Article

On the cognitive difficulties faced by children of primary school age, on the level of development of thinking in the process of educational activity

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Abstract

Thought is the main psychological basis of our National Education Concept (National Curriculum). The most important and frequently observed cognitive difficulties encountered by primary school students during educational activities are the difficulties resulting from the level of development of thought. The main purpose of our research is to determine the psychological characteristics of the effect of the current level of development of thought and its processes on the formation of educational difficulties of primary school students. For this purpose, in this article we reviewed thought as a cognitive activity and analyzed the developmental characteristics of their thought and its intellectual processes in education. In particular, we determined that the weak development of abstract-logical thinking is one of the main reasons for the formation of mental difficulties in education.vThe teaching materials that reflect the content of modern education are extremely logical, based on abstract thinking, the development of concrete thinking covers the ages of 6-12, the formation of abstract thinking covers the ages of 12-18. This situation causes the formation of some contradictions in their cognitive activity. Education should carry development, but the successes achieved in the learning process based on a lot of psychological, mental, physical tension, load, psychological pressure are achieved at the cost of their spiritual, physical and

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psychophysiological exhaustion.In primary school age, their thought processes are characterized by their own unique, individual developmental characteristics, and as the classes grow, their thinking also develops and the difficulty level of education increases.Since the mental plane of thought processes has a gradual character, the difficulty of primary school students in performing any intellectual operations negatively affects the performance of other operations. For example, as a result of the inadequacy of the analysis and synthesis processes, the comparison and classification processes become difficult for them. Since they cannot analyze, they have difficulty in understanding logical connections. In addition, due to the inadequacy of the analysis, synthesis, comparison and classification processes, difficulties are observed in their abstraction processes.

Key words: *Primary School Students, Educational Activity, Thought, Intellectual Operations, Concrete Thought, Abstract Thought, Logical Thought, Cognitive Difficulties*

Introduction

Thinking is the main psychological basis of our National Education Concept (National Curiculum). The most important of the cognitive difficulties faced by primary school children during their training activities are the difficulties that arise from the level of development of frequently observed thinking. The main purpose of our research is to determine the psychological characteristics of the effect of the current development level of the process of thinking and the development of primary school children' education difficulties. To this end, we review thinking as their cognitive activity and analyze the developmental characteristics of their thought and intellectual processes in educational activity. In particular, we found that the weak development of abstract-logical thinking was one of the main reasons for the development of mental difficulties in training activity.

The teaching materials that reflect the content of modern education are based on highly logical, abstract reflection, the development of congress thinking is 6-12 years, and the formation of abstract reflection is 12-18 years. This causes a number of contradictions in their cognitive activity. Education must pursue development, but achievements in the process of learning based on a lot of psychological, mental, physical stress, burden and psychological pressure are achieved at the expense of their spiritual, physical and psychophysiological depletion.

In the primary school age, their thought processes are characterized by their unique, individual developmental characteristics, and as the classes grow, their thinking develops, the level of difficulty of education increases.

Since the process of thinking processes in the mental plan carries a gradual character, the difficulty of primary school children in performing any intellectual processes adversely affects the performance of other processes. For example, if the analysis and content process is not sufficient,

the comparison and classification process becomes difficult for them. Since they cannot analyze, they have difficulty understanding logical connections. Furthermore, difficulties in the execution of their abstraction processes are observed due to the insufficiency of the development of the analysis, syntesis, comparison and classification processes.

1. ENTRANCE

All stages of the modern lesson create an environment for the development of thought and processes. The transformation of education into a need for primary school students is the main indicator of the activation of their thinking. Primary school students perceive the educational activity, the educational materials they learn, concrete and abstract concepts, their important features, and logical relationships between them through the higher mental function of thinking.

Primary school students encounter cognitive difficulties while performing intellectual operations. “The reasons for the formation of educational difficulties in psychology are characterized by the progressive state of mental functions. The succession of these or other stages of cognitive processes, their duration depends not only on the character of external stimuli, but also on the emotional state of the subject at the same time” [8, page 204] . As we know, the implementation of mental activity is a sufficiently difficult process for them. Because intellectual activity is implemented mentally, internally (internally), since it requires the sequential, gradual implementation of a number of cognitive processes, it causes them emotional tension.

The concrete thinking of the primary school student is not enough to fulfill the abstract work done in the intellectual plan. “At the end of school age, the transition from the simple type of abstract thinking to the ink type emerges in a swollen form. In the primary school period, eyani-obrazed thinking takes a more active place in his educational activity” [17, page 407]. The cognitive difficulties that primary school students encounter in educational activity manifest themselves more in relation to abstract thinking. At first, they have difficulty in understanding the figurative meaning of words and metaphors. Since the thinking of 6-7 year old children is based more on comprehension, they rely on eyani-obrazed thinking. Abstract thinking allows for the understanding of concepts such as quality and value, and for solving mental problems, but the thinking opportunities they have in this period do not provide the perception of abstract concepts.

Psychologists, speaking about the stages of the formation of thought, show that the abstract thinking of primary school students usually begins to form substantially at the age of 9-10. According to age sensitivity, at the age of 6-7, their thinking has a concrete nature, and therefore I-II grades have difficulty understanding abstract concepts. Education and training guided by the principle of “the golden rule of being concrete” do not create an environment for the development of abstract thinking. For example, we ask Japanese children aged 5: What color is a leaf? They answer: What season of the year? In this answer, their logical approach and the need to clarify the

question are obvious. Unfortunately, most of our students answer this question “It is green”, relying directly on concrete thinking, without taking into account other seasons.

Primary school students do not have deep imagination about the important features of objects and events, so they do not have clear information about them, and this is clearly reflected in their speech. Since they do not know the important features, it becomes more difficult to understand and use these concepts in speech. During the educational activity, certain scientific concepts and their connections are taught consistently. First, simple concepts are taught, as the classes grow, they become relatively complex, it is demanded to adopt them and use them locally in speech. In order to adopt the content of the concepts, their logical thinking must be at the appropriate level of development.

primary school students is great. They think and speak through speech. Their speech develops through phonetic hearing ability, increased word awareness and semantic awareness. There is difficulty in expressing both oral and written speech. During the internalization of external speech, they have difficulty in listening and understanding the teacher's comments in particular. At the same time, they have difficulty with speech when internal thought is transferred to the outside. So much so that it is difficult for them to express their thoughts, as well as to choose the right expressions.

There are a number of individual differences in their thoughts. So much so that while some are sure of their own answers, others have doubts, some are quickly influenced, and a few remain with their own ideas. This is due to the lack of sufficient formalization of independence in them, and they have difficulty expressing and defending their own ideas freely.

Primary school students especially They have difficulty distinguishing important from unimportant symptoms. “There are several different aspects to student generalization. Sometimes children rely on secondary signs instead of important signs. In this case, the content of concepts is expanded to account for unnecessary signs. For example, primary school students just because of the ability to fly “they include insects in the order of birds” [13, page 336]. In other words, the distinctive features of concepts they have difficulty defining.

“The separation of important features of objects by primary school students depends on their cognitive experience. This is exactly the result of the lack of this experience. While adopting concepts, students of grades I and II mostly take external features as a basis. This shows that their generalizations do not go far from the framework of perception. They have difficulty in generalizing features that they cannot directly observe” [13, page 336]. These situations shown are due to their having concrete thinking and the organization of education and training in this direction.

At what age does the basic development of verbal-abstract thinking begin? Jan Piage indicated that the ages of 6-12 and 7-11 are the concrete operational period, and the ages of 12-18, 11-18 are the abstract operational period. However, our current educational program demands

that primary school students apply and implement higher logical thinking. This creates a contradiction between their internal possibilities and the performance required of them. If education is to carry development with it, then the organization of education and the teachers who provide education should support development, otherwise it is unreasonable to expect higher logical thinking from them. In fact, most of the tasks used in textbooks contribute to the development of the left hemisphere. As a result, the development of imagination is ignored. Tasks for the activation of both hemispheres should be balanced quantitatively and qualitatively, otherwise it will cause mental overload and one-sided development. Efforts should be made to strengthen both hemispheres in parallel.

