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The Place of Concepts Such as Creativity and Intelligence in Divergent Thinking

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Abstract: In this article, on the basis of world experience, a scientific analysis of the research on divergent thinking in the modern education system is carried out.

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

Introduction: In our country, special attention is paid to the education of the younger generation, in particular, to improving the theoretical-didactic, methodological readiness of psychological and pedagogical training of teachers who teach future students, and creating a regulatory and legal foundation for organizing primary education on the principles of consistency, coherence and systematization.

The possibilities for developing divergent thinking in students are associated with the need for their psychological support in the process of school education. After all, in our country, recently, high demands have been placed on the mastery of theoretical subjects in general secondary education by students. The development of divergent thinking contributes to the general intellectual development of the child, especially sensitive to the development of general intellectual abilities of children of primary school age. When we talk about tasks of a divergent type in the education of any subject, it is meant that they have several solutions, or rather, many correct answers.

In the current innovative practice of general secondary education, one of the reserves that allows to increase the effectiveness of education is the inclusion of special

developmental tasks in the content of the educational process. After all, in scientific research, in the management system, in politics, in the economy, in general, in every social sphere, it is natural that most problems have multiple solutions. Currently, we observe that the tasks in school textbooks are of a "convergent" nature, in particular, in most cases the conditions of the tasks imply the presence of a single solution, and a single correct answer can be obtained through strict logical reasoning or using rules and algorithms mastered by the child. Thus, in primary education, a number of contradictions in the theoretical and practical description: the need to organize person-oriented education in practice, the insufficient development of this process in various practical aspects, including the lack of a system of tasks for the development of divergent thinking of the child; There is a discrepancy between the need to organize pedagogical influence on the development of divergent thinking in students and the insufficient provision of appropriate tasks in school textbooks. This set of contradictions requires addressing the problems highlighted by the research.

In the world's leading higher educational institutions, research is being conducted in the following priority areas of educational process design: improving pedagogical mechanisms for organizing and managing educational activities in the education system on the basis of diagnostics and correction; improving students' creative activity; developing mechanisms for forming the skills of designing pedagogical processes; modeling the preparation of teachers and students in the classroom for organizing pedagogical processes based on the integration of opportunities.

Intelligence, creativity - are considered to be systematic organizers of the concept of research. Their structural structures themselves form complex relationships with each other. This also complicates the identification of system-forming connections between these constructs. In many cases, the concepts of "divergent thinking", "creativity", "intelligence" are perceived as synonyms or as mutually subordinate or complementary concepts. In our opinion, in order to further develop the pedagogical management strategy for developing students' divergent thinking, we need to clarify the interconnections between these concepts.

There are many approaches to the concept of "creativity", some authors consider creativity as a specific feature of the cognitive sphere, others as a specific essence of the individual, and still others as a synthesis of cognitive and personal characteristics. Naturally, the question arises: what is the relationship between the concepts of "creativity" and

"intelligence"? This question continues to cause many discussions.

Three main approaches to solving this problem are distinguished.

1) Creative abilities do not exist in general, intellectual development is necessary for the creative activity of an individual, but it is not a sufficient condition.

The main role in determining creative behavior is assigned to motivation, personal characteristics, and a system of subjective values. It is noted that a creative person is distinguished by such features as high sensitivity to problems, independence in ambiguous and complex situations.

2) Creative abilities are considered independent of intelligence.

It is also believed that there is a slight correlation between creativity and the level of intellectual development.

3) A high level of intellectual development provides a high level of creative abilities and vice versa.

J. Guilford explains creativity as a set of the following abilities:

the ability to pose and identify problems; –the ability to generate a large number of ideas; –the ability to present a variety of ideas;

the ability to respond non-standardly to various situations;

the ability to perfect an object based on filling it with details;

the ability to solve problems.

Thus, it is clear that in this approach "creativity" and "intelligence" are considered almost synonymous. According to J.P. Guilford, creativity is more of an intellectual nature than a personal quality.

"The word creativity in a narrow sense is divergent thinking." Creativity is one of the four aspects of intellectual activity (since the other aspects are called convergent ability, learning ability and cognitive style). It has been proposed to take into account some features of intellectual activity as criteria for creativity:

fluency (the number of thoughts per unit of time);

originality (the ability to propose "unique" ideas that differ from generally accepted, typical answers);

intelligence (sensitivity to unusual details, contradictions, and ambiguities, as well as the ability to flexibly and quickly switch from one idea to another);

metaphorical (readiness to work in an imaginary, "impossible" context, the ability to use associative means and symbolism to express one's thoughts, as well as the ability to distinguish the simple from the complex

and vice versa, the complex from the simple).

Divergent thinking is not synonymous with creative thinking. First, creativity can be studied from a different perspective, using different explanatory schemes. Second, divergent thinking is not always creative.

It should be noted that ordinary logical thinking is not opposed to creative (divergent) thinking “on different sides”, but is a product of deep thinking. Creativity is a natural result of the development of theoretical thinking.

In some literature, authors prefer to use the term “creativity” instead of the word “creativity”. They studied the relationship between divergent thinking and creativity and came to the following conclusions:

1. An important feature of creativity is the fundamental novelty of its product, that is, creative thinking is characterized by the search for fundamentally new solutions that do not meet the definitions of convergent or divergent thinking.

In addition to both types of thinking, it is recommended to highlight creative thinking, which is associated with finding fundamentally new solutions based on uncertain information, that is, it does not depend on the nature of the information (there may be no information at all).

2. The tests of Guilford, Torrens, and others study convergent and divergent thinking, since they are based on the search for predictable solutions in given conditions.

Russian psychologist A.I. Siravin noted in his article that “If it is possible to identify carriers of unique creative abilities among several tens of thousands of schoolchildren and students, reliable predictive results in the field of creative research can be achieved”.

In the process of studying creativity, an unusual confusion of the meaning of concepts is observed: creativity is equated with non-standard, non-standard with originality, and the latter is determined by the rare response in this group of subjects. As a result, any deviation can be considered as a manifestation of this creativity (if you use the criterion of non-standardity). In fact, behind non-standardity or “uniqueness” are completely different psychological phenomena: in fact, originality can be a manifestation of the creative and productive abilities of the subject, personal hypercompensation, intellectual incompetence, or psychological inadequacy of the subject.

In determining the traditional indicators of creativity, we can see it in the performance of our daily tasks, in finding a solution when we encounter a problem. Usually, it is difficult to predict the real creative

achievements of a person in his daily and professional activities, but based on some features of the problem, we can find a solution by creatively approaching it.

It has been shown that the interaction between the development of intelligence and creativity is not direct, but indirect, and intelligence and creativity can be measured at the same age, the correlation between them is less observed. It is precisely the level of intelligence in adulthood that depends on the level of creativity in childhood, but not vice versa. Creativity in adulthood does not depend on intelligence in childhood. Therefore, if an individual is given the same attention to the formation of various skills and the development of creative abilities in youth, then the full development of the individual's intelligence is possible. In addition, it is advisable to pay special attention to the development of creativity during the primary school age, since the level of development of a primary school student's creativity is related to the level of development of the adolescent's intelligence.

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