ABSTRACT

Since our research is about the formation of divergent thinking of young schoolchildren in extracurricular activities, it seems important to understand the development process of thinking in primary school age. Based on our chosen logic, first of all, we define the essence of the concept of "development", which has received different interpretations in the scientific literature.

KEYWORDS

Divergent, intellectual, concept, identification, attention, perception, association process, thinking, association, motive, activity, convergence, reproductive, creative thinking, independent, heuristic.

INTRODUCTION

Since the primary school age is distinguished by its entry into educational activities, the psychological side of educational activities is the process of learning by children of different contents and different levels of complexity, as well as the process of learning ways. According to I.Yu.Kulagina, this process in elementary school students is not limited to memorizing individual facts, it is related to combining social experience with personal experience, finding subjective and practical parts in each new fact. Thus, in the educational process, there is a constant enrichment of the child's own experience. It should be noted that at the primary school age, thinking becomes a dominant task, the transition from visual-figurative thinking to verbal-logical
thinking, described in preschool age, is completed.

Two main stages can be distinguished in the development of the thinking of young schoolchildren. In the first (applicable to teaching in the 1st and 2nd grades), the analysis of the educational material is mainly carried out in a visual-effective, emotional plan. The conclusion is based on visual premises given in perception. Justification of the conclusion is carried out not on the basis of logical arguments, but on the direct connection of the judgment with the received information. During the acquisition of knowledge, the skills of generalization, analysis and synthesis, which are available in a younger student, are restored to a certain extent. From a collective set of private, separate objects, the generalization turns into a set of identical, essentially interconnected properties, separate from the individual, and the private is subordinated to the general. Essentially, this means that the generalizations made by young students at this stage occur according to functional properties, reinforcing clearly perceived properties that lie on the surface of objects and events. General and specific concepts and appropriate forms of abstraction, which play an important role in the classification of scientific fields (systematics of plants, systematics of animals, etc.) are important in the child’s thinking. Consequently, induction and deduction are formed, and analysis and synthesis begin to pursue new directions of development. The mental activity of a junior high school student goes from a random connection to a more important one. At the same time, the limitation of thinking is mainly maintained by external emotional features or signs: more or less important connections are known.

Scientific knowledge is intended for the thinking of elementary school students, because it consists of knowing concrete facts, their classification, systematization and empirical explanation. At this stage of the development of theoretical explanation, abstract concepts, abstract theories and thinking, the same abstract laws cannot be achieved. In the union of representation and understanding, representation still dominates. All the thinking of a young school student - the concepts, judgments and conclusions available to him will acquire a new structure at this stage of development.

In the first period of education in this systematic school, mastering the initial foundations of the knowledge system, young students enter the field of abstraction: they enter it and overcome the difficulties of generalization, simultaneously from two sides - from the general to the particular and at the same time they act in it. Based on a particular case and one of the few reference points that a general student has mastered, he moves to a specific concept and, based on a further generalization of the specific, arrives at more meaningful generalizations. We share the opinions of scientists who believe that the development of the generalization ability of young students is both a necessary condition and a result of their mental activity aimed at mastering the content of scientific concepts [2; 3; 4; 5; 6 and others]. The level of mastery of various concepts by schoolchildren of a young age
significantly depends on the level of generalization in the relevant concept, closeness or distance, visual content, the integrity of its mediation [7; 3; 8]. There are significant difficulties in defining the concepts that represent the system of relations. Information about the imperfection of generalizations used by elementary school students and the inadequacy of breaking down the conceptual content of scientific knowledge in their minds is given in the psychological and pedagogical literature [8].

The main direction of development of the thinking of a junior high school student is manifested in definitions, that is, revealing the meaning of the concept in a more objective and mediate way. Research data, in particular, E. Barnes, reveals qualitative changes in the nature of students of primary school age among schoolchildren. He found that the number of target definitions (by usage) is gradually decreasing and the number of logical definitions of various types is increasing [8]. Also, according to other studies, the number of logical definitions increases at the expense of target definitions among junior schoolchildren [5; 8 and others]. At the same time, definitions related to empirically concrete material turn out to be the most perfect, and definitions of complex abstract concepts are still almost non-existent. After the definition according to the intended purpose, the definition is given by enumerating the characteristics through the general concept. This definition is close to formal logic definitions. According to a number of scientists [3; 5; 6; 7; 10; 11 and others], this type of definition prevails mainly among young students from 7 to 10-11 years old. By the fourth year of schooling, as abstract thinking develops in younger students, the role of identification by example decreases dramatically.

An important role in the development of the thinking of young schoolchildren is played by the expansion of knowledge and the development of thinking about reality, which is strengthened by activities at the young school age. At the initial stage of learning, the cognitive access to the topic is not deep, and what appears to be from an authoritative source and therefore reliable is easily accepted as true. The situation changes with the deepening of cognitive penetration into the subject, and in connection with the growth of consciousness, young students begin to establish an internal relationship to the truth of their judgments.