The thinking activity of the primary school student depends on the development of other mental processes and individual psychological characteristics. Memory stores and recalls the necessary information, feelings help to perform with greater spiritual height, will helps to work patiently, resiliently, confidently, imagination helps to visualize in the mind, which in turn stimulates the successful implementation of the solution. Therefore, the deficiencies and difficulties in these areas do not pass directly into the sphere of thought without effect and can cause serious problems. Therefore, the development of abstract thinking in them depends to a large extent on the formation of correct, full-fledged conceptualizations, logical (meaningful) memory, praxis, the level of development of emotions and imagination. Mental emotions activate thinking. When we enjoy the fulfillment of learning, when we establish high emotional relationships, we have better understanding.

2. WITH THE DEVELOPMENT LEVEL OF THINKING IN PRIMARY SCHOOL STUDENTS RELATED OBSERVED COGNITIVE DIFFICULTIES

In general, the fact that the teaching material is not expressed in their own words is an indication that they do not understand it sufficiently. In general, students interpret the topics they do not understand mechanically, as in the textbook.

Why do primary school students solve tasks incorrectly or reject direct solutions? Mostly because they do not understand. Especially primary school students have difficulty in instrumental understanding and make mistakes. For example, a primary school student knows the spoken sounds, their distribution, the difference between sound and letter, syllable, stress, harmonious law separately, but does not fully understand that phonetic analysis, which is a common feature for each of them, should be based on them. Because he does not understand the meaning of the word “Phonetics” as a term. They should be informed that phonetics learns spoken sounds and phonetic analysis is carried out on spoken sounds. Usually they analyze the word on its writing. They do not understand that it is necessary to analyze on the correct pronunciation of the word. Or even if they write the pronunciation in front of the word, they still analyze the writing. Or when asked for the definition of the law of harmony, they describe it correctly, but make mistakes when solving tasks

related to it. This can be explained by the fact that they do not notice the conjunction "or" in the definition. Let's look at the definition: “The so-called thick or thin elements that follow each other and harmonize are called the law of harmony”. It is important for the teacher to work in two directions. First, it is necessary to focus on how the harmony of sounds is formed and how the harmony is broken by means of thick and thin pairs. Then, it is necessary to direct the students' attention to the connector "or" and its function. The teacher should first explain the rule according to the pronunciation, then by writing it on the board.

They also make mistakes in instrumental comprehension during the solution of mathematical tasks. They know about multiplication and division operations separately, about their components (Vurug-vurug-hasıl), (Dividend-divider-kismet). However, it is difficult for them to understand the relationship between multiplication and division. That is, they miss the point that the correctness of multiplication should be checked by division and the correctness of division by multiplication. Some perceive theoretical and some practical information more easily. For example, when asked, what do you need to do to find the dividend? How is the second denominator found? Even if they present the rule correctly verbally, they have difficulty in applying it practically. On the contrary, even if they cannot express the rule verbally, they solve the task correctly. It is difficult for them to interpret the work they do mentally verbally, or to apply the rules, to switch from internal activity to external activity and vice versa. In such cases, teachers form such an idea that they did not solve the task themselves and received help. Since thinking is very closely connected with speech, teachers should know that the transition from mental activity to vocal (external) speech is not an easy process for each of them. Lack of active vocabulary resources, individual psychological characteristics and speech development features must be taken into account. They make such mistakes because they do not know the meaning expressed by the words (lexical meaning), do not know the linguistic lexical norms (using the word locally in terms of meaning), do not understand polysemy, place of use. For example, they cannot correctly define the place where such expressions are used: instead of small, small girl, they use xırda girl, instead of big sister, they use zorbaca, iri sister, instead of high pressure, they use hundur pressure, etc. Or, at first glance, they do not understand the meaning of the word “mexfi” in the word combination “tam mexfi”. But they easily understand the meaning of the word "secret" which has the equivalent in our language. As we see, the word "məxfi" is a borrowed word of Arabic origin, especially since it is not a universal word in their speech, it is natural for them not to perceive its meaning, but immediately after reading the text related to it, they can understand the meaning of this word on a general basis.

For example, they conclude that the words "güllük", "güldan" and "gülüş" come from the same root. They think that every word is derived from "gül", but they overlook the features of homonymy (being both a noun and a verb). They do not give an idea of the semantic meaning based

on the fact that they are apparently written the same. Here we see the wrong generalization of the primary school student's thought.

