

Features of the Formation of Mental Operations in Children with Mental Retardation

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Abstract - The article reveals the results of a theoretical experimental study of the features of the formation of mental operations in children with mental retardation. Three techniques for correcting disturbances in the development of thinking are presented and games aimed at improving mental operations are described.

Keywords - Mental Retardation, Mental Operations, Thinking, Attention, Perception, Analysis, Synthesis, Comparison, Deduction, Induction.

Today, great attention is paid to the efforts and costs of improving the educational process of special children or, in other words, children who are not able to independently obtain the knowledge and skills necessary in public life. These children include children with mental retardation who have greater potential for successful social adaptation.

Mental retardation is a type of mental development of a child who has immaturity of certain functions of the psyche, psychomotor skills of a hereditary, psychological and social nature.

At the moment, the urgent problem is the immaturity of mental operations in children with mental retardation. Thinking, in turn, is the basis of informed knowledge of adequate decision making. Currently, there are many definitions of thinking, but the most accurate is the definition that considers thinking as a process of modeling the systematic relations of the surrounding world on the basis of unconditional provisions, it is significant in all areas of human activity. It is for this reason that great attention should be paid to the diagnosis and development of this mental function.

According to the research of T.V. Egorova, V.I. Lubovsky, U.V. Ulenkova in children with ZPR there is a lag in all components of thinking, which is manifested in a lack of understanding of the meaning of the instruction. The researchers found that the analysis of a certain object proceeds in children of this category at a lower level than normal.

Children with mental retardation cannot navigate in a problematic situation of a practical nature. The difficulty lies in the fact that children are not able to analyze the conditions of this situation. As a result of this, when they reach their goal, they do not exclude erroneous options, but repeat the same and unproductive actions. In fact, they lack genuine samples.

In addition, for children with children with developmental norms, there is a constant need to analyze the situation by pronouncing their actions. This gives them the opportunity to become aware of their actions, in which speech begins to perform organizing and regulatory functions, i.e. allows the child to plan their actions. In children with ZPR, such a need does not arise. Children with mental retardation find it difficult to correlate their actions

with verbal designations. As a result, their actions are unconscious, words are not generalized, images and ideas are formed in slow motion.

Lack of **thinking** is a hallmark of children with mental retardation from children with normal development.

With a delay in mental development, uneven formation of all types of thinking is noted. But verbal-logical thinking suffers to a greater extent. But game activity gives an active, independent, productive result. The passivity of cognitive **activity** is reflected in the insufficient assimilation of the educational program and is combined with a violation of other mental functions, such as attention, perception. Also, children with ZPR have poor coordination of movements. Children with mental retardation have scant information about the world around them.

Given the **peculiarities** of the formation of thinking of children with ZPR can be divided into the following groups:

- Children who have a normal level of development of mental operations, but cognitive activity are reduced. (Children with ZPR of psychogenic origin).
- Children who have an uneven manifestation of cognitive activity and the performance of tasks.
- Children with low levels of productivity and lack of cognitive activity.

In this category of children, there are violations of mental operations, which are necessary components of logical thinking:

- Analysis (interested in small items, highlights minor signs, makes it difficult to highlight the main signs);
- Comparison (compare the details of the subject for incomparable signs);
- Classification (the result of the classification is correct, but how and by what signs the child has classified the subject cannot explain).

Children with ZPR lag behind the level of development of logical thinking in a normal preschool child. At the age of 6, children with normal mental development reason, make independent conclusions and master two ways of inference.

1. Induction (the child is able to make a general conclusion by way of his own facts, that is, from particular to general).
2. Deduction (from general to particular).

Children with ZPR experience great difficulties in building the simplest conclusions. The skill of making a conclusion from two **conclusions** is unformed in children with mental retardation. In order to conclude, children with

ZPR need an adult who identifies those relationships between which it is necessary to establish a connection.

U.V. Ulenkova claims that children with ZPR do not know how to reason draw conclusions; try to avoid such situations. Due to the lack of formation of logical thinking, these children give random, thoughtless answers, and are unable to analyze the conditions of the problem.

In order to experimentally study the peculiarities of thinking of children with ZPR, a study was organized using a series of techniques. An experimental study was conducted on the basis of secondary schools in Tashkent. The number examined was 40 children. In the study, the following methods were used: "Fourth Extra" (NL Belopolskaya), "Study of the classification process", "Visual analogies". The listed methods were aimed at studying the child's ability to generalize and abstract, highlight existing signs, identify logical connections.

