FEATURES OF FORMATION OF STUDENTS' TECHNICAL THINKING ABILITIES WHEN CHOOSING THE CONTENT OF MATHEMATICAL EDUCATION IN ACADEMIC LYCEUMS

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ABSTRACT

Features of formation of students' technical thinking abilities when choosing the content of mathematical education in academic lyceums.The article presents the issues of formation of technical thinking abilities of students using the content of academic lyceum mathematical education. It is based on the fact that the elements of algebra and analysis help with technical thinking.

Key words: *mathematics, technology, professional method, innovation, mastery.*

АННОТАЦИЯ

*Особенности формирования в математическом образование технических мышления учащихся академических лицеях**.** В работе изучается особенности формирования в математическом образование технических мышления учащихся академических лицеях и пути их формирования на уроках алгебры и анализа.*

Ключевые слова: *математика, технология, профессиональный метод, инновации, мастерство.*

INTRODUCTION

The basis of the educational process is the development of scientific-methodical criteria for the selection of educational content for academic lyceums and the determination of methodological features of its implementation in the educational process. In academic lyceums, it is necessary to improve the methodical system of developing students' technical thinking styles by means of specialized classification of the content of mathematical education.

The purpose of the lesson is to create a basis for the development of the mathematical education content based on specially developed criteria aimed at professional classification in academic lyceums, and the development of skills characterizing technical thinking styles in students. To substantiate this, the following analytical steps should be taken:

- determining the place of the technical direction in the stratified education system;

- to identify the founders of the technical thinking style;

- to determine the psychological and psychophysiological characteristics of the personality of students studying in academic lyceums;

- development of criteria for selecting the content of mathematical education for academic lyceums;

- to show the content-methodical peculiarities of teaching mathematics in academic lyceums;

- implementation of these peculiarities in the preparation of methodical developments on a specific section of the content of mathematical education in academic lyceums;

In the development of the mathematics curriculum, the study of this subject has different goals in relation to the general education preparation of students of different professions in academic lyceums. Therefore, it is natural to combine professions into large categories according to the purpose of education[1-5].

DISCUSSION AND RESULTS

Therefore, it is natural to seek basic secondary education based on fundamental technical education. The society's production forces should match the previous level, and students' knowledge of basic academic subjects should be matched. However, due to scientific and technical and social progress, the need for people who not only know a lot, but also have deep creative abilities is felt more acutely.

As the famous mathematician, Methodist N.V. Metelsky said, "The country always needs more engineers and technicians than pure mathematicians, physicists, chemists and biologists."

The fact that the majority of students who want to study in academic lyceums choose a technical direction can be determined by the fact that the number of technical higher educational institutions is not less than the number of other higher educational institutions. Students who do not continue their studies in higher educational institutions, but prefer to engage in "technical" type of activity after graduating from high school, also fall into the stream of technical direction. A well-known mathematician, methodist A.N. Kolmogorov in one of his works emphasized that only secondary general education and half a year of industrial education are enough to enter a task into a modern calculator, and such students receive general secondary education more often in technical lyceums[6-10].

In didactics, the content of education, understood as a multi-level pedagogical model of social order, representing the content aspect of education, is a means of realizing educational goals. Demonstration images are created on the basis of various

subject, conditional-graphic and sign-symbolic expressions, which is related to graphic modeling. its wide application allows to identify real phenomena, the studied theoretical connections in a sufficiently formalized manner, to predict their manifestation in various spheres of reality.

As for algebra, in the process of mastering this subject, students create two types of images based on visual materials: conditional-symbolic images (based on the system of conditional-symbolic signs) and graphic images (based on the graphic system consisting of a set of points arranged according to certain rules). In the process of mastering algebraic material, the ability to use images is manifested in the process of recoding the information received by receiving visual material in the form of conditional-symbolic and graphic images. During the performance of algebraic tasks, not only the visual aspect of the material is received, but also its intellectually altered understanding takes place. In the process of such thinking, images are created in the form of different initial states and intermediate, additional states, formed solutions, received answers. In the process of receiving any initial visual image, a dynamic image of the motion table is created, as a result of which a constant transition from a static image to a dynamic generalization is carried out.

As shown in the work of P.G. Satyanov, the solidity and understanding of learning the studied material in the process of studying the elements of mathematical analysis, the ability to confidently use them in solving problems depends on the connection of this concept with the corresponding geometric image.

It is known that the analytical method is used as the main method in mathematics, because most of the tasks, especially in algebra, should be solved as conditional-symbolic notation. And the graphic method is accepted as an additional, demonstrative tool.

The successful implementation of modern computers based on mathematical laws in all fields and its development day by day, the ability of young specialists to create mathematical models of relevant fields and problems, and the introduction of computing techniques into them, are tasks. Modeling of these issues is done using mathematical operations and methods.

It is well known that the existing concepts in mathematics, from natural numbers and arithmetic operations to modern, linear algebra and analytic geometry, differential and integral calculus, and differential equations, are models of the real world. All of these concepts originate from the needs of mankind, such as counting things, technical devices, necessary for livelihood and are developing.

CONCLUSION

In conclusion to the above, in the study of different branches of mathematics, it is possible to achieve the integrity of the perception of a mathematical object, the possibility of mastering all the features of the image at the same time. In the educational process, the lack of integrity of the types of images can often lead to the superficial acquisition of educational materials.

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