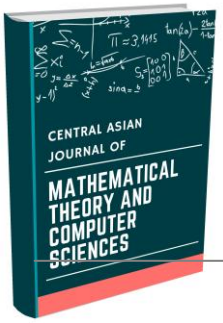

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USE OF INTERESTING GAMES IN TEACHING MATHEMATICS

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Annotation

Interesting games play a very important role in the teaching of mathematics, because the purpose of various didactic games is to teach students to apply their theoretical knowledge in the field of solving various practical problems consciously quickly and decisively.

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According to the Law "On Education", students who have graduated from general secondary schools continue their education in academic lyceums or vocational colleges. On the basis of general secondary education, compulsory secondary special education, which is three years of study, is an independent type of continuous education system. Secondary special education-academic lyceum is chosen voluntarily by students. Academic lyceums provide secondary special education in accordance with state educational standards. Taking into account the capabilities and interests of students, their rapid intellectual development ensures deep, branched, differentiated, career-oriented education. In academic lyceums, students will have the opportunity to improve their knowledge in the chosen field of study and to develop special professional skills aimed at in-depth study of science. With these goals in mind, educational programs on the basics of algebra and mathematical analysis and geometry have been created for academic lyceums. It is noted that one of the main tasks of teaching mathematics in academic lyceums is to provide students with a deep and conscious mastering of the system of mathematical knowledge and skills that will be necessary in everyday life, in work, as well as to continue learning in the future.

Since academic lyceums are a direct continuation of secondary general education, the main tasks of teaching mathematics here are to deepen students' previously acquired knowledge, apply it to practice, and develop abstract and logical thinking.

The main goal of teaching algebra and elementary analysis course is to systematically teach students the essence of mathematical methods for solving operations, equations and inequalities through the concepts of mathematical analysis of functions and their properties.

Also, the goal of teaching geometry is to solve geometric problems related to the properties of geometric bodies in space, their replacement and calculation of their quantities, and to develop students' spatial imagination.

As already mentioned, our research is devoted to identifying and developing mathematical talents among students graduating from general secondary schools. What kind of program should be used to teach mathematically gifted students at the next secondary special level of education? As we said above, there are programs for academic lyceums. It is known from experience that it is desirable to teach mathematically gifted students on the basis of a special program. So what should that program be and how does it differ from the general program?

There are two approaches to programming for gifted students. The first one is designed to separate gifted students and teach them in special groups; the second is to educate gifted students among students with normal abilities.

In Uzbekistan, work in the first direction has been carried out since 1972. Since these years, schools of physics and mathematics have been established in Tashkent, the center of our republic, and later in regions and cities. Talented students were collected from general secondary schools and started to be taught separately. Special programs were prepared for the educational process with the participation of well-known mathematicians and physicists. There were some flaws in the initial programs, which were corrected over time. However, the psychology and physical fitness of students, which are the most important elements in these programs, are almost not taken into account. We have not conducted deep scientific research in the second direction. That is why today it is necessary to create programs and teaching methods that can be used in both directions.

We will focus on the methods of creating such programs in this paragraph. In order to identify mathematically gifted students, their (hypothetical) abilities were first identified.

After that, a set of tests was developed to determine and ensure the manifestation of these abilities. In our opinion, it is necessary to pay attention to the identified abilities of students in the preparation and teaching of programs. Which of the identified abilities should be taken into account first when designing a program? The program should focus on individual characteristics of mathematical thinking. According to modern psychological concepts, the structural structure of mathematical thinking consists of five intersecting parts or clusters. Let's take a look at these structural structures:

We call the first structural structure a "topological cluster" structure. Pupils with such a topological structure do not usually like to rush. They perform every action perfectly and with restraint. They check and analyze everything and try not to make mistakes. The fact that they do the work carefully and, as a result, slowly, sometimes annoys the people around them. They are analysts with a very refined taste.

Pupils with a dominant "projective cluster" structure like to search for an arbitrary mathematical object from different perspectives, compare it to known objects, and learn the possibilities of applying it in practice. Such students like to plan. They never take the first step without seeing the next one. They amaze many with their ability to provide unexpected ways of solving problems and the breadth of their mathematical thinking.

Pupils with a dominant "orderly cluster" structure prefer to compare and evaluate according to one or another characteristic, such as equal-not-equal, more-less, low-high, close-far. The appearance, shape, interaction, relative and direction of movement of objects are very important for them. These young officials will not allow a single condition to be violated. They think and act according to the order. Algorithm work is their hobby.

Students with a dominant "metric cluster" structure focus more on numerical quantities and relationships, as if they were enchanted by numbers. The main question for them is: "how much?" and always to determine the length of the section, the figure, the face of the circle, etc. They fail to understand that no answer is numerically significant. Solving issues related to actions that give a numerical result is their soul language.

Algebraic cluster students always strive to find amazing and dexterous ways to divide an object into pieces, combine them into a whole, reduce several changes and replace them with another. These "hurries" do not like to justify their work, write in detail and explain the methods of solving. These "great combinators" are

good at conceiving ideas, assumptions and solutions, they can think and execute everything at once, but they often make mistakes.

According to the unique, individual characteristics of a person, one or another structure can be superior and occupy a leading position. From this, it can be concluded that there should be five types of programs prepared for teaching mathematically gifted students, and each of them should be designed for a dominant (dominant) structure.

We will explain our opinion on the example of topics "Limits of functions, derivatives and their applications" in the curriculum of algebra and the basics of mathematical analysis of academic lyceums and "Solving problems related to the basics of planimetry" in the curriculum of geometry.

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