More serious problems were observed during the organization of abstract thought processes. Since the early stages do not have abstract thought, they have difficulty in mental analysis-synthesis. For example, when we ask them to count the number of operations performed to divide the 40 cm rope into 4 equal parts, they automatically say that four operations were performed. However, when they perform the task practically, they report that they made three cuts in a row. Now let's look at another issue: An ant rises 2 m and descends 1 m during the day to get out of a 10-meter well. In this way, how many days will it take to get out of the well? Since they cannot visually observe the operations performed by the ant, they have difficulty in visualizing them. For this purpose, it is necessary to instill modeling skills in them for the easy implementation of any type of work and to develop mental modeling in them.

Since primary school students do not fully perceive the problem, they have difficulty in dividing the problem into necessary parts, then combining them, that is, analyzing and synthesizing them, and as a result, they solve the problem incorrectly. The result here shows that we should focus their attention on the parts of the whole . For example, first-grade students learn to write letters, first fully understanding the letters, ignoring their elements. After bringing these parts to their statement, they learn to write the parts of the letters, and then synthesizing these parts. But this process does not go actively in each of them. Some do not manage to combine the parts intellectually, to conflate them correctly. They learn to write words by this rule, and some still give way to mistakes.

Sometimes they understand the opinion given in the affirmation in the instructions of the tasks as denial, and the opinion given in denial as in confirmation, and this leads to the wrong solution of the task. Especially instructions such as "not", "included", "not included", "belongs", "does not belong" are misunderstood. As we see, it becomes difficult for them to understand the decisions, opinions, sentences given in affirmation and denial against the background of carelessness.

The judgments of primary school students gradually progress from simple to complex. The judgments they carry out in the early stages of education are short and simple. Therefore, they have difficulty in understanding long and difficult judgments. Since they do not understand that any event can occur for various reasons, their judgments are more based on reality and their probability judgments are less developed.

Although primary school students can quickly identify the truth or falsehood of executed judgments based on perception, they have difficulty in deriving mental conclusions when they cannot be determined through observation, in other words, when it is necessary to prove them

through mental operations. In particular, even if they are successful in deriving inductive mental conclusions, they have difficulty in producing mental conclusions through deduction.

Comparison is a difficult intellectual process and it demands primary school students to go to the deep layers of perception and direct their attention to the characteristics of objects and events. In particular, processes such as igniting and comparing are demanded. It is necessary to draw their attention to which aspect, for which characteristics and qualities the comparison should be made. Comparing observable objects according to their external characteristics is an easy process for them compared to comparing observable objects according to their internal characteristics. The perception of concepts is different according to quantity and quality. The first is characterized by concreteness, the second by abstractness. They compare objects better and easier according to quantity and external characteristics. In this case, they resort to perception forms. Since the comparison process according to quality has an abstract character and it is not possible to observe, it is difficult for them to perceive and distinguish it. Because qualitative comparisons are based on abstract concepts, they are difficult to perceive. This can be explained as follows: they still cannot understand the meanings expressed by abstract understandings, in other words, they have difficulty because they do not understand the metaphorical meaning of words. In addition, while they quickly identify similar features, they have difficulty identifying different features. It should also be noted that their understanding of teaching materials is possible not according to similar features but according to distinctive features.

Let's look at some of the deficiencies that are specific to the thinking of elementary school students: For example, they can easily solve 4x5, but they have difficulty solving 4xX = 20. This is because their thinking is focused on finding the unknown. This time they remember the multiplication by 4, but the product 20 should be a clue for them. In other words, the fact that one of the strokes in the product 20 is 4 should help them understand that the other stroke is 5.

Because of their limitations in their ability to abstract, they have difficulty in translating geometric figures into figures with vital content.

The necessity of simultaneous, step-by-step, gradual implementation of various cognitive processes during the solution of the problem creates difficulties in the intellectual activity of the primary school student. The solution of any task contributes to the development of thinking in sequence. Observations show that primary school students usually have more difficulties in solving problems. The main reason for this is the majority of thought processes carried out during problem solving and the search for the unknown by performing these processes thoughtfully. Ideological solving is a difficult stage in solving the problem. The difficulties that primary school students encounter when solving the problem are not only due to their cognitive abilities, limited level of knowledge, but also due to the lack of solution methods, insufficient cognitive experience, and in such cases, the solution process becomes difficult.

