

THE ROLE OF CREATIVE TASKS ON THE DEVELOPMENT OF STUDENTS' CREATIVITY IN THE THE PROCESS OF EDUCATION

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ABSTRACT

In the article, students' creative thinking and an independent research on this issue are discussed. Strengthening the students' creative thinking, improving their performance of goal achievement and the methodological preparation in the process of creating mathematical problems are highlighted in the background of creative problems.

Keywords: Creative thinking, creative problem, generalisation, synthesis, proving, analytical solution, creativity.

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

The concept of problem solving is understood by the concept of activity in psychology. By thinking we mean problem-solving activities. Thinking is a set of high-level performances that combines analysis, generalization, and synthesis operations. If we look at a geometric problem as an object of thinking activity, this activity requires a practical answer in the theoretical process, revealing the connection between known and unknown elements. In thinking, activity goals, actions, and operations are separated, and in turn, planning, monitoring and evaluation are thought to be important. Thus, the problem-solving process consists of a set of activities up to the required response using the information provided.

Students solve a large number of problems in the classroom, in extracurricular activities, in scientific seminars, and in math competitions. These lesson tasks can be divided into two groups, creative and non-creative. In order to use the creative problem effectively in the educational process and to develop independent thinking, it is necessary to fully understand the structure, nature and content of the problem.

The essence of the creative problem can be seen as the presence of new elements of the problem-solving method, ideas for gaining new knowledge, the novelty of the solution result and the high level of complexity of the problem.

Creative thinking, maintains the student's interest in the problem he/she is solving and makes him/her think deeply. The condition of the problem determines the mode of operation. In our view, in the creative process, condition, demand and method of solution are inseparable.

The student seeks a new method of solving the problem, determines the direction of activity, and thus changes the conditions of the problem, clarifies the purpose.

Consequently, the idea serves as a key part of the creative problem and fulfils its heuristic function. It is interpreted as the skill which stimulates students to be more creative.

Creative tasks may include: problem-solving exercises; assignments with different problem solving methods and various types of solutions.

Depending on the characteristics of creative problems, it is possible to distinguish 4 levels that develop independent thinking in solving geometric problems:

- the execution of certain actions, the achievement of results with a systematic imagination.
- perform a set of actions on the topic using different section contents.
- using a set of actions to perform a set of tasks at the level of the system of internal concepts using the content of science.
- perform a set of creative tasks using interdisciplinary knowledge at the level of interdisciplinary concepts.

The features of the problem are manifested in a very short direction in geometry: their characteristics, properties and relative positions in the study of exact geometric figures. Drawings, pictures and models are of great importance in their solutions.

Creating and solving a problem is the most valuable tool in the development of students' independent thinking which attracts them to learning. New knowledge is usually presented in the form of a problem prepared to be proven. The process of problem-solving brings joy to students' lives.

Making up problems is a heuristic method the main stages of which are: comprehension and perception of the problem; stating the problem, its analysis; the structure of the problem; solution of the structured problem.

Here are the following types of problem-solving: selection of questions which are related to the condition of the problem; selection of interrogation conditions; composing questions on pictures, stories, and articles; building up the problems on the terms of the brief writing; making up problems according the writings of solution; formulating the issues related to specific actions or to several specific actions; creating similar issues; create issues that are contrary to what is given; problem-solving with generalization of other issues; creating negative issues - creating affirmative exercises.

The following methods and rules of problem-solving are important in the development of students' creative thinking: making up the problems for proving; creating the tasks that are contrary to what is given; drawing up questions according to the picture and to a brief description of the condition; creating problems using the similarity method.

In general, the mechanism of **making up a problem for proving** can be developed using the following sequence of actions: choosing the subject and purpose of problem-solving; analysis of the circumstances that give rise to problem-solving; about the object of new knowledge of the subject; develop the data in a way that helps to prove it; solving a structured problem.

The state of problem-solving can be analyzed in two ways: 1) on the basis of constructions and measurements; 2) using logical results and conclusions of selected conditions. **In case number one**, the expression of an idea that gives new knowledge only after proof is analyzed. **In case number two**, the new knowledge gained and its validity will need additional proof, so it is also necessary to determine whether the structured problem is set correctly. In order to master the methods of constructing proof-based problems, students must have mastered thinking operations such as analysis, synthesis, induction, deduction, comparison,

identification, generalization. Students are given homework tasks of developing the method in question. The purpose of giving them contains understanding the need to create a problem, finding out what the idea is, what theoretical materials are needed, arousing students' interest in mathematics, generating their interest and sense of responsibility and etc.

Making up the text of the problem according its illustration or its short writings

An picture is a way of combining educational information and rich opportunities. Students can look at the picture as a whole. They break down the picture into parts and make connections between them, adding new elements with auxiliary constructions, for example, the illustration is seen as an auxiliary model of the problem-solving process. But not all of this is given to students in a ready-made way, but is gradually formed in practice, and such developments can also be made by solving ready-made problematic tasks, especially in terms of drawing and short writing.

It does not take much time to solve such problems, they can be solved orally. The methodological significance of solving such problems is that the student sees not only some graphical presentations of the teacher, but also a real process, and moreover, geometric knowledge is required to solve such problems. In such cases, the text of the task is expressed in verbally. When it comes to the methodology of drawing problems on a drawing, the most important planned work is to teach students to create problems independently. By doing this, we make a significant contribution to the formation of students' independent thinking abilities.

Making up a problem through analogical methods establishes a connection between at least two objects. If object A is analogous to object B with its signs and relations, then the analogy is a symmetrical relation. The analogical method is one of the first ways through which humans recognised the world.

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