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AN INNOVATIVE APPROACH TO TEACHING HIGHER MATHEMATICS IN HIGHER EDUCATION

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Abstract: This article examines the activities of a teacher and a student in the process of innovative teaching of higher mathematics in the system of higher education, as well as the organization of the educational process utilizing modern teaching methods in a new pedagogical environment.

Keywords: pedagogical technology, carefully developed, guaranteed result, cooperation, logical thinking, linear equation.

Introduction. Correct implementation of pedagogical technologies in the educational process leads to the fact that the teacher acts as the main organizer or consultant in this process. This imposes great responsibility on the student and requires greater independence, creativity and free thinking. Pedagogical technology in the educational process is a process in a clear sequence, it is a pedagogical process focused on one goal, carefully thought out in advance and aimed at ensuring a guaranteed result, based on the needs of the student. Achieving a guaranteed result depends on the cooperation of the teacher and the student, a predetermined goal, scale, methods and tools, new innovative technologies. To do this, the teacher should plan the educational process in advance, that is, take into account the specifics of the subject, the abilities and needs of the student, and be able to organize joint activities.

Research results and discussion. In the higher education system, students study some topics of higher mathematics at school and in mathematics lessons of secondary specialized vocational education, that is, as a result of studying the course of algebra and the basics of analysis:

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- have an understanding of sets, be able to perform actions on sets, be able to use logical operations; - perform operations on real and complex numbers, be able to extract roots from complex numbers;

- calculate a matrix and determinants; solve a system of equations;

- calculate limits, know excellent limit formulas;

- know the derivative, the rules for calculating the derivative, derivatives of elementary functions, the derivative table, the geometric and physical meaning of the derivative;

- determine the attempt on a curve, know the attempt equation;

- know the initial function, the indefinite integral and their properties;

- know the face of a curved trapezoid, the exact integral, the Newton-Leibniz formula;

- be able to calculate surfaces and volumes using the exact integral,

- know the formulas for finding the number of placement, replacement, grouping;

- know the classical, statistical and geometric norms of probability.

As a result of studying the geometry course:

- assimilation of information about flat figures and basic geometric relationships,

- be able to imagine the relative position of a line and a plane in space;

- definition of vectors, modules, opposite vectors, know the concept of a zero vector, know the operations on vectors,

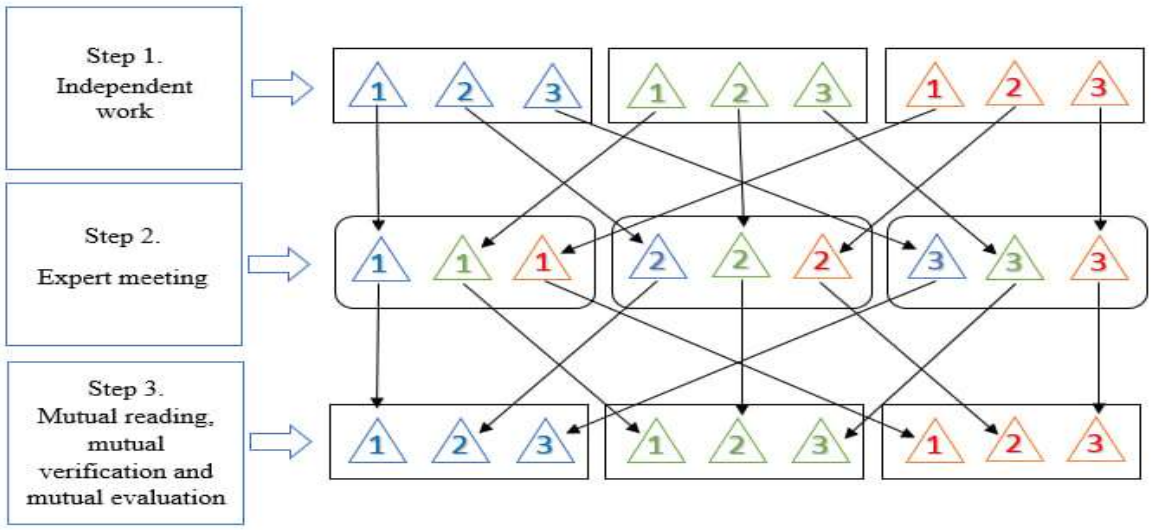
- such knowledge as knowledge of the basic concept of a vector, knowledge of the spread of vectors over three main vectors, scalar multiplication of vectors and its properties will become skills.

We select methods depending on the complexity of the topics, so as not to bore students by repeating these topics in a broad sense. The Snake Trail teaching method creates the opportunity to develop critical and logical thinking, develops memory, ideas, and the ability to express ideas and evidence in written and oral forms.

Research organization methods. In this method, groups are given tasks for independent learning and teaching others. For example, in practical classes in schools, the above topics are studied and information on these topics is given, and students are given tasks in advance for independent study of the topics. The reason is that they are given tasks because they studied these topics at school. In the next lesson, groups will be organized in the classroom and students will be given tasks on a given task. He is given time for independent reading and study of the topic. Each group member explains the topic studied to other group members using

examples. Each student in the classroom independently studies the assigned task, works with the textbook. Each group makes a presentation on the task set before it, explains the examples and expresses its opinion. For example, in a practical lesson, after dividing into groups, tasks and assignments are given on three topics. The first topic will be "Matrix method for solving a system of linear equations", the second topic is "Cramer's method for solving a system of linear equations", the third topic is "Gaussian method for solving a system of linear equations". Each group must explain to each other the advantages and disadvantages of these methods.

"Snake track" technique



Map of the "Snake Track" technique

Assignment steps	Activity	
	Teachers	**Students**
I	Divides students into groups of six depending on their level of knowledge. Distributes educational materials into groups of equal complexity and volume.	Students are divided into groups and given assigned tasks.
II	Explains tasks, distributes expert sheets,Each group member takes a separate part of the general work and becomes an expert in his field of study material	Each student in the group finds the necessary information from the study material on the expert sheet. Expert meeting - in different groups, those who study only one topic meet and

		exchange information as experts, work on questions related to their topic, together plan to present the information to the students in their group. Students return to their previous groups, and each student presents his or her task. They ask questions on the general topic and assess their knowledge. They solve tests on all the topics assigned by the teacher.
III	The teacher asks the student to answer questions prepared on the topic.	Answer the question

The "self-assessment" method is best used at the lesson consolidation stage. It is carried out as follows: each group formulates questions, asks them to the neighboring group, corrects their answers and fills in incomplete answers. The questions of each group are assessed by the number of correct answers depending on the simplicity and complexity of the questions. This encourages students to consolidate their knowledge, and they teach each other, teach each other.

Summary. As a result, the activity of students increases, leads to an increase in mathematical thinking, independent thinking and an increase in interest in mathematics.

So, during the lesson it is necessary not to control - to work in cooperation, not to force - to interest, not to order - to explain, not to limit - to provide free choice.

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