The thinking of junior schoolchildren is distinguished by the realism of relationships, the priority of interest in concrete facts of objective reality. Concrete facts are at the center of intellectual interests of young students, which affects the content and structure of their reasoning. An important place in them is occupied by "judgments of existing existence", "judgments of thinking"; "Judgments of concept" are mainly represented by "judgments of reality" (assertoric), rather weakly problematic and judgments containing immutable truth (apodictic) [1; 7; 8; 9; 10]. Arguments to which the young reader refers relate to the usual "parable" and simile.
On the basis of systematic educational activities, by the 3rd grade, the nature of thinking of younger students changes. The second stage of its development is related to these changes: mastering the general relations between the individual characteristics of concepts, that is, classification. Elementary school students can observe connections between separate elements of the information being learned, relationships between concepts, often through visual images and descriptions. By the end of the second stage, most young learners are generalizing in terms of previously gathered ideas through mental analysis and synthesis. There is an increasing number of judgments in which visual moments are reduced to a minimum and objects are characterized by more or less important connections. The result of analytical-synthetic activity is an abstract judgment or generalized knowledge.

Analysis of psychological-pedagogical literature allows us to emphasize that the widespread idea of the inability to reveal connections and give explanations of the thinking characteristic of a young student is clearly unfounded. It is very easy for young readers to make connections and accept any coincidence as a plausible explanation: connections, which are often random and subjective, are accepted as universal patterns, without criticism or challenge, without any investigation. Young students begin to separate the imaginary from the real and see their thoughts as hypotheses, that is, propositions that have yet to be verified, judgments, and conclusions.

Evidence of a significant qualitative change in the thinking of junior high school students at the initial stage of education, at the same time, they reveal the limits of this new stage of thinking: mental operations do not go beyond the comparison of the closest facts; complex mediation systems do not exist easily. Working with various concepts of things, events, processes, the thinking of junior schoolchildren is thus prepared to realize the concepts themselves in their properties and relationships. Thus, at this stage of thinking, necessary conditions and opportunities are created to move to the next stage. These opportunities are realized by the thorough assimilation of the system of theoretical knowledge by the students of younger age during the educational process.

In the article, since we believe that the formation of divergent thinking occurs at the primary school age, we define the essence of the phenomenon of "formation" and we consider the concept of "formation" as a basis for the results obtained in education and training, as a form of internal and external structure. we get a position that includes rib exit [8]. Unlike development, which occurs under the influence of internal impulses, formation represents the role of external influences that stimulate internal forces of development and self-development.

Cognitive activity at primary school age takes the leading place. According to D. B. Elkonin, the leading activity determines all other age-related activities that are formed and differentiated in it [5], it is legitimate to say that creativity and divergent thinking are under the influence of the
educational process. In this regard, divergent thinking is formed due to the continuous expansion of skills and abilities, young students gradually begin to act in a new way with familiar objects, add them to new relationships. In addition, through educational activities, this type of thinking is enriched in terms of activation of intellectual and mental powers.

V.N. Kelasyev’s works show the existence of three relatively independent subsystems of the cognitive organization of the intellect of junior schoolchildren, in which the factors of the projective infrastructure of the intellect are revealed: the factor of perceptive creativity; dynamic, social creativity factor is formed. The main task of this infrastructure is to coordinate the initial cognitive view of the situation with its spatial or temporal development, that is, with the perception of conflict [4].

Educational activity requires constant activity from junior schoolchildren, which leads to the rapid development of their mental abilities: observation, imagination, attention, memory, stable willpower of the individual. This set of qualities and characteristics is the basis of creativity and diverse thinking - it is characterized by activity, but at the elementary school age, a somewhat spontaneous and unsystematic, rather stable system of connections between mental processes is developed. It is mainly based on imagination, cognitive motivation. The content of creativity at this stage is the educational material and the everyday life of young students, who are observed by the teacher in a different perspective during their educational activities.

The formation of divergent thinking is also helped by the step-by-step organization of educational activities, that is, with the development of the educational process, students of younger ages stop focusing all their attention and efforts on writing, reading and calculating topics. they stop These operations happen every day and are "absorbed" into the psyche, which gives them the opportunity to work with abstract concepts. Thus, for example, by the end of first grade, younger students use what they have learned previously and transferred to the skills domain as tools to solve more complex problems.

Based on this, we can conclude that divergent thinking at primary school age has an internal connection between the procedural component and the personal-regulatory part, which helps by increasing the independence of children.

A distinctive feature of the creativity of young students is the subjective novelty of the activity product. According to its objective meaning, "discovery" can be new, unusual, but at the same time it can be carried out according to the instruction of the teacher, according to his idea, with his help possible and therefore not inherently creative. In addition, younger students can propose a solution that is already known, used in practice, but as a result of conclusions, without copying what is known. In this case, we are engaged in a creative process based on guesswork, intuition and independent thinking. The psychological mechanism of activity itself is
important here, in which the ability to solve non-standard, non-standard tasks is formed.

In our opinion, we highlight another important feature of the formation of divergent thinking in young schoolchildren: it is inseparable from the development of performance skills and abilities. The more diverse and perfect the skills and abilities of students, the richer their imaginations, the more realistic their ideas, the more complex tasks students perform.

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