

Content of Forming and Developing Divergent Thinking of Primary Grade Teachers

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Abstract: In our study, the methodology for developing divergent thinking in students – teaching students to think independently, creatively, to understand more deeply the essence of the issues being studied – had an effective impact on the formation of their worldview. At the same time, theoretical thinking is based on strictly logical deductive thinking, that is, the characteristics of convergent thinking are closer to concrete empirical thinking. This depends to a greater extent on both the practical experience of a person and his ability to understand. That is, the ability to establish unexpected connections between some unpredictable concepts, phenomena, facts, objects that are formally far from each other - this is the ability to think, divergent thinking.

Thus, the method of implementing such training in students is as follows: First, explain what a divergent problem is, then demonstrate such problems, show ways to solve them, suggest solving them independently, and help students solve them quickly and efficiently within the specified time frame. This means that the teacher conducting such activities must have experience in solving various problems and be internally prepared to implement a divergent approach to solving the problem.

Keys words: divergent, intellectual, concept, identification, attention, perception, associative process, thinking, association, motive, activity, convergence, reproductive, creative thinking, independent, heuristic.

Introduction: Life experience itself shows that the development of students' thinking in the world occupies a key place in psychological and pedagogical research and is one of the fundamental directions in pedagogical research. It helps to form comprehensive ideas about the formation and development of types of thinking in the educational process, its content, organizational aspects, shortcomings and achievements, strategy. In pedagogy, there is a need for in-depth research into the views on society and the individual, training personnel, and directing them to professional activity. In our country, special attention is paid to the education of the younger generation, in particular, improving the theoretical, didactic, methodological preparation of teachers who teach future students, and creating a normative and legal foundation for organizing primary education on the principles of consistency, coherence and systematization.

Main Body: The possibilities of 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.

Divergent thinking is a form of creative thinking that uses a non-standard approach to studying a problem. Instead of being satisfied with the existing answer or the complete lack of an answer, it consists in asking a question in the content of “What will happen if you do this?” and looking for another new type of answer to find the answer to this question.

Divergent tafakkur – ko‘p imkoniyatlarni kashf etish orqali ijodiy g‘oyalarni shakllantirish uchun foydalaniladigan tafakkur jarayonidir. Yaqqol qadamlar tashlash va to‘g‘ri chiziqda harakat qilish o‘rniga, inson vaziyatning turli jihatlarini baholaydi va turli natijalarga erishadi.

Divergent thinking - encourages the search and consideration of new and unconventional ways, new and unconventional opportunities, new and unconventional ideas and or new and unconventional solutions.

It shows that we need to effectively use the divergent thinking method of explanation and teaching in teaching primary education subjects. Until now, only the learned methods have been used to find solutions to questions and problems, to complete tasks. Based on the current demands, we need to teach using non-standard, new methods in teaching, from finding different answers to questions and problem situations in subjects, to completing tasks, and we will consider several areas of tasks using examples.

Attempts have also been made to create a model for the formation of divergent thinking in preschool and primary school children[96]. In the research of these authors, attention was paid to the psychological basis for the creation of various verbal responses in solving creative problems of preschool children. The main factor in the creation of this system is the state of human psychology - words and signs [97,98]. Education is only a special, additional factor that ensures the development of words - signs, meanings, concepts. Speech is part of perception and thinking, forms them on new foundations, as a result of which mental activity rises to the highest level of development. Speech creates new conditions for mental activity.

The main and main problem associated with the process of developing thinking is the problem of the means used in other mental actions. It is necessary to identify new forms, actions and mechanisms of the processes of division, emphasizing the issue of the form and content of divergence as the main task. In this case, the word and the sign can serve as a means for dividing mental actions. In this case, they can serve as a means and a cause, in particular, for abstraction, analysis and synthesis. As a result, at each new stage, the object is transformed by the subject, and new qualities and relationships appear for it. The same subject, in the act of productive thinking, is included in various systems necessary for it, various objective connections, various qualities appear, and accordingly determine the level of thought activity. In this situation, the content changes: knowledge about the properties and relationships of the object continues to be acquired. This contributes to the development of the process of self-regulation of mental activity from the point of view of mastering the mechanism of divergent thinking, a new method of action in solving a problem situation. In this case, the student may seek a rational strategy.

Three directions have been identified in the study of the mechanisms of divergent thinking, its structure and levels:

The first direction determines the specific structure of divergent thinking in the context of educational activities.

The second direction studies the interrelationships of different levels of thinking and the mechanisms of its influence.

The third direction reveals the levels of divergent thinking depending on the stages of effective thinking.

A special “Personality Development System” has been proposed to help form divergent thinking in students of senior and primary grades of secondary schools, in which the main methods are research-type tasks and creative games.

