic criteria for school readiness. The features of the theory of cognitive psychology, namely: the multiple intelligence of Howard Gardner, who identified eight basic types of intelligence (linguistic, interpersonal, existential, naturalistic, musical, bodily-kinesthetic, visual-spatial, logical-mathematical), are highlighted.*

*In a theoretical study, we have analysed the general meaning of the concept of intelligence from the point of view of cognitive psychology, and we specified it by outlining the main characteristics of multiple intelligence. We also conducted an analysis of the scientific works of specialists specializing in working with models of cognitive-speech activity and investigated the linguistic mind in preschool children. Not only a certain type of intellect is considered, but also all the others that were named by Gardner, their main aspects of influence on a personality are revealed, they appear even in preschool age.*

*In the empirical part of the study, methods were used to diagnose the verbal level of intelligence of the basic element of cognitive abilities in preschool children. They are aimed at researching the ability to generalize and analyse verbal information, identifying the ability to classify objects according to common features, differentiate emotional states in the process of communication, and also establish the level of vocabulary of pre-schoolers. According to these indicators, 90 pre-schoolers were diagnosed, and their level of verbal intelligence was revealed.*

*The paper identifies the main features, skills that a child possesses with a high average or low level of intelligence, correction methods, in order to improve low results.*

**Keywords:** *intelligence; theory of multiple intelligence; cognitive processes; verbal mind; verbal and non-verbal communication; cognitive abilities.*

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## 1. Introduction

Understanding the need to change the goals and objectives of educational policy in the world indicates that the most important is the use of the intellectual potential of the individual in society, the development and implementation of a strategy for intensive knowledge acquisition. For its implementation, it is necessary to unite scientists and teachers to prepare a person who can integrate into the modern high-tech world of information and knowledge, since the main engine of progress now is the integrated approach "science - technology - innovation", and a modern specialist working in a particular field of activity, must possess valuable knowledge and the ability to apply them.

The globalization of the economy, social processes and technological development necessitates the exchange of knowledge and their carriers - specialists and talented youth, capable of becoming an innovative engine of society.

There is an extremely high importance of one of the types of intelligence for the successful growth and development of a child, because knowing the features of your baby is much easier to promote harmonious learning and help him realize himself in a field that will be truly fascinating and useful for him. The features of each type of intelligence are studies of general, superficial, but there are no clear results of which type dominates the younger generation, and how developed they are in general. One type of intelligence that has not been fully explored is verbal, which plays a large role in preschool years.

The purpose of our study was to theoretically investigate and empirically examine the level of development of verbal (linguistic) intelligence in preschool children.

The famous American psychologist Howard Gardner - the author of the theory, at this stage in the development of science is considered classical - the theory of multiple intelligence, according to which a person does not have a single "general" intelligence, but combines various skills that can exist independently of each other .

Howard Gardner (1999) created the concept of "multiple intelligence." The theory of multiple intelligence is a theory that considers intelligence in various specific (primarily sensory) conditions, and not as the dominance of one common ability to something. Gardner found that there are 8 basic types of intelligence, one of which dominates the personality more.

The term "intelligence" means a general ability to cognize and solve problems, which determines the success of any activity and underlies abilities. The concept of intelligence as a general mental ability is used as a generalization of behavioral characteristics associated with successful adaptation to new life tasks (Semenova, 2011).

Exploring various types of intelligence, it is worth noting that the connection of children's academic performance is often not supported by any specific features. After all, by examining which type of intellect dominates the child, one can significantly increase the reenie's ability to conquer, help the effectiveness of their activities not only in the educational field, but also on the path to success in life.

Intelligence simultaneously points to two spheres of man: the mind and individuality. In combination, they form unique features of the individual, which are attributed to the uniqueness of knowledge. They begin to manifest most actively in the period from 3 to 6 (7) years (Draganski et al., 2004). However, their course at this age has a certain specificity. First, individual psychological differences in the period of preschool childhood can be traced at the level of individual cognitive mental processes, and at its end, at the level of intelligence. So, in preschool children, thinking develops from visual-figurative to abstract, and individual differences are manifested in the level of mastery of the forms of thinking, its independence, speed, flexibility.

The main directions of development of thinking in a preschooler is improvement of visual-figurative thinking, which is facilitated by the processes of imagination, which are actively developing in a children's game; an increase in the degree of effectiveness of mind-boggling thinking, which is based on arbitrary and indirect types of memory; rapid formation of verbal and logical thinking is carried out, since the preschooler uses his own language as a means of solving intellectual problems (Beaver et al., 2008). The individual psychological properties of thinking begin to appear: the breadth, depth, independence of this process. Thinking begins to fulfill a symbolic function, due to which it begins to precede manipulative (practical) actions, that is, the child becomes able to transfer the mode of action from one situation to another.

Since children 4-7 years old begin to solve problems using three paths (physical actions, actions with figurative material and through conceptual judgment), the flexibility of thinking begins to develop, it is an individual property of the thinking process. The more experience a child has, the greater the likelihood of manifestation of individual properties in children. In addition, there is such a tendency: the younger the baby, the

more often he uses practical actions, the older the preschooler, the more often he turns to the actions of visual thinking, and then to verbally logical (Blair, Mitchell & Blair, 2005).

