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THE ROLE OF GRAPHIC SCIENCES IN THE PREPARATION OF STUDENTS FOR PROFESSIONAL ACTIVITIES IN THE PROCESS OF SCIENTIFIC DEVELOPMENT

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ABSTRACT:

This article presents the role of engineering graphics subjects in technical higher education institutions and their importance in preparing students for their future professional activities.

KEYWORDS: Compliance, professional activity, graphic training, drawing geometry, engineering graphics, drawing.

INTRODUCTION

Reforming production sphere in the Republic of Uzbekistan brings to life new requirements not only for production, the nature of labor, but also for the specialist himself. The requirements for a modern specialist cause many problems associated with the quality of its preparation for professional activities. When analyzing the professional activities of technical specialists in production, many questions arise, including: psychological and pedagogical conditions for preparing for activities; specifics of training at different levels; content of types of professional activities, compliance of Personnel Training with professional activities. When considering these issues, the concept of "consistency", which is important for these problems, is interpreted ambiguously. The compliance of the knowledge gained at the University with the competencies required in production is one of the pressing problems of Higher Education.

In the scientific literature, “professional conformity” is seen as the conformity of a person to any profession, that is, to have sufficient basic knowledge and skills to master a particular profession. Depending on the personal characteristics of the future specialist and the influence of psychological and pedagogical conditions, the educational information received will have the highest level, which means Professional Compliance, qualifications, etc.

The tasks that a modern graduate of a technical higher educational institution should be able to solve in the process of professional activity are extremely diverse. Therefore, one of the main pedagogical tasks of teaching geometric and graphic Sciences is to teach students such methods of mental activity and independence.

In relation to students of a technical university, their activities should be aimed at professional self-improvement. Knowing many interpretations and methods of geometric-graphic solutions, the specialist professionally performs the task of production, which is assigned to him.

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When organizing the educational process for the development of the readiness of students for socially significant labor, it is important, according to many experts, taking into account the type of future professional activity of the specialist. Researchers N.V.Kuzmina and T.I.Rudneva describes the typology of various professions and their style of activity, which includes an individual-personal component (guiding, coordinating, regulating, stimulating and semantic functions in activities).

For the future technical specialist, the main element of studying at the university is geometric-graphic preparation. The professional activity of graduates of the Technical University is associated with drawings.

Drawing becomes not only the most important, but also the only means of expressing engineer ideas, an understandable international language for engineers from all countries. It is also a means of communication that conveys the idea of the engineer-constructor to the executive-worker. But a drawing for an engineer, not only a means of communicating with performers and colleagues, it is an idealized, but at the same time arranged in strict accordance with the reality of engineering, the "space" of expression and the opening of his thoughts. Therefore, engineers prefer to draw a drawing rather than write formulas or text. The engineer manifests his opinion in this idealized plane, which implements his engineering Idea (plan), after which he turns it into production in the space of three-dimensional material forms.

A set of systematized geometric-graphic knowledge and practical skills makes it possible to solve theoretical and practical problems in a professional technical profile. Geometric-graphic education can also be defined as the purposeful cognitive activity of people aimed at acquiring or improving knowledge, skills.

The technical language of graphics allows drawings to be interpreted in one sense of the information contained in them. This is facilitated by the state standards of the unified system of project documentation. An engineer, scientist must know the basic method of technical communication and the universal graphic language of his professional field. In the engineering process, about 90% of information is transmitted using graphