



INNOVATIVE APPROACHES TO ENHANCING THE EFFECTIVENESS OF EDUCATION

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Annotation. This study analyzes the significance, content, and practical possibilities of innovative approaches in enhancing the effectiveness of education. It highlights ways to improve the quality of the educational process through the implementation of digital technologies, interactive methods, distance and blended learning, a competency-based approach, and individualized learning trajectories within the modern education system.

Keywords and phrases: educational effectiveness, innovative approach, pedagogical innovation, modern pedagogical technologies, digital education, interactive methods, competency-based approach.

Today, modernizing the content of education in our Republic and bringing it up to international standards is considered one of the most urgent tasks. In the context of globalization and digital transformation, the introduction of modern pedagogical and information and communication technologies into the education system has become an essential requirement of scientific and technological progress. Organizing the educational process on the basis of innovative approaches, increasing students' interest in learning, and developing their independent and critical thinking skills are receiving special attention.

A teacher working within the system of continuous education is required not only to possess deep subject knowledge, but also to have highly developed pedagogical-psychological, scientific-methodological, and digital competencies. A modern teacher should be able to effectively use interactive methods, digital platforms, innovative technologies, and integrated approaches in the teaching process. These factors directly contribute to improving the quality of education and ensuring students' thorough mastery of knowledge.

One of the most important conditions for increasing the effectiveness of education is strengthening students' interest in the subject and ensuring their active participation during lessons. Students' activity is manifested in their willingness to independently solve given tasks and problems and to apply their intellectual abilities. In such a process, students develop responsibility, willpower, and confidence in their knowledge, which further enhances the effectiveness of education. When students actively participate in lessons and achieve certain successes, the knowledge and skills acquired during this process remain in their memory for a lifetime.

If students actively participate in the learning process and are engaged in independent thinking, the knowledge, skills, and competencies they acquire will be retained in their memory for a long time. Ensuring active participation in the educational process not only increases students' interest in learning but also develops their creative and critical thinking abilities.

In the process of activating the mastery of subjects, effective pedagogical tools used by the teacher play an important role. The leading directions of these tools are as follows:



First, beginning each topic or section with problem-based questions and real-life situations increases the effectiveness of the educational process. Problem situations arouse students' interest in the topic and encourage them to think, hypothesize, and draw conclusions. Explaining topics based on real life, natural phenomena, technology, and interdisciplinary connections contributes to students' conscious assimilation of knowledge.

For example:

1. When introducing fractions and negative numbers, it should be explained that natural numbers are sometimes insufficient for solving certain problems, particularly because measurement results are not always whole numbers. A similar approach can be applied when introducing irrational and complex numbers.

2. When introducing the concepts of direct and inverse proportion, it is necessary to clarify the ideas of "increasing several times" or "decreasing several times" and distinguish them from other functional relationships.

3. The difference between a triangle and other polygons lies in the fact that equality of its sides implies equality of the opposite angles. The converse idea leads to the concept of similarity.

4. Before introducing the concepts of symmetry, proportion, and similarity, examples found in nature (such as leaves and flowers) as well as in architecture, painting, and sculpture should be demonstrated.

5. The properties of a circle become clearer when compared with a straight line. It is also useful to briefly introduce and compare the circle with other curves (ellipse, hyperbola, sinusoid, spiral).

6. "Metric relations in a triangle" are first encountered when determining a third element analytically (as opposed to graphically) from two given elements of the triangle.

7. The properties of the exponential function can be generalized from arithmetic rules such as: when a proper or improper fraction is raised to a natural power, it remains proper or improper respectively; and if the base of a power is a proper fraction (or an improper fraction greater than one), the value of the power decreases or increases as the exponent increases.

8. When studying the circumference of a circle and the area of a disk (in Grade 9), brief information about Archimedes and his "method of exhaustion" should be provided.

9. When introducing complex numbers, the transition is made from the number line representing real numbers to the plane, where each point corresponds to a complex number.

10. The transition from the concepts of geometric arc and geometric angle to oriented arc and oriented angle is analogous to the transition from a line segment to a vector.

11. The topic "Similarity of Shapes" (in Grades VI–VII) begins with considering figures of the same shape but different sizes. Students then learn that equality of angles in two polygons does not necessarily imply proportionality of their sides; the triangle is an exception. The direct and converse theorems of triangle similarity-regarding equality of angles and proportionality of sides-are introduced.

Second, the use of an analytical–synthetic approach in the lesson is of great importance. This method develops students' skills in analyzing knowledge, generalizing information, and drawing conclusions. Lessons organized on the basis of the analytical–synthetic method require thorough preparation, methodological mastery, and creativity from the teacher. In such lessons,

a well-structured system of questions plays a crucial role in engaging students in active dialogue, discussion, and independent thinking.

Third, it is necessary to properly organize students' independent work both during and outside the classroom. Independent work strengthens students' knowledge, develops practical skills, and fosters a sense of responsibility. In this process, the teacher acts as a guide and advisor, creating conditions for students to complete creative and practical tasks independently

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