Organization Of Teaching Mathematics Of Scholar Students In The Conditions Of A Credit - Modular Training System

Nazira Hakhberdievna Ernazarova
Senior Teacher Of Department Of Methods Of Teaching Mathematics, Faculty Of Mathematics And Informatics, Jizzakh State Pedagogical Institute, Jizzakh City, Uzbekistan

ABSTRACT

This paper examines the methodology for organizing training in the course of Higher Mathematics in the conditions of a credit - modular training system, the role of intensive control of students 'knowledge, which increases the activity of students in studying the discipline, preparing them for classes and completing tasks in a timely manner, as well as students' independent work. It is possible to improve teaching mathematics through the use of elements of individual, differentiated, problem-solving and programmed teaching. Moreover, a special role is given to the intensive control of students' knowledge, which increases the activity of students in the study of this discipline, their preparation for classes and their timely completion of tasks, as well as their independent work.

KEYWORDS

Credit - modular system, student motivation, learning characteristics, intensive control, differential approach, continuous self-education, independent work.

INTRODUCTION

Since 2021, the Republic of Uzbekistan has begun to introduce a credit - modular training system. In this system, the humanitarian faculties of pedagogical universities provide for the study of the discipline "Higher Mathematics" as an obligatory component of higher education of a modern specialist. In accordance with the current State educational standards for specialties of the humanitarian profile, curricula in mathematics have been

developed. They include a fairly wide range of studied subjects.

MAIN PART

There are certain difficulties and peculiarities of teaching mathematics to scholar students. Let's note the main ones. Firstly, the negative attitude of students to the study of this course, due to, in their opinion, "unnecessary for the humanities", secondly, the weak basic (school) training of students in mathematics and computer science, and thirdly, a small number of allocated classroom hours, especially in mathematics (16 hours of practical training and 14 lectures). At the same time, it is required to give high-quality knowledge to students. Obviously, this can only be achieved through the use of intensive teaching methods and techniques. Therefore, it is necessary to determine the directions and methods of intensive teaching of mathematics to students of humanitarian specialties and to test them.

Teaching mathematics should:

1) Make full use of psychological and pedagogical approaches to teaching: taking into account the characteristics of a humanitarian student audience (memory, attention, thinking, fatigue), the use of individual tasks, visibility, a combination of various forms of conducting classes, the propaedeutics of introducing new concepts and facts, creating a favorable psychological climate for classes;

2) Be built on a differentiated basis, be leveled in complexity and depth of study of educational material;

3) Have a problem-developing character and should form a positive motivation and interest of students in learning;

4) To stimulate and activate the independent cognitive activity of students, to educate students' abilities, skills and tendencies for continuous self-education, independent development, analysis and selection of new information;

5) Be characterized by the scientific nature and fundamental nature of knowledge realized through the content (presentation of material in large blocks) and the logic of constructing a training course, widely use the axiomatic and deductive principles of building courses;

6) Develop the intuition of students, for which it is advisable to use heuristic techniques in suitable situations;

7) Be based on the "principle of reasonable rigidity" in the presentation of educational material with elements of programmed learning;

8) Monitor the typical knowledge of students systematically using computers for timely diagnosis and elimination of gaps in their knowledge;

9) Proceed from their interpretation not only as academic and scientific disciplines, but also as elements of universal human culture;

10) Use interdisciplinary connections between these disciplines as components of a single course.

Thus, it is possible to improve teaching mathematics through the use of elements of individual, differentiated, problem-solving and programmed teaching. Moreover, a special role is given to the intensive control of students' knowledge, which increases the activity of students in the study of this discipline, their preparation for classes and their timely completion of tasks, as well as their independent work.