To standardize the units of measuring the characteristics of thinking in order to compare the level of their development, both among the subjects and among the parameters themselves, all units were given as a percentage of the maximum number of optimal answers.

The result of the three methods showed:

- That the level of the child's ability to generalize and abstract during the execution of tasks, the ability to highlight existing signs is at a low level. In the total number of students, the number of answers characterizing a low level of development prevailed, 10% of students did not complete the tasks at all.
- In children there is a decrease in the level of development of visual-figurative thinking, children experienced difficulties in generalizing and abstracting; disabilities, fatigue, inadequate age of analysis and synthesis, medium and low level of learning were observed.
- In children with mental retardation, errors were observed in the expansion and narrowing of generalizing words, the descriptive nature of generalization, insufficient analysis of objects and identification of signs.
- They cannot comment on their actions and explain their answers. Often explained on an intuitive level.

During an empirical study in children, there was a lack of motivation to complete the task, a lack of cognitive activity, a lack of focus on actions and a lack of an action plan, lack of analysis, synthesis, abstraction, generalization, and comparison.

After conducting an experimental study, we can state the need for corrective measures and a special technique for the

formation and development of thinking in children with mental retardation.

When developing the principles and tasks of correctional work, it is necessary to be based on studies that prove that the level of cognitive activity and methods of performing actions in children with ZPR are below the age norm. Therefore, when developing the age-oriented orientation of corrective measures, it is necessary to focus on the standards of earlier age periods at the first stages of work.

The basic principles of psycho-correctional care are as follows:

1. The principle of the unity of diagnosis and correction - the definition of correction methods based on diagnostic data.
2. The unconditional acceptance of the child with all its individual character traits and personality characteristics.
3. The principle of compensation - reliance on safe, more developed mental processes.
4. The principle of consistency and consistency in the presentation of material is a support for different levels of organization of mental processes.
5. Compliance with the necessary conditions for the development of a child's personality: creating a comfortable situation, maintaining a positive emotional background.

The implementation of these principles is expected in the course of psychological and pedagogical support, which consists in differentiating the approach to children. A differentiated approach is to create an adequate system of pedagogical requirements that correspond to the capabilities of a particular child.

The basis of correctional work with children with ZPR are the following provisions:

- 1) The principle of mismatch in children with difficulties in teaching sensitive periods of development of mental functions in relation to the age of the child;
- 2) The principle of compensation for underdeveloped qualities, abilities and functions.

In the works of L.S. Vygotsky, D. B. Elkonina, A.V. Zaporozhets et al. Shows the importance of taking into account sensitive periods when this function is especially sensitive to external influences and develops especially rapidly under their influence.

When creating a system of corrective work with children with impairment, it is necessary to take into account groups of cognitive disorders. It is advisable to use the following methods.

1. The correction method of analytical and synthetic activity;

- Presentation and description of a situation with altered habitual characteristics of temporary connections, for example, a situation of lightning without thunder;

- Presentation and description of the situation with the replacement of the usual temporal order with the exact opposite, for example, a stork flew to the ground and was born;

- A sharp reduction in the time intervals between certain events, for example, a one-day flower;

- Moving along the time axis of the existence of an object or its properties, for example, a TV set in the past, present, future;

- Combining in one volume those objects that are spatially divorced, and a description of the subject with new properties, such as a blade of grass and a fountain pen;

- Breeding commonly associated in space objects, for example, imagine fish without water;

- A change in the habitual logic of influences, for example: smoke is not toxic to humans, but humans are toxic to smoke;

- Multiple enhancement of the property of an object, for example: property of a bus - transport people, transports a lot of people.

In the analysis of special literature, the following methods were developed for the development of thinking of children with mental retardation:

- Correction method for analytical and synthetic activity;

- A technique for correcting attention as a mental process;

- Perception correction technique as an initial basis for the development of thinking.

Consider each of these three techniques:

Correction method of analytical and synthetic activity - this technique is used to represent and describe situations in which the temporal order in the usual sense is replaced by a reverse, clearly opposite meaning, character, for example, a stork flies to the ground and someone was born (about child). In addition, this technique can be applied with a sharp reduction in time intervals relative to several events, for example, a flower that blooms for only one day and dies on the same day. The technique is designed to use the same subject when moving it in time. For example, yesterday, today, tomorrow - how cars looked before, and today - in a different way). When using this technique, it will be very informative for schoolchildren with ZPR to present objects of animate and inanimate nature in conditions unusual for them - for example, presenting fish without water; You can

also effectively use the method of changing the logic of exposure in the usual sense, for example - smoke is not toxic for a person, and a person is toxic for smoke. But you should pay attention that there should not be a substitution of correct concepts, therefore, according to the results of the lesson, you should understand which statement is still true. This technique contains a series of exercises which, in order of increasing quantitative tasks, also increases the complexity of the tasks. These exercises should be carried out regularly, and it is important to assess their positive emotional color for a student with ZPR.