Accordingly, mental experience appears in 4-7 year old children: they begin to use internal intellectual complex operations. They are the basis of the individual psychological properties of thinking and speech. So, criticality provides for the formation of specific modes of action. External acts of behavior are transformed into internal actions, which begin to unfold in the mental plane, where the concept becomes the unit of action. There is a need for a language, and this, in turn, stimulates the improvement of the speech of a preschooler. this process enriches vocabulary, improving speech speed. Such properties are different and indicate the existence of individual properties.

Howard Gardner (1999) first set out his influential theory of multiple intelligence, arguing that each of us has eight or more distinct types of intelligence in context of cognitive psychology. In this update, aimed mainly at educators, psychologists, and other professionals, Harvard Professor of Education Gardner adds a new naturalistic intelligence to the list, which contains harmony with the environment, flora and fauna. He further suggests that there may be a spiritual or existential mind (knowledge of transcendental and cosmic matters), while adding that this assumption requires detailed scientific confirmation (Kozyra, 2019). Among the main eight types of intelligence, Gardner in his theory highlighted the following:

1. Linguistic (verbal) - this type of intelligence involves excellent oratorical abilities; personality, easily makes contact and is an active interlocutor; children with this type of intelligence not only know how to write and read well, but also have a penchant for learning foreign languages.

2. Interpersonal - individuals with this type of intelligence are partly manipulators, because conversations are their main area; children quickly adapt in the team and find many new friends.

3. Existential - is interested in everything that happens around; their thoughts are original and atypical; such children from childhood are distinguished by a high degree of awareness, understand their feelings and can control them, although, being in deep thought, they can remain on the sidelines of everything that happens to them, because they are emotionally restrained and shy.

4. Naturalistic - contact with nature - this is the main area of their life; young lovers of nature quickly remember the names of plants and animals, show attention when observing natural phenomena; nature is their environment, so outdoor games are the main entertainment.

5. Musical - children with this type of mind love not just listening to music, but inventing and humming melodies and songs; have a good sense of rhythm; however, it is important to understand that musical intelligence is a fairly broad concept, and it can manifest itself differently in different children.

6. Body-kinesthetic - for people with this type of intelligence, the main credo of life will be: "Movement is life"; they are characterized by good coordination of movements, high development of fine motor skills; the ability to manipulate physical objects and use various physiological skills; they tend to navigate well in time and space.

7. Visual-spatial - a high level of development of the imagination; it is especially important to feel life by touch; well determine the size of objects and can reproduce past events in detail; tend to express their thoughts and feelings in a visual form; marked by reverie.

8. Logical and mathematical - at an early age show interest in counting and quickly memorize numbers; such children are able to reason outside the box, respond to interesting and atypical clues they manage to explore patterns and relationships (Burov, Rybak & Vinnik, 2018).

In scientific knowledge (Fujioka et al., 2006), verbal intelligence is understood as one of the significant signs of individuality, which is a property of the mental sphere. This psychological phenomenon is understood as the ability to verbally analyze and synthesize, to solve problems with the help of speech related to the definition of concepts, to establish similar and excellent categories, the ability to logical completeness and consistency during the proof of thought.

Verbal intelligence, or in other words the verbal mind, is an important element in the development of each individual. After all, it includes not only the best level of communication with other people, but also the ability to listen and analyze information in this way. For preschool children, the level of development of verbal intelligence is one of the most important indicators of their school performance. In accordance with this, there is an impact on their adaptation to the new environment, improved communication between other students and teachers, reduced emotional stress and a destructive effect on mental health (Grekhova, 2019; Orap, 2018).

## **2 Methodology and Main research**

An important factor in the formation of verbal intelligence in the context of cognitive psychology is research activities of preschool children.

It allows you to simultaneously consolidate the acquired mental experience to use in practice, fixing it at the level of establishing causal relationships between phenomena of reality. This is a peculiar type of behavior of a child of 5 - 6 (7) years, which is based on experiments and is aimed at independent knowledge of the object or the solution of the problem, operating with the necessary information (Takeuchi et al., 2010).

The methodology for assessing verbal intelligence in preschool children consists of a set of techniques and methods that are by far the most commonly used in cognitive psychology. Among them, we used the methodology of mental development (subtest IV), which makes it possible to identify the child's ability to generalize and analyze verbal information.

The following methods and techniques of cognitive psychology were used to assess the level of verbal intelligence in children:

1. The methodology of mental development - subtest IV - is aimed at identifying the ability to generalize and analyze verbal information. Children have the opportunity, having received a couple of words that are connected by a common meaning, to characterize them with one or more words.

2. Oriented test of school maturity - the goal - verbal thinking - determining the level of readiness for school, in accordance with the level of development of the verbal component. The quantitative results of this task can be divided into five groups in accordance with this to determine the levels related to the positive classification.