Why is it difficult for them to solve problems in particular? Most of the time they do not read the problem consciously and do not understand the instructions correctly. They do not carry out their thought processes in accordance with the instructions of the subject. They decide "It is difficult!" because they read the instructions in general and perceive them in full. They cannot see the parts of the whole at first glance. And most importantly, they do not know which unknown to look for.

Successful solutions begin with being aware of known data. Finding the unknown is only possible if primary school students themselves recognize and comprehend the known. One of the most common problems they encounter is not being aware of known data when solving problems and instead focusing on finding the unknown without relying on them.

The solution of problems of various content requires the primary school student to switch from one way of thinking to another. Different types of tasks each time require the determination of new solution methods, strategies. Therefore, while it is difficult to solve problems of new content, mathematical examples, which they are relatively less familiar with, the solution of the same type is somewhat easier for them.

3. PURPOSE AND METHOD OF THE STUDY

The main purpose of our research on this subject is related to the fact that primary school students have a lot of difficulties in thinking. For this purpose, we tried to analyze the internal mechanism and external manifestation of the learning activity of primary school students. The main purpose of our research is to show that the developmental characteristics of the higher level of cognition, which is thought and its processes, cause some cognitive difficulties in the educational activity of primary school students when they are ignored. In this article, the potential of their thinking capacity to develop through purposeful pedagogical and psychological effects is revealed. We also wanted to present to your attention the psychophysiological and psychopedagogical characteristics of the difficulties of primary school students in thinking.

Primary school students should practically apply in practice the operations that they perform in the mental plane during the educational activity. That is, they first of all study the methods of solving tasks in the cognitive plane, and then apply them to the execution stage.

In particular, they encounter difficulties due to the inadequacy of the development of their thought processes to the required level. Although they can perform simple operations relatively easily, the solution of tasks requiring ink and several operations causes difficulties in their thinking activity.

If a primary school student has difficulty in performing any task, the teacher's explanatory and guiding role encourages his/her thinking to be activated and to work independently. If the teacher only shows the students the solution directly, on this basis, the thinking becomes passive. So, we can say that the correct performance of the teacher's facilitator role ensures the

development of their thinking. If the teacher wants the students to transfer the solution directly from the board to the notebook in cases where they solve the problem incorrectly and cannot solve it, it will be unclear to them where the mistakes originate.

Unfortunately, in school experience we come across a number of situations when the student cannot cope with the task, or solves it incorrectly, and the teacher simply crosses out the text and asks to do it again, and similar situations are repeated several times. As a result, each time he experiences frustration (frustrasiya), becomes emotionally burdened, feels worthless and incompetent, most importantly, his motivation for education decreases against the background of a change in his emotional attachment to education. It is not right to leave them in insurmountable situations. So the teacher must draw conclusions for himself that the zone of proximal development is not sufficiently developed in them, and therefore they fail to fulfill it independently.

Let's compare the thinking activity of two primary school students: While one solves quickly and makes mistakes, the other solves late and mostly without errors. The teacher highly appreciates the 1st group of students. They punish the 2nd group according to the speed of cognitive activity. If the teachers knew that these situations were due to the structure of the nervous system, the characteristics of temperament types, they would not make such a big pedagogical mistake. Since the teachers do not know the individual characteristics of the students (they do not answer because they know the answer to the question but have low self-confidence, are excited, are embarrassed, or are afraid, etc.), they do not contribute to the development of thought and, on the contrary, create obstacles.

Difficult tasks create for them imaginary (cognitive) and real (practical) obstacles. When they repeatedly experience a state of frustration (frustrasia) while solving any difficult task, they experience an internal conflict, their self-evaluation decreases, and their thought activity becomes passive.

