FORMATION OF STUDENTS' CREATIVE THINKING

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Abstract: The article describes the approximate parts of increasing creativity, examples of technologies for the development of creative abilities to increase the creative abilities of students.

Key words: Creative Thinking, Brainstorming, Digital Technologies, Smart Technologies, Technologies Of Creative Development.

Creativity is learning more deeply, looking better, correcting mistakes, and meeting the future in the age of digital technology. As Paul Torrance writes, the priority of modern education is not the reproductive transfer of knowledge, skills, and abilities from teacher to student, but the ability of the student to independently identify a learning problem, create an algorithm to solve and formation and development controlling it.

If the teacher works in the proximal developmental zone, then the interest in thinking deepens. This is a necessary condition for the development of creative thinking and cognitive activity of students.

What is creativity? The simplest definition of this concept is: Creativity is the process of creating a new product of a material or ideal nature. Creativity is called and believed to be special creativity. The pedagogical, psychological, philosophical and methodological literature is full of the terms “creative” i.e. “creativity”, “creative thinking”. CREATIVITY is characterized by a person's creative abilities, readiness to create radically new ideas that deviate from traditional or accepted ways of thinking and become part of the talent as an independent factor.

The main components of creativity are (Figure 1) [1]

![Figure 1. The main components of creativity.](image)

Pedagogues use a variety of methods to develop creative thinking in adolescents. Creative Thinking Methods in Technology Lessons [6] is a way to look for alternatives and analogies. It is characterized by self-thinking with different tasks and solutions. It doesn’t require specific work on every option born in the beginning. Thus, it allows you to find a solution using all the experiences accumulated over a lifetime.

Sometimes it is necessary to think about the actions being taken. It’s better to trust your brain here to deal with uncertainty. For example:
Brown movement. Explanation: The movement of pollen observed by a British botanist under a microscope is named after him.

- The characteristics of the device indicate how much work is done per unit of time. - Italian physicist, one of the founders of the doctrine of electricity, the creator of the first galvanic cell, the founder of the doctrine of electricity.

- Mental attack. [3]

This popular method was created in the 30s of the XX century. Its distinctive feature lies in the prohibition of criticism, i.e., separates it from the generation of ideas. For example, a group of 10 participants will have 40 minutes to express their views on a given topic. Any fantasies are allowed: from game to fantasy and mistakes. At a certain point, the excitement begins, in which the participants involuntarily form ideas, and the brain begins to put forward the most incredible hypotheses. The end of the brainstorming session involves a detailed analysis and evaluation of the options offered by the participants. The main advantage of this method is the non-standard thinking experience that each participant has.

For example, the task: you need to quickly cool a glass of boiling water. How to be? A solution is required. Definition: - What is in the problem statement? A glass, boiling water, you, the kitchen and everything in the kitchen is the source to solve the problem. We use the technique: mediator + physical effect (transfer of heat from cold to object).

Possible answers from students:
1. Add cold water, tea leaves or milk.
2. Pour into a plate, large bowl.
3. Hold at a very long distance from each other and pour from the glass many times.
4. Add plenty of jam or sugar.
5. Drain the excess.
6. Dip cold spoons and stir.
7. Place in refrigerator, cold water container, ... etc.

A great creative thinking technique that can be used to make decisions in the beginning, write new information, or organize thoughts.

How to work with SMART maps:
- sheet should be large (A4 - minimum);
- draw a picture of the problem or situation in the center;
- the signed branches (the main keywords of the problem) are drawn from the center, from which the smaller "horns" emerge;
- block letters, different colored markers, etc. should be used.

The technique helps to create a connection diagram, remember important points of the problem, and restore the visual image of the problem.

The key is to learn not to focus on stereotyped thinking, to believe in yourself, and to believe in the power of your own thinking!

Technologies for the development of creative thinking: (Figure 2) [1,5,6]

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Figure 2. Technologies for developing creative thinking.
So, in order to develop creative thinking, the following conditions must be met:
- to keep the tradition in the method of teaching, in everyday life, in monotony, in separation from the student's personal experience;
- prevention of overwork and education;
- Stimulation of cognitive interest in various ways using digital technologies;
- Special training in the techniques of SMART activities and educational work, the use of problem-solving methods of teaching.

**Figure 3. Conditions that allow students to use SMART technologies to increase creativity**

Creative activity develops the student's personality, helps to master national and ethical norms. By creating creativity, the student reflects in them his understanding of life values, his personal characteristics. Adults are often hesitant to critically evaluate their own creative abilities and show them off. And according to scientist V. A. Sukhomlinsky, "People should live in a world of beauty, games, fairy tales, music, painting, fantasy, creativity." In short, everyone is creative. And as educators in the digital age, our job is to show the right way by awakening inner creativity.

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