The task is clear and unambiguous, it is determined by the child's sphere of activity and cognitive

abilities. The structure of the task should repeat the properties of the object. The action to solve the problem involves the disclosure of the relationships between its elements. Elements and relationships are found at the level of external competence of the task.

A creative task is a form of conflict with the conditions of certain goals. Clarity of communication is required to develop an objective language for the relationships of this conflict. The relationships connecting the elements of the problem can operate at the level of spatial and temporal order. Connections are presented at the level of creating this new element. An example of such a generative connection in creative tasks is the following: involving the child's mind in the interaction of two states: dynamic perception and internal actions, leading to the formation of ideas about some new object. The reflection of this interaction makes it possible to obtain new knowledge.

If the question asked requires the child to simplify his knowledge, the task will not be problematic - it is a "question-answer" situation. The need to solve the problem should be combined with its current methods. The act of solving the problem involves revealing the interconnections of its elements. Reality, such as elements and connections, exists at the level of external competence of the task.

For a more meaningful understanding of the connection, it is necessary to clarify the elementary concepts. The concept of a task element, known in the general scientific plan, should be supplemented with a specific content used for divergent thinking. For this purpose, it is necessary to consider the main components of any decision-making process. These are: the external environment, concepts, expressions, results of mental activity, which are manifested from the point of view of the goal as a task, and then, to emphasize the level of qualitative characteristics of the elements of the creative task and divergent thinking, the concept of "possible elements of the problem" is introduced. The concept of "possible elements of the problem" indicates not only the elements belonging to a specific specific task, but also many elements that can be added to it. Information obtained from the learning experience, the results of mental activity combine various elements, include them in the task, in the process of discovering relationships. Thus, the creative task manifests itself in the elements of formation.

Four elements of the creative task are identified:

The first element is analytics, which represents analysis. In particular, it is the mental division of the integral structure of information.

The second element is based on synthesis, which represents the mental integration of various elements into an integral system.

The third element is abstraction. In this element, abstraction and generalization are carried out, with the help of which common, most important signs are identified and random signs can be rejected.

The fourth element is consolidation. It involves clarification, a return to individual uniqueness, an analyzed state.

It should be noted that each relationship is described in a general way, in practice it plays an important role in its specific and general manifestations. A fundamentally new type of tasks allows us to study the objective relationship between the educational task and the way students present new material. Tasks of this type are based on various analysis and synthesis, which are necessary for the implementation of integrated analytical and synthetic activities. The leading processes in the process of network activity are analysis and synthesis, which help to expand the essence of the transition from the lower stages of assimilation to the higher laws of analysis and synthesis. Different types of analysis are distinguished - multi-faceted, one-sided, systematic. When drawing up a program for the development of divergent thinking, it is necessary to take into account these different levels of analysis. By building a model for the development of divergent thinking in students, we will be able to show the sequence of all processes in the course of our research. In particular, we will cite the following concepts about the concept of a model, its goals and objectives, and features.

A model is a system or complex concept that reflects the characteristics of the object of research, which

is presented or implemented mainly for demonstration, and it helps us to obtain more accurate information by partially replacing the object. In a broad sense, a model is a representation or analogue (imaginary or conditional: image, description, scheme, drawing, graph, plan, map, etc.) of an object, process or phenomenon, which is used to replace the “real” object. This model schematically reflects the main components of the object (process, phenomenon or situation) and their interrelationships.

By combining empirical and theoretical points of view, the modeling method makes it possible to organize experiments, logical structures and processes of creating scientific abstractions in the process of studying a pedagogical object.

The method of systematic modeling is used in modeling socio-economic phenomena and processes. Any modeling must take into account the human factor.

Creating a meaningful model reflects the behavior and internal relationships of the phenomenon or process that is the object of research and allows you to study it.

The types of models used in the process of scientific research are diverse, and they are used according to their purpose.

In order to systematically develop divergent thinking in students, in addition to textbooks, it is necessary to study various additional literature appropriate to the age of students and use a system of special tasks that can be applied to the educational process.

The development of a system of tasks for the development of divergent thinking of students is based on the concept of designing a type of thinking that corresponds to the thinking of primary school students. From this point of view, it is clear that problems solved through divergent thinking can be the main form of intellectual development of students. The following tasks are carried out in the process of primary education aimed at developing divergent thinking of students:

The first task is educational tasks in school textbooks, the main content of which should be practical processes and practical materials. To solve them, it is necessary to develop existing knowledge.

The second task is research tasks in which the condition of the problem is clearly defined, the goal is determined, not only the solution is unknown, but this section of the theory can also be the basis for this solution.

The third task is tasks aimed at independently determining the set of necessary conditions, methods and tools to achieve a clearly defined goal.

