

Some Issues of Developing Students 'Schedule Working Skills

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ABSTRACT

The article analyzes the theoretical content of mathematics, geometry, technology and information technology, which are the basis of graphic education in general secondary schools.

KEYWORDS: secondary schools, graphic education, mathematics, geometry, technology and information technology, analysis, geometric and graphic sciences, graphic problem, graphic skills, professional culture

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INTRODUCTION

Innovative ways of developing technical science and technology not only make any country potentially competitive, but also help it to enter the world community in a worthy manner. In this regard, today the issue of training highly qualified engineers has been identified as a priority in the world community.

In this regard, an important task in general secondary education is to improve the teaching methods of engineering sciences, including mathematics, geometry, technology and information technology, the integration of the teaching process on the basis of an innovative approach.

LITERATURE ANALYSIS AND METHODOLOGY

The term "graphic culture" in different contexts is used by researchers in the field of education (L.N. Anisimova, A.D.Botvinnikov, V.A.Gerver, S.I.Dembinsky, Yu.F.Katkhanova, A.V.Kostruykova, M. V.Lagunova, E.P.Mixeeva, MV Molochkova). AA Pavlova, NG Preobrazhenskaya, AA Ryvlina, S. Yu. Sitnikova, O P. Shabanova, E. I. Shangina, L.S.Shebeko, V.I.Yakunina), Yu.F. Katkhanova notes that teaching graphic communication in the context of intercultural dialogue, relying on interdisciplinary

graphic knowledge, relying on the intellectual potential of students affects the creative development of students.V.P. Molochkov studies the formation of graphic culture based on the use of information and educational technologies[1].

Theoretical Principles of Developmental Education M.V. Lagunova based her methodology on developing students 'thinking in the process of forming a graphic culture.A.V. Kostryukov and S.Yu. In her research, Sitnikova E.I. In his research, Shangina substantiates the interdisciplinary function of graphic culture in the learning process[2].

DISCUSSION

The analysis of the theoretical content of mathematics, geometry, technology and information technology sciences, which form the basis of graphic education in general secondary schools, shows that geometric and graphic sciences are aimed at solving specific graphic problems. Therefore, graphic skills are not understood by students as a key component of the future engineer's professional culture.

We viewed the engineer's graphic culture as a social phenomenon that could not be described in terms of a simple set of components. The development of

students' skills in working with graphs in general secondary schools develops in the unity and interaction of the components of these disciplines, the composition of which is determined as follows:

1. Gnostic - all types and forms of graphic knowledge: from graphic concepts to theorems and theories, methods of representing spatial objects in the plane; knowledge of deformation of objects and their spatial location, processing technology and connection methods in assembly units, technological processes occurring in devices and installations and technical requirements for their design and drawings.
2. Technological - the ability to make reasonable drawings, make changes to them in accordance with the technological process and technical reconstruction; the ability to read and execute a drawing of a detail with an in-depth understanding of its end result as an element of the technological process; readiness of the student to solve technical and technological problems of design, modeling, production process.
3. Emotional-value - evaluating graphic training as an integral part of the profession, understanding their graphic skills as an opportunity for professional success, self-evaluation as a basis for technical thinking and self-transformation of spatial thinking level and ability to change objects. - Realization in the profession.
4. Organizational and design - the ability to analyze and predict the production process, the use of graphic culture in solving production problems; the ability to solve professional problems, enter into communication relationships, transfer graphic knowledge and skills based on them to other people to improve the technological process.

In the teaching of engineering sciences at school, lectures and practical classes, teaching algorithms, animation process of creating a graphic image in the plots, orthogonal and axonometric images of spatial objects are used, which makes the tasks to be solved clearly visible and helps to form gnostic and technological knowledge[3].

To achieve these goals, it is advisable to use active lesson types such as "brainstorming", business game, design report and excursion. gave[4].

The workshops were conducted in the form of a business game, which helped the students to better understand the conditions under which their professional activities are carried out, to form the

organizational and design component of the graphic culture.

Contextual education technology is included in the methodological system as one of the conditions for preparing students for future professional activities. Thanks to the developed assignments, the topic content was supplemented with a professional component.

Students were introduced to professional equipment, which they viewed as objects to solve graphical problems. This has contributed to the development of internal motivation by students to study this subject and, as a result, to an increase in the level of formation of a graphic culture in general.

In order to develop students' skills in working with graphs in school, it is recommended to study the interrelationships of mathematics, geometry, technology and information technology. For example, it is advisable to arrange a tour of the boiler room to get acquainted with professional equipment. Before the tour begins, the teacher divides the students into groups, each of whom is given a task: to get acquainted with the product, the purpose, the device, the principle of operation and opportunities to improve it[5].

During the tour, students collected materials for the task, asked them questions of interest, which helped to form the Gnostic and technological components of graphic culture. Such an active way of conducting the tour helped to increase the importance of graphic knowledge for the professional future of students, to increase the emotional and valuable component of graphic culture. In this practical training, students were introduced to the profession, the essence of the processes taking place in production, professional equipment and the conditions under which their professional activities are carried out. When working in groups, students acquired teamwork skills, the ability to achieve a set goal, their communicative skills were demonstrated, which had a positive impact on the development of the organizational and design component of graphic culture.

In addition, students received a shining example of their ability to apply graphic knowledge in professional activities, to move in key areas of the technological process, which undoubtedly helped students develop the technological component of graphic culture. A special task of this type of lecture was to show the attitude of teachers to the material being studied, which more accurately and deeply expresses the personal qualities of the teacher as a professional in their subject. Therefore, the joint use of the report has become very important not only for

the development of gnostic and technological components, but also for the emotional-value and organizational-design components of the graphic culture of future engineers[6].

In this game, the knowledge gained in active creative work was formed among the students, which helps to form the gnostic and technological components of graphic skill at a new high level.

In the process of co-creation, students gained teamwork skills, a sense of belonging to the team, respect for the opinions of others, the ability to communicate in the process of discussion, which had a positive impact on development.

The emotional richness of the business game, the high level of motivation, the understanding of the need for geometric-graphic knowledge to study specific subjects reflect the importance of this form of teaching to form an emotionally-valuable component of graphics.

Design report. This lesson was the final lesson and was the result of the students' work in all the lessons in the "Pictures of Assembly Units" section. For this practical exercise, each group of students (each design bureau) prepared a report, which was received by two teachers who gave the lecture: NG and IG teacher - chief designer and special science teacher - chief mechanic[7].

Students took an active part in the design report, taking their roles seriously and responsibly. After the presentation of each design bureau, teachers and other students asked questions, corrected errors in project documents, if any, and supplemented their classmates' answers. The need to formulate and ask the question correctly activated the students' mental activity. Their ability to demonstrate knowledge and mastery of the material, the possibility of finding errors and omissions in the drawings, caught their attention. The

ability to include additions, suggestions, and specific ways to improve equipment helped to develop creative thinking, unlocking students' personal abilities, which had a beneficial effect on shaping all components of graphic culture.

CONCLUSION

In conclusion, in order to develop students' skills in working with graphs in school, the study of the interrelationships of mathematics, geometry, technology and information technology, the separation of topics and units for the development of graphic skills and targeted organization of lessons by the teacher are identified as priorities.

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