In the modular - credit system of education, curricula, in addition to classroom hours, provide for a fairly large part of the time for independent work. Therefore, it is necessary to organize the activities of students optimally. In this regard, it is proposed not only the implementation by students of current general and individual homework assignments, but also creative work in the form of research and abstracts. A. Disterweg wrote "where boredom begins, attention stops, and therefore education stops," confirming the need for motivation of learning and student interest in the subject in the educational process.In this regard, the teacher must think over the topic of the essays (focusing on the specialty), indicate possible sources of information, develop a sufficient number of differentiated tasks that are interesting and feasible for students to perform with various training, and also give them the appropriate necessary recommendations at the beginning of classes. Experience has shown that the search for new knowledge in mathematics and computer science for students of humanitarian specialties really arouses interest, broadens their horizons, reveals the depth and breadth of mathematical facts, their applications in various fields of human activity. At the same time, students most often use Internet sites, which also contributes to the implementation of interdisciplinary connections between mathematics and computer science. [1].

To highlight the issue related to testing students' knowledge, as an example, we will use the course of higher mathematics for students of the Faculty of Russian Language and Literature of the Jizzakh State Pedagogical Institute. The course of higher mathematics includes the following sections:

elements of set theory, analytical geometry, foundations of differential and integral calculus, probability theory, elements of mathematical statistics. In turn, each of them is divided into several separate topics, which is a reflection of the programmed approach [3].

The study of each topic involves not only the study by the student of the appropriate theoretical and practical material of lectures or teaching aids, but also the implementation of individual homework. Tasks should be compiled in the required quantity, and they are differentiated according to three levels of difficulty, which each student chooses independently, based on the level of his basic school training in mathematics and confidence in their implementation. At the same time, the student uses the material of lectures, as well as teaching aids for the mathematics course, which reflects the main theoretical material in mathematics, considers the solution of a sufficient number of examples on each topic and provides options for individual tasks.

RESULTS AND DISCUSSIONS

It is important to emphasize that in the first lesson, the teacher covers the entire plan for studying mathematics. This includes: the structure of the course, recommended literature, requirements for the work of students who need to report on the fulfillment of a certain number (which is discussed right there) classroom (test) and individual homework assignments, to complete the final test and defend it , and at the end - to pass test on computer. Only if all the described conditions are met and their successful fulfillment, the student passes the credit in higher mathematics.

Having determined and informed the students in advance the level of requirements for their

knowledge, we thereby allow them to develop a reasonable plan of action and remove the state of uncertainty and anxiety in relation to such a complex subject in the eyes of the humanities - Higher Mathematics. Each practice session begins with a short oral interview and handout. Students are given individual assignments on the topics covered for 5-7 minutes. Definitions, problems, incomplete statements of theorems, properties, formulas can act as such tasks. This method of knowledge control allows you to check the current preparation of all students for classes. This is really important, since an ordinary oral survey cannot cover the entire audience in two academic hours, and the implementation of feedback during the intensification of training must be carried out in full. [1]. Thus, the use of tests requires careful preparation of students for classes, which contributes to better teaching with the same time spent in classroom time. The practical lesson focuses on communicating the necessary theoretical information to students, analyzing and solving problems on the topic under consideration, and verbally questioning three or four students. With such a short time frame for the mathematics course, as we have already noted, a greater bias is made towards independent work of students at home. In order to give the opportunity for lagging students to improve the situation, individual lessons (or, as they say, "work off") are conducted throughout the semester. On them, students perform missed tasks or re-solve incorrectly made assignments, receive advice from a teacher, and use additional literature.

Thus, conditions are created for everyone who wants to get help from a teacher in case of difficulty in solving household chores and to exclude "hopeless" situations. At the end of the study of the course of mathematics, students are given home independent work, which includes rather voluminous tasks in the main sections. By assigning a home test, the problem of time is solved and it becomes possible to include more labor-intensive tasks of an applied professionally oriented nature in it, which contributes to maintaining the interest of humanities in mathematics. Such works are defended by students in the last lesson. Thus, it is possible to assess the degree of independence and awareness of their implementation [2].

CONCLUSION

At the end of the course, a final control of knowledge (final testing) is carried out, the purpose of which is to objectively check the residual knowledge of students and confirm the results of the report on the control work. Testing involves the choice of one of four suggested answers for 50 randomly appearing questions. The result (score) depends on the percentage of correct answers. The use of computers to control knowledge increases students' interest in the subject, and a differentiated result contributes to their more thorough preparation for the test.

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