It is noticeable that the second and third of these tasks are related to the development of divergent thinking. A primary school teacher must now not only have strong and deep knowledge, but also be able to teach non-traditional, independent tasks, know how to creatively solve problems that arise in the educational process, that is, have divergent thinking. Often, primary school teachers, due to linear (convergent) thinking, have learned to use the method of finding a single solution together with school students to correctly solve any problems, to develop their thinking. This type of thinking can be explained by referring to clear thinking. The uniformity of thinking prevents the correct perception of the situation, the acceptance of other people's opinions, and makes personal communication difficult. Unlike convergent thinking, divergent thinking is a type of thinking that includes many answers to the same question. This type of thinking has been introduced into science by scientists and researchers as divergent thinking.

For many years, the problem of the formation of divergent thinking has been repeatedly discussed in psychological and pedagogical literature. Specialists have been engaged in conducting psychological research, studying the features of the manifestation of divergent thinking and the factors of its development.

Divergent thinking can be called a special type of thinking that creative people possess. Divergent thinking is manifested in creativity and various abilities. Creating a new non-standard idea, creativity is

the basis of any creativity. Divergent thinking is a type of thinking that involves an ambiguous but correct solution to a problem, involving all the creative capabilities of a person.

Some teachers have little idea of what student creativity is. They mainly convey concepts using methods aimed at increasing their own and others' experience, and clearly performing professional tasks. Modern world education believes that primary school teachers should be able to independently create, develop new teaching methods and techniques based on their own programs.

For divergent thinking and to achieve high-quality effectiveness using this way of thinking, a primary school teacher should have the following qualities:

- the ability to reflect on his own activity in his own eyes or mind and correct the shortcomings in his activity;
- the ability to critically evaluate various phenomena in pedagogical activity;
- the ability to determine his own direction and alternative solutions in case of uncertainty in solving problems;
- be able to independently transfer knowledge and skills of a problematic nature to a new situation;
- to see and introduce new learning problems into a standard situation;
- to create alternative solutions to a problem and consider their solutions;
- to combine and change methods in solving problems;
- to develop new methods and technologies.

As a result, divergent thinking helps primary school teachers to explain the content of the educational process more clearly and to choose the form, type and content of lessons.

Thus, with developed divergent thinking, students try to find several correct solutions. They can see that there are several ways to perform the same tasks, that there are many answers to one problem. As a result, they can come up with a lot of non-standard ideas, creative thinking. After analyzing the situation, they adopt the most effective solutions to the problem that has arisen.

The application and development of divergent thinking in the educational process is one of the main conditions for successful professional activity.

In general, in modern education, the main task of the teacher is not to give students ready-made knowledge, but to help them acquire knowledge independently. To do this, it is necessary to organize the educational process in such a way that students can fully demonstrate their abilities and capabilities and devote all their strength to acquiring knowledge.

In modern pedagogical education, the teacher must be able to independently create, find new and effective methods of teaching, encourage students to work on themselves and form creative approaches to solving problems.

A primary school teacher must effectively use a variety of thinking to design his professional pedagogical activities, conduct non-standard lessons and extracurricular activities, and analyze his pedagogical activities.

Methods for developing divergent thinking in students include, first of all, explaining what a diverse task is, then demonstrating such tasks, showing how to solve them, offering to solve them independently, and helping students solve them quickly and promptly in a timely manner. Therefore, a teacher working on divergent tasks must have experience in solving various problems and be mentally internally prepared to implement a divergent approach to solving the problem.

The methodology for developing divergent thinking in primary school students - teaches students to think independently, creatively, and to understand the essence of the issues being studied more deeply, and has an effective impact on the formation of their worldview.

At the same time, theoretical thinking is based on strictly logical deductive thinking, that is, convergent thinking, and the characteristics of divergent thinking are closer to empirical thinking. It depends more on both the practical experience of a person and his ability to understand. That is, the presence of the ability to establish unexpected connections between some unpredictable concepts, phenomena, facts, objects that are formally distant from each other - this is precisely the ability of thinking, divergent thinking.

A primary school teacher needs divergent thinking to design his professional pedagogical activities, conduct lessons and extracurricular activities, and analyze his pedagogical activities. Consequently, divergent thinking helps teachers to reveal the content of the educational process and choose its organization.

Ensuring that classes are more effective, memorable, and impactful, demonstrating the beauty, charm, coherence, and elegance of primary education subjects, and introducing students to this world, depends on the teacher's skill, knowledge, and competent approach.

Taking into account the pedagogical methods of developing divergent thinking, we believe that the most important way to develop divergent thinking is to organize a discussion, to create an educational situation for the child.

Thus, the method of implementing such learning in students is as follows: first, to explain what a divergent task is, then to demonstrate such tasks, show how to solve them, offer to solve them independently, and help students solve them quickly and promptly in a timely manner. This means that the teacher conducting such an activity must have experience in solving various problems and be mentally internally prepared to implement a divergent approach to solving the problem.

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