ESSENTIAL MODES FOR ACTIVATING MASTERING SUBJECTS AT SCHOOLS

M. M. Abdumannopov, O. U. Akhmedov, T. Tokhtasinov
Teacher, mathematics department, FerSU

Abstract

Significant and useful tools for activating learning of subjects at school, guidance for gaining the autonomous performance of students' individual tasks in the classroom and their homework in order to ensure the necessary activity, and the most important stages of problem solving are described in the article.

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Nowadays, remodeling of the composition of education in our republic is one of the significant demands. It is not a secret that scientific and technical improvement requires the introduction of new technologies in the conditions of integration. In the "National Program of Personnel Training" of Uzbekistan, this is defined as one of the serious tasks performed in the second and third stages of "providing the educational process with advanced pedagogic technologies". Working in the process of continuous education requires a lot of pedagogical-psychological, scientific-methodical, cultural-spiritual preparation from the teacher. Based on this, creating the educational process through innovative principles is, undoubtedly, the main condition for the development of the integration process. As the first president of our country, I.A. Karimov, said, "Education gives creative activity to the spirituality of the people of Uzbekistan. All the best opportunities of the growing generation are manifested in education and professions and skills are continuously improved". By this, he highlighted the crucial role of education from a general point of view. Thus, the efficiency of education is highly important in every sphere and it depends on some key features which will be discussed below.

One of the most important factors that ensure the improvement of the quality of education is to increase students' interest in science and enhance their activity in classes. In this case, the state of activity is contrasted with laziness, and it implies that students act to solve the examples and problems presented to them, and use their mental capabilities. Through this, the will of the students will be activated, as well as a feeling of satisfaction with the work they have done. If students actively participate in the lesson and achieve certain achievements, the knowledge and skills acquired in this process will remain in their memories for a lifetime.

The teacher has a number of tools to activate learning of subjects, the leaders of which are:

I. As far as possible, questions and problems should be set before starting each topic and each section. When setting the problem, he should give a brief understanding of the main purpose and tasks of the topic. This will increase interest in the problem in class.
For instance:

1. It should be said that when entering fractions and negative numbers, when solving some problems, natural numbers are not enough, including that the results of measurement work cannot always be a whole number. Similar work is also used when entering irrational numbers and abstract numbers.

2. It is necessary to introduce the concepts of direct and inverse proportionality, "to increase or decrease by …. times, to distinguish it from other functional connections.

3. The difference between a triangle and other polygons: the equality of its sides implies the equality of the angles opposite these sides. The opposite idea leads to the concept of similarity.

4. Before introducing the concepts of symmetry, proportion, and similarity, it is necessary to show the features found in nature (i.e., tree leaves, flowers, etc.) and symmetric, proportion, and similarity in works of architecture, painting, and sculpture.

5. The properties of a circle are clearly visible when comparing it with a straight line. It is also necessary to introduce the circle to other curves (ellipse, hyperbola, sinusoidal, spiral) and compare them with them.

6. When introducing the concept of second-order (in general, higher-order equations), simple equations of the form $(x-a)(x-b)=0$,

\[ x^2 - (\alpha + \beta)x + \alpha \beta = 0 \]

it is necessary to show that the equations of the form have two roots.

7. "Metric relations in a triangle" are encountered for the first time when finding the 3rd element from 2 elements of this triangle analytically (against the graphical method).

8. The properties of the exponential function are studied in arithmetic: "When a correct or incorrect fraction is raised to the natural level, it remains a correct fraction or an incorrect fraction, respectively" and " If the base of the degree is a correct (incorrect) fraction, the fraction increases (decreases) as the exponent of the degree increases. They can be summarized as.

9. When passing the concepts of length of a circle and surface of a circle (in the 9th grade), they should give brief information about Archimedes and his work, about his "consecutive loss" method.

10. When entering a complex number, one complex number is assigned to each point on the plane from the axis of numbers depicting real numbers.

11. The transition from the concepts of geometric arc and geometric angle to the concept of oriented arc and oriented angle is analogous to the concept of transition from geometric section to vector.

12. The topic "Similarity of Shapes" (in classes VI and VII) begins by looking at shapes that have the same shape but different sizes. Then, the students conclude that the sides of two polygons are not proportional, since the angles are equal. In this respect, the triangle is an exception. Theorems about the similarity of triangles are true and inverse, that is, theorems about the equality of angles and the proportionality of sides.

II. It is necessary to use the analytical-synthetic method in order to achieve success in activating the learning of sciences during the lesson. This method requires deep and comprehensive preparation and pedagogical skill from the teacher before the lesson. Passing some topics of the course in an analytical-synthetic way is difficult, but interesting, and it requires a creative approach from the teacher. Such methodological developments should include a system of questions. When this system of questions is given to the teachers during the lesson, the class becomes active, and when the questions are answered, the topic should be complete in every way.

III. In order to ensure the necessary activity, it is necessary to achieve independent performance of students' work and tasks in the classroom and at home. Therefore, the teacher should inspire students to do creative and practical work independently. The teacher should not give "help" to the students.
References:

19. Уринов, А. К., & Абдуманнопов, М. М. ОБ ОДНОЙ ГРАНИЧНОЙ ЗАДАЧЕ ДЛЯ ИНТЕГРО-ДИФФЕРЕНЦИАЛЬНОГО УРАВНЕНИЯ ВТОРОГО ПОРЯДКА. УЧЕНЫЙ XXI ВЕКА, 4.
20. Абдуманнопов, М. МАВҲУМ АРГУМЕНТЛИ БЕССЕЛЬ ФУНКЦИЯСИ ҚАТНАШГАН ЎЗГАРМАС КОЭФФИЦИЕНТЛИ ИНТЕГРО-ДИФФЕРЕНЦИАЛ ТЕНГЛАМА УЧУН ИНТЕГРАЛ ШАРТЛИ МАСАЛА.
21. Абдуманнопов, М. ИККИНЧИ ТАРТИБЛИ ОДДИЙ ДИФФЕРЕНЦИАЛ ТЕНГЛАМА УСНУН БИТСАДЗЕ-САМАРСКИЙ ВА БИРИНЧИ ТУР ИНТЕГРАЛ ШАРТЛИ МАСАЛА.
22. Абдуманнопов, М. М ИНТЕГРАЛ ОПЕРАТОР ҚАТНАШГАН ИККИНЧИ ТАРТИБЛИ ИНТЕГРО ДИФФЕРЕНЦИАЛ ТЕНГЛАМА УЧУН ИНТЕГРАЛ ШАРТЛИ МАСАЛА. КАРИШИ ДАВЛАТ УНИВЕРСИТЕТИ, 121.
28. Мадрахимов, А., & Кукиева, С. ПРЕДЕЛЬНЫЕ СВОЙСТВА ПОРЯДКОВЫХ СТАТИСТИК. FarDU. ILMIY XABARLAR, 5.