Whether they have learned the teaching materials consciously or not can be determined by the level of their use in written and oral speech. Their clear, conscious perceptions are expressed in the relevant, consistent, fundamental, correct and logical internality of the concepts they express. Teachers should pay attention not only to the grammatical correctness of the sentences and judgments made by primary school students, but also to their not being simple, not being repeated as in the classroom, and to ensure that they add their own judgments. The fact that the material is conveyed as in the classroom is an indication that they are not sufficiently understood, and that they have mechanical memory. Under these conditions, meaningful (logical) memory is also impossible.

Only the active activity of the left hemisphere loads the mind and does not take into account the development of the right hemisphere, and the development of imagination is hindered. In order

to avoid such a load, we recommend using tasks that serve to update both the right and left hemispheres, and are based on the joint work of both at the same time.

It is necessary to know that every educational difficulty begins and ends in the mind of the primary school student. In fact, there is usually no serious fundamental source of what they call "Difficult!". Therefore, they must first get rid of this negative and wrong thought. With cognitive behavioral therapy, it is necessary to change their thoughts about difficulties, their negative mastermind, to instill not to panic, fear, not to be appreciated, unnecessary, inadequate, incompetent, and lack of self-confidence in the event of failure, and then to manage to reflect these thoughts in their behavior, in our example, in educational activity. When we put them face to face with difficult tasks that are beyond their strength, they experience emotional-volitional-cognitive collapse. It is possible to prevent all the negative situations we have listed by preparing them for the difficulties and overcoming them psychologically. Sometimes they can unknowingly have a negative effect on each other and be a negative example. Thinking that the tasks that they cannot accomplish themselves will not be achieved by others, they demotivate each other and discourage each other.

The reason for the increase in the rate of education observed during the educational activity of primary school students should be explained not only by their high-intensity efforts, but also by the increase in nervous-psychic awakening and tension. The clear implementation of cognitive processes, the duration of their continuation is directly dependent on their emotional state. In other words, it is in accordance with their psychological speed. Habitual cognitive processes do not require any voluntary effort, but during the performance of tasks that are not customary, usually new, the psychological speed changes, they have to regulate their feelings and emotions so that they can perform the tasks given to them in the maximum way. The working speed of primary school students affects the speed of implementation of thought processes, and generally, mental operations. Here, slowness, passivity, speed, agility, instability, dynamism, which are based on individual characteristics, should definitely be taken into account. In the school experience, teachers ignore these facts and undervalue their work. In other words, they underestimate the educational effectiveness due to their temperamental characteristics, leaving them to internal conflict with themselves, and applying psychological pressure. It is very difficult for students to work under these conditions and poses a threat to their psychophysiological health. Changing their work pace is possible only through gradual, planned training.

While some are based on difficulty and intense mental activity, others consider such a state of mental tension as high pressure and burden on themselves. The performance of tasks that cause mental and physical tension inhibits their thinking, because the senses penetrate the central nervous system faster than consciousness. At the moment of tension, consciousness can only

communicate with the nerve centers at the level that the senses allow. Data enters the brain in an emotional way, and prepared answers return with logical content.

In our opinion, there are two ways to overcome the cognitive difficulties of primary school students in thinking:

1) Either we must take into consideration the developmental characteristics of thought due to age sensitivity and create an educational content appropriate to it, in other words, we must not go beyond development.

2) Or the content of education, the organization of education, school psychologists, teachers and parents should contribute to the development of thought.

The second way will be more useful.

4. CONCLUSIONS AND RECOMMENDATIONS

We believe that it is possible to overcome the cognitive difficulties of primary school students in three ways:

1. Before starting the training, pay serious attention to the development of thought;

2. Keeping in mind the mental development of primary school students as a result of the joint efforts of the school psychologist, teachers and parents;

3. Educational content, textbooks that reflect the content, creating an environment for the development of thought and processes.

For the effective education of primary school students, it is necessary to develop their thinking. The first work on developing their thinking should be carried out in the family, then in the preschool period, on the eve of school preparation, in the school education institution by parents, teachers, preschool and school psychologists. It sounds absurd to demand a high level of thinking when we do not deal with the fundamental development of thinking until school education and when we start education.

4.1. PROPOSALS FOR SCHOOL PSYCHOLOGISTS, TEACHERS, PARENTS, TEXTBOOKS AUTHORS ON DEVELOPING PRIMARY SCHOOL STUDENTS' THINKING AND ITS PROCESSES

4.1.1 . Our advice to school psychologists will be in the following directions:

1. To inform teachers, parents about the features of the development of thinking of primary school students, their cognitive difficulties, their causes, forms of manifestation;

2. To take appropriate psychoprophylactic measures regarding the development of thinking;

3. To identify the cognitive difficulties of primary school students, which are caused by the characteristics of their internal (mental) development level, by means of various diagnostic methods of their thinking, thought processes, as well as by psychological testing (using tests that provide complex examination);

4. To carry out appropriate development and correction procedures in order to eliminate the results obtained during the examination;

5. To provide psychological counseling services to teachers, parents and primary school students, providing advice and guidance on solving their problems;

6. From time to time, to organize consultations with the participation of experts, school administrators, school psychologists, teachers, and parents to discuss the methods by which the cognitive difficulties encountered by primary school students during their educational activities, related to the level of development of thought, can be psychologically eliminated.

School psychologists should inform teachers and parents about thought and its processes, difficulties arising from the current level of development of thought, how to overcome them, development, education and training of thought, give psychological advice, periodically examine cognitive functions and carry out appropriate correction and development procedures.

4.1.2. We also recommend teachers to use the following tasks that serve the development of primary school student thinking:

- Creating an environment where primary school students can benefit from their break times in order to rest them for effective thinking activity;

- The difficulty and weight of the training program has a negative effect on their thinking ability. Using various role-playing and didactic games, word games, and activities that develop both hemispheres and eliminate physical and mental tension;

- Frequent use of Venn diagrams in lessons to develop their ability to compare (applying this method allows them to compare by looking at similar and different aspects);

- Focusing their thinking on cause-effect (causal) relationships;

- Now that they are trained in reading and writing techniques, it is possible to give them verbal, logical tests, verbal instructions. However, this time their level of knowledge, system of concepts, active dictionary reserve must be taken into account. Such tasks are related to abstract features, they promote a more accurate and deeper understanding of concepts by primary school students;

- Since thinking is based on logical thinking, the use of age-appropriate logical tasks and tests is of great developmental importance. The classroom teacher can develop logical thinking by using at least one logic test, a riddle, a question or an extra homework assignment every day at school;

- Primary school students are not able to visualize the events that will occur while evaluating a task they encounter, the process that will take place after a few steps. Teaching step-by-step thinking serves to develop abstract thinking;

- Generalization ability prepares the environment for the proper production of mental results and is closely related to abstraction. Generalization is done on the basis of induction, deduction and comparison. In order to improve the generalization process, we recommend that teachers apply the cluster method of differentiation. The possibility of using this method in two ways allows the production of mental results both from general to specific (deductive) and from

specific to general (inductive). For this purpose, a concept is written in the center and the students say what they know about it, the teacher notes it down. Or the teacher writes certain definitions for each branch of the cluster and asks them to find the concept in the center;

- As we know, Azerbaijani language is a very rich language and has polysemic words. If possible, the literal meaning of the words should be explained along with their figurative meaning and place of use. For example, the meaning of word combinations such as big barrel and big person should be explained;

- In the early stages of education, while forming calculation skills, concrete thinking based on vision perception is developed on the ground of using various visual tools (sticks, fingers, calculation brush, etc.) and they cannot calculate mentally. In modern times, calculation is not supported with this method of education, it is absolutely necessary to switch to the process of performing the calculation mentally right after the calculation process performed with visual tools. It is important to give correct instructions to ensure that this process is implemented mentally. For this, we recommend that teachers use a short-term training: “Now, close your eyes, try to calculate mentally by visualizing the calculations you made with various tools and visualize them”. It is necessary to give importance so that this process becomes a skill, a habit and is strengthened later. After a while, they will be able to easily switch from concrete to abstract and vice versa, and therefore they will be able to calculate mentally easily. If their fast calculation habits are not based on logical relationships, they will be forgotten unless they repeat them;

- We recommend using role-playing games while solving problems. In such an environment, they will become intellectual and practical implementers of the process. For example, in order to better understand mass and currency units, the teacher asks students to bring their favorite toys, belongings, paper money and pennies, hand scales and electronic scales in advance. Practical implementation of the shopping process allows them to understand mass and currency units more clearly;

- Of course, they do not succeed in solving problems all of a sudden. This is possible by having problem-solving methods and techniques, based on the skills they have acquired. This work should start with conscious reading. It should be explained to them that it is important to read the subject in a way that they understand, if necessary, it is necessary to read the instructions 3-5 times and more and to store the known data in memory by analyzing them. It is necessary to ensure that this process is initially carried out aloud, then gradually with inner speech (silently) . It should be noted that in them, first, vocal (external) speech develops and then, under the influence of education, inner (silent) speech is formed. The smooth implementation of these processes depends on the teacher giving the necessary instructions (read aloud, try to listen to what you read, read by heart, try to understand what you read, speak as you understand, etc.). It should not be forgotten that their success in other science areas is built on their success in the field of language perception.

As we see, the perception of mathematical concepts depends on how well they adopt the language. After the listening material is given, it is necessary to move on to obtaining the judgments and to determine how much the student understands what he listens to and how he will use it in his speech.

4.1.3. We also have suggestions for parents:

First of all, we must state that parents have great responsibilities here. How can children not question the world and the beings around them? superficial, begins to perceive and accept blindly? When their questions are not answered. Unfortunately, parents, without using the opportunities of this period, prevent the flow of questions. They do not focus their attention on the necessary details, causality in time.

For the purposeful development of thought, it is important to answer their questions in a timely manner. Question is the main indicator of thought and is connected with thinking and making others think. The lack of age-appropriate logical questions, tests, role-playing, constructive, didactic games for the development of logical thinking leads to increased difficulties and inefficiency in this area. By adding logical elements, their games can be turned into interesting, developmental fun. For example, parents can give the following instructions when collecting toys: “Collect according to their colors, shapes, features of use, type, etc.” As we see, here, although it is in a basic form, the child analyzes and synthesizes, compares, separates, classifies, groups, summarizes according to the type, shape, signs and qualities of toys.

The method of “fuzzing out the residuals” is used to diagnose logical thinking. It is recommended to use this method based on their age, the type of leading activity. Parents can work with children to find the toy that breaks the logical order from a group of toys arranged according to a certain logic.

Parents should ensure that their children focus their attention on the parts of the whole (parts and details of the toy) during the material manipulation activity period.

During the game, work should be done on grouping and classifying objects, finding the remaining object, and perceiving the cause-effect relationship. Their questions should definitely be answered in accordance with their age, and we should encourage them to ask questions.

Riddles, the establishment of word associations, etc. help to develop thinking. We recommend parents to use puzzle games (puzzles, puzzles) for their children, appropriate for their age (the number of details, details is important here).

It is necessary to ensure that a positive psychological climate is created in the family. Parents, parent-child relationship problems, fights, conflicts, etc. create negative emotions in them and negatively affect their cognitive activity. It is necessary to avoid scolding at every step, blaming them for incompetence, to create an environment for them to work independently, and at the same time not to withhold help when needed.

4.1.4. Our recommendations for textbook writers:

- Materials that serve the development of thought and processes should be included in textbooks. In particular, they should encourage the development of critical, creative, logical and abstract thinking;

- Not allowing the use of difficult terms, definitions, and concepts that have equivalents in our language through words taken from other languages;

- To create rational thinking in them. Not to put their thoughts alone with information that is contrary to the truth;

- The fact that the content of the problems is based on real-life events also makes them easier to perceive;

- It should be instilled in them through teaching materials that when starting to perform any work, it is necessary to think and believe in achieving success. For this purpose, success stories should be presented to their notice;

- Using tasks and examples based on the zone of proximal development for each topic helps them work independently without the help of adults;

- Task instructions should be avoided from being long, difficult and complicated;

- Asking leading questions at the end of each topic and directing their thoughts towards the production of intellectual, inductive and deductive results related to the topic;

- Emotional materials affect their mind, moral, aesthetic, praxis feelings, and also their thoughts. Each material they learn during education should affect their mind, thought, and feelings, and lead to their complex development - intellectual, moral, spiritual, aesthetic, emotional, voluntary, and social development.

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