

Innovative Methods in Mathematics Courses

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Annotation: The article analyzes the didactic methods used in mathematics lessons in schools.

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Experts note that a student who masters mathematics well has a high level of analytical and logical thinking. It develops the ability to quickly make decisions, discuss and negotiate, and do things gradually, not only in solving examples and issues but also in various situations in life. Mathematical thinking also brings it to the point of predicting the progress of what is happening around it in the future. Taking into account the unique role of mathematics in our lives, this subject has been included in school textbooks since the first grade, with a great emphasis on improving mathematical education in our country on the basis of time requirements, developing the latest pedagogical and innovative methods, multimedia tools, and information and communication technologies in teaching it. The use of innovative technologies in practical training classes also requires great skill and knowledge from the teacher.

Private technology encompasses innovative systems that include a set of methods and tools for implementing certain aspects of educational content. This includes some science teaching technologies and teacher work technologies with the student. "Classical couples" ("Classical three") – on the participants are distributed small cards with classical or all-known connections, names of people's names, fairy tales and folklore heroes.

Words are written on a sheet of paper in an irregular state, such as plus, parabola, length, angle, mediana, minus, function, hyperbola, table, etc. Students should find and form a classic couple or trio between these words and base this link. The exercise can be conducted both in individual order and in small groups. The method of "couple communication" is to give students who sit side by side on a topic a task (or individual assignments) and encourage them to find solutions to the problem (issue) presented in the assignment together, hear and evaluate solutions. In some cases, students may also turn to each other in turns with a question (issue). In this case, the answer to the question (the solution to the issue) will have to be listened to (examined) and evaluated by the reader who asked the question (issue). Special attention is needed when choosing the topic of mating. This topic must be adapted by many, otherwise work may not go away in pairs.

Examples of assignments: (a) Let each reader compile 3 examples of "Divide ten towers into numbers such as 10, 100, 1000 and so on" for 1 minute and replace them with their own partadosh. After 3 minutes, let the samples get the answer back and check and evaluate the responses within 1 minute. (b) For 1 minute, each reader should compile 3 examples of "Multiply ten towers by numbers 10, 100, 1000 and so on" and replace them with their partymate. After 3 minutes, let the samples be returned and the answers should be checked and evaluated within 1 minute.

Method of Pazl ("Salt From Pieces") in mathematics classes. Pazl (English puzzle) is the name of the children's game, which consists of restoring the image using its pieces. Therefore, the name of this method can also be called "Salt From Pieces" in English. The main sentence, formula, theory, equation, drawing, and other main information on the subject will be written on paper and then mixed into several pieces. Readers will find that only one piece of information is suitable and restore it. This method helps

students develop their abilities, such as dignity, poverty, attention-accumulation, analysis and synthesis. It can be divided into groups, both in a single order and in groups. Example: After the topics parallel straight lines, "Signs of parallel of straight lines" and "Theories about the angles generated when a third straight line crosses two straight lines," the students will be presented with a set of 24 sheets (cards) in the following view. This collection contains 6 theories, each of which will be reported in 4 sheets. Card 1: Written flag of the theory, 2nd card: drawing that matches the theory, 3rd card: brief mathematical flag of the theory requirement and conclusion, 4th card: mathematical proof of the theory. Assignment: 6 students (or groups) will be given 6 theories and will be tasked only with collecting full information on their theory from within the presented collection.

The game "Math Market" is an exercise that can usually be conducted in repetition classes at the end of a large section or chapter. After completing a chapter, the teacher writes and prepares examples of the materials studied in this chapter on the cards. Each card writes examples of 2-3 different hardships and sets a "price" for each example depending on the level of difficulty (e.g. 50 hours, 100 hours, 200 hours,...). The number of cards is based on the number of students in the class. Students are divided into 4 groups, with an average of 8 to 10 groups in the class. Therefore, from each card you will need to prepare 8-10 according to the number of groups. The type of cards will be enough if there are 4-5 different types (a total of 32-40 cards). Each group will receive one from the cards, that is, each group will have 4 or 5 different cards, the "prices" must be indicated on the cards about each example (question). If a group performs the tasks in Option 1 as one, it will show it to the teacher, and the teacher will examine the solution and record the money that the group worked on in the schedule prepared in the file. Option 1 is removed from each assignment of 25 soums for the group that subsequently worked. As a result, groups try to unwind as much and as soon as possible from assignments in each option and raise more money. The fact that the assignments in the options are diverse and cost-charging can help make the activities interesting. After a certain period of time (e.g. after 30 minutes), the "market" is suspended, and the teacher calculates the money raised by the groups using the schedule. Groups can be named, or they themselves can choose a name for the group. Whichever group has raised more money, the same group will win, and the rest of the groups will also be given seats. The teacher can monitor what the groups have done and demonstrate in the file the solution of the groups that have completed this task, whichever group has difficulty completing or has not been able to perform a task. If not every group has been able to complete a task, the teacher himself can show you how to solve this assignment and find out the need to work on similar examples. The teacher then evaluates the students based on the money raised by the groups. Students with the most money in a five-point system can be given 5 balls, the next 2 groups can have 4 balls, the next 3 groups have 3 balls, and so on.

List of available publications:

1. Boboeva M.N., Shukurova M. F., Teaching the topic of "sets of non-negative integers" with the technology "Boomerang" // Problems of pedagogy No 51:6 (2020)
2. Умарова У.У. Мулоҳазалар устида мантикий амаллар мавзусини ўқитишда «Кичик гуруҳларда ишлаш» методи // Scientificprogress, 2:6 (2021)
3. Rasulov Kh.R., Raupova M.Kh. Mathematical models and laws in biology // Scientificprogress, 2:2 (2021)