3. The Eidelberz test of speech development - correction of semantically incorrect sentences, classification of concepts, the relationship of verbal and non-verbal information:

- in the methodology, which consists in correcting semantically incorrect sentences, the child should understand the connection of meanings and establish it by means of the language, that is, in each of the 10 sentences there are words that do not correspond to the general content, they need to be corrected.

- classification of concepts - the goal is to identify the ability to classify objects according to common features, in this case the stimulus material is an image belonging to different categories (professions, furniture, household appliances, flowers, pets). Using visualization, child needs not only to name, but also to combine according to a common criterion.

- the relationship of verbal and non-verbal information - differentiation of emotional states in the process of communication - this is an important ability of each person and is one of the important signs of

linguistic intelligence. This technique makes it possible to trace the presence or absence of this feature in children.

4. An indicative test of school maturity - “vocabulary” - the goal is to find out the child’s necessary vocabulary, allows you to successfully start learning. Since verbal intelligence is the basis of school knowledge, and children that are owned are already potentially capable students, an important aspect of our diagnosis was the study of the stock of words, and their compliance with generally accepted norms.

With regard to ethical restrictions, we note that during the testing of preschool children, we kept their anonymity. The entire testing process is documented by documenting the consent of all parents. The testing itself was attended by representatives from the parent committee and from state bodies for the protection of children and the management of preschool education.

As part of providing an ethical mayor, none of the testing elements did NOT violate any gender, religious, or ethnic rights. The entire testing process for preschool children was agreed with the local ethnic rights authorities.

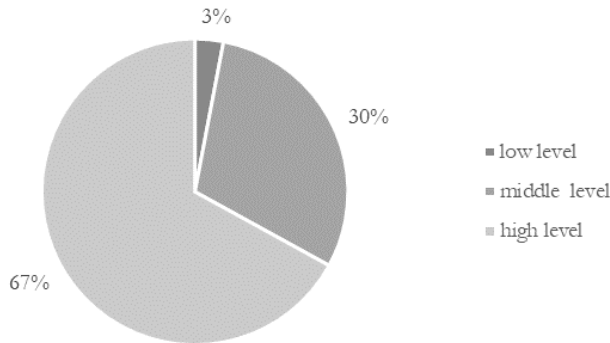
All test results did not in any way affect the success of the respondents and were used only for scientific purposes.

For our study, a group of preschool children was selected and a sample was formed. The sample is the oldest group, among which we have diagnosed 90 children, age 5.1 to 6.3 years, average age 5.9 years, including 30 boys and 60 girls. According to the diagnostic results, it was found (Figure 1):

- a high level - 67% - that is, more than half of the children have sufficient development of verbal intelligence, the ability to verbal analysis and synthesis, verbal understanding (disclosing the meaning of words), well perceive information presented orally;

- the average level is 30% - children with such a level of linguistic intelligence may have certain difficulties in using words verbally or in writing, playing children's word games, not always quickly adapt to the situation; learning to read, it’s difficult for them to understand the material they read and translate it,

- low level - (3%) - poorly developed ability to compose speech messages in accordance with the norms and requirements of the language, difficulties in the transmission and assimilation of verbal information.



**Figure 1.** The results of assessing the level of verbal intelligence in preschool children

However, despite the results of the study, it should be noted that linguistic intelligence is very dynamic and develops well, therefore, problems that arise in preschool age can be corrected by the systematic and qualified help of a psychologist, educator, parents and other specialists. After all, to one degree or another, verbal intelligence in all mentally healthy, healthy people (Golubeva, 2018).

Gardner (1999) noted that linguistic awareness is precisely the kind of intelligence that seems to be the most common talent among people. Almost all healthy children, as well as some with mental disorders, learn the language, usually in a few years, in accordance with a clear pattern. However, there are several different areas in which children encounter difficulties. A lot of children are faced with elector difficulties precisely in the phonological aspect, although there are children with a violation of other linguistic components. Some are insensitive to syntactic factors: if they need to repeat the sentence, they are forced to resort to simplifications, thereby not developing their abilities and not fully utilizing their capabilities

### 3. Conclusions

The article identifies the main features, skills that a child possesses with a high average or low level of intelligence, correction methods, in order to improve low results. It has been established that more than half of the children have a high level of intelligence, that is, they have the ability to verbal analysis and synthesis, verbal understanding (disclosing the meaning of words), well perceive information that is presented verbally.



That is, children with this type of intelligence are happy to listen to the tales and stories of any storyteller, quickly learn to speak, write and read. In addition, they easily learn foreign languages. Therefore, we can assume that they will not have difficulty learning by going to elementary school. Indeed, in the modern education system, a significant emphasis has been placed on the development of this particular type of intelligence: children mainly read, listen, tell and speak.

Thus, the main recommendation for educators and parents is to continue the development of children with an average and low level of verbal intelligence, namely: play word games, increase vocabulary, learn foreign languages, read books, and pay a significant part of attention to verbal communication. These technologies, from the point of view of cognitive psychology, are powerful mechanisms for the development of not only verbal intelligence, but also other cognitive abilities.

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