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IMPROVING THE METHODOLOGICAL SKILLS OF MATHEMATICS TEACHERS

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Annotation

This article presents methods, technologies and some types of games that serve to improve the methodological skills of future teachers of mathematics. The mechanisms of implementation are given by references and results. Conclusions are given on the expected results.

Keywords

continuing education, math games, methodological exercises, Group, teachers, scientific-pedagogical-methodological Council, preparatory questions, Business game

Introduction-improvement of the continuous education system of professors and teachers the most effective way to improve methodological skills is achieved by ensuring active participation in programs that consist in training course preparation, participation in the work of the methodological Council and self-teaching in the training institutes. Methodological exercises in the form of analysis of various educational situations are gaining popularity in the short-term courses organized in higher educational institutions in the Fergana region and at the meetings of the methodological Council of the Departments of the University. It is advisable to conduct such classes in cooperation with the Departments of the university or with methodological associations between the departments, which are unique in nature, with the most qualified professors and teachers. The leader begins the lesson with a brief explanation, in which he describes the essence of the method or technology being studied, then gives a certain educational material and proposes to implement the method or technology of teaching discussed on its basis. Professors perform these tasks immediately (in the practical classes of courses) or after a while (until the next meeting).

LITERATURE ANALYSIS AND METHODS (MAIN PART)

Consider some methodological exercises.

1. **Formation of strong computing and learning skills in students.** Among the reasons that cause flaws in the study of computation and uniform variation, it should be indicated that professors have an ambiguous perception of the program requirements for the skills of students in a particular class group. In this regard, students are faced with a task: to carry out the classification of computational skills of students of one class or another using programs and textbooks, to distinguish between two groups of computational skills in the process of classification. The first group includes only those skills that continue through their automation, and the second — those that are endowed with a strong assimilation of theoretical justification.

In the process of performing this methodological exercise, it becomes known that some teachers confuse the skills of computational abilities and the same changes, poorly distinguish verbal and written computational skills, do not take into account the skills that were formed in previous years and should be improved in later classes. In the process of completing the task, professors make sure that the classification of the considered skills determines the features of the methodology for forming them in students.

2. Teaching schoolchildren to work with a textbook. In classes on this topic, the teachers themselves must perform a number of tasks that characterize the ability of any manual to act in the exercise system. We give examples of assignments for teachers.

1) consider the arithmetic square root in the textbook “algebra 7th grade lesson 31” choose from them those that need to be done: a) Oral; b) written; v) collective; d) independently.

2) “geometry 7th grade 8th course” Analyze the topic of adjacent and vertical angles and their properties. Determine which tasks of the topic require a simple transfer of theoretical knowledge, and which ones develop the creative initiative of students.

3. **Different teaching methods.** First, listeners remember the most important features of certain methods without interfering with disputes about them. At the same

time, they were Sh.Ismailov and B. Textbook of mathematics of the 6th grade “bozarov " (Tashkent Republican educational center 2022). The main content of the lesson consists in discussing tasks for independent work. After the discussion, the audience performs here, in class, if the material is well familiar to them or at home. Let's show two such tasks.

1) develop the presentation of the topic “the main feature is divided by the method of explanation and description”.

2) using the reproductive method, " logical equal strength. Logical laws. Make a detailed plan to study the topic” Algebra 10 class".

4. **Teaching problem solving.** Analysis of the classes and written work of students shows that the most vulnerable place in the professional training of teachers is the methodology for teaching the solution of geometry problems. Currently, in scientific-pedagogical-methodological courses, special attention is paid to the following educational situations.

1) you plan to organize a collective solution to the problem: $D\ (x, y, O)$ in the Hoy plane, (find the 4th point equidistant from three given points $A(0,1,-1)$, $B\ (-1,0,1)$, $C(0,1,0)$. (Pogorelov A. V. Geometry 6-10 17 № 4). Formulate questions in which students understand the problem, highlight basic information and translate its text into a mathematical language.

2) when performing exercises in a team, it is very important that each student understands all the stages of the general work. To do this, before a complex task, it is recommended to offer oral exercises, which are elements of the next general task. Let the inequality be planned to be solved with the whole class. Draw up preparation questions for oral work. After discussing the proposed options, listeners decided on the following system of questions:

A) calculation

B) find the roots of the equation

C) solve the inequality

RESULTS. Professors and teachers attending classes and classes in scientific and pedagogical-methodological seminars make it possible to identify the reasons for the allowed serious methodological miscalculations.

First, when preparing for classes, many teachers focus their attention only on the content of the lesson, and not every element of it and in general the entire course methodology is properly thought out. To a certain extent, this absorption of the professor into the material is explained by the frequent changes in textbooks.

Secondly, even knowing the different ways and methods of teaching, professors often have difficulty choosing one of them for the lesson.

Thirdly, some do not know how to use class time wisely. This has a particularly negative effect on geometry. Classes on this topic are sometimes associated with delaying a request, urgently solving new and short-term problems.

In scientific-pedagogical-methodological councils, consisting of United departments in higher educational institutions, the best experiences of organizing mathematics classes are studied and promoted, organizing the education of young people from masters of pedagogical labor. In addition, Business games are held, viz. Imitation of lessons. When preparing a business game, one or more teachers are tasked with developing a lesson plan on a particular topic and conducting it with course students or members of a methodological unit who play the role of students. Two or three professors are offered to be observers.

When preparing for a business game, the professor must write down all the questions that he offers (to students), agree on his activities at each stage of the lesson (students), prepare visual aids, didactic materials, technical means.

The teacher first discusses the business game plan with lesson leaders. Only then does a business game take place-the lesson lasts no more than 45 minutes. Game participants who play the role of students sometimes deliberately give incorrect answers and create a situation in which it is necessary to work on mistakes. Conducting a business game-the lesson is handed over to experienced and young streamers.

After the game lesson, all its participants listen to the introspection of the teacher who leads a business game, and then to the speeches of teachers and Methodists. The analysis of the game lesson is always strict and at the same time friendly. This does not injure any of the participants in the game, encouraging them to improve further.

CONCLUSION. On the recommendation of scientific and pedagogical-methodological councils, consisting of United departments in higher educational institutions, business Games have been held several times. They began to deal with the most difficult topics 2-3 weeks ago. the United departments developed recommendations for conducting business Games: brought the topics of the lesson and detailed plans of some of them. These developments show different methods and techniques for teaching students of different classes.

In the business game, they pay special attention to the professional qualities of professors, such as knowledge of programs and textbooks, the ability to solve difficult problems, the ability to master new methodological technology, work with an electronic whiteboard, general culture, in particular, the teacher's speech.

Exercises for the analysis of methodological situations, Business games-lessons do not exclude, but complement, well-known forms of communication with teachers and promotion of advanced experiences. At the same time, these new forms of improving methodological skills are a kind of catalyst for the process of increasing the professional activity of teachers.

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