The technique of correction of attention as a mental process includes exercises:

- 1) The development of voluntary attention, its stability, concentration, switching, volume, distribution;
- 2) The formation of primary skills of introspection, the ability to control their activities, the implementation of control actions based on the results of activities on the ways of performing activities;
- 3) Increasing interest in educational activities;
- 4) Increasing the motive for success and reducing motivation to avoid failure, the development of self-esteem.

Such tasks to develop attention should be carried out at least twice a week. The lesson should be attended by no more than 5-6 children with school-age disabilities, taking into account the attention of the middle level. It is quite possible to carry out some exercises of this technique in relay form; however, in this case, you should record the success of each child in accordance with his previous successes, and not make comparisons with other children. In fact, a competition for children turns for a teacher into a competition between a child and himself, which he does not even know about.

Necessary funds for the lesson: notebook, pencils, pens with green, blue and red rods.

Each lesson has the following structure:

1. The warm-up part, which may include such exercises as:
 - Exercises to increase the amount of attention ("What has changed", "Live pictures");
 - Exercises on the formation of switching attention ("Build on ...", "Forbidden Movement", "Four Elements" and their modifications);
 - Exercises on the development of attention sustainability ("Selector", "Do not Think About.").
2. The main part, which includes exercises:

- Exercises on the stability of attention ("Listen to silence", "Minute");
- Exercises for concentration ("Invisible words", "Find the differences", "Who is the first to notice the error", etc.);
- Exercises to switch attention ("Corrective test").

3. Training in gymnastics complexes to relieve tension and breathing exercises, used as a hitch as in physical education lessons.

The perception correction technique includes the following exercises:

- 1) Graphic reproduction of the meaning of words, carried out according to the instructions of an adult;
- 2) The image on the sheet of details of an object or living object (for example, draw only a dog's paw or a person's nose);
- 3) The image of characters related to fictional, fantastic (for example, a fever bird);
- 4) An image of a certain set of points with a request to draw a contour (different variations are possible for different children, not everyone will circle from one point sequentially to another);
- 5) The image of the "track", which looks like a complex line of the road, and the child, must repeat the drawing;
- 6) Drawing straight lines without any tearing of a pencil from a sheet of paper;
- 7) The use of plasticine and other materials for modeling.

Since the game activity contributes to the activation and increase of learning effectiveness, we offer the following types of games for the development of mental operations.

1. The game "Look around"

Purpose: to develop the ability to see as many objects as possible around you.

Course of the game: "Look around you and try to see as many objects of the same color (shape, size) as possible."

2. The game "guesses"

Purpose: to develop focus.

Material: pictures with the image of fruits (apple, pear, grapes) riddles. Game progress: "Guess riddles and find the answer in pictures:

3. The game "Unusual words."

Purpose: the formation of the ability to separate the concept form from its content.

Course of the game: "Now I will speak the words, and you will answer me, which word is larger, which is smaller, which is longer, which is shorter:

- Ruler or ruler? Which is shorter? Why?
- Mouse or bear? Which one more? Why?

“Anaconda or a caterpillar?” Which is longer? Why?

- Ear or ear? Which is shorter? Why?

4. Game "Ball"

Purpose: the development of the ability to switch from clearly effective to naldyan-shaped.

Material: plot drawing: room with a high closet, children's table, large and small chairs. A little boy sits on the carpet, he has no toys. The ball lies on the cupboard. The boy sitting on the carpet reaches for the ball with his hands.

Course of the game: “Look at the picture and tell what is drawn in the picture.” “Tell the boy how to get the ball.” If it is difficult to understand the situation depicted, the defectologist uses a hint: “Remember how you yourself pulled out the toy when it was on a high cabinet.” If this technique does not help to complete the task, then a real situation is created. One of the children is asked to get the ball from the closet, and then tell about the completed action.

An analysis of the literature showed that the problem of the development of thinking of children with mental retardation has been studied by many scientists and a number of methods and correctional developmental exercises have been developed to eliminate the lack of formation of all thinking operations.

Thus, violations of the development of thinking in children with mental retardation require teachers of the auxiliary school to create special correctional and developmental conditions with the content of games and exercises according to the methods described above. Since children with ZPR have the necessary prerequisites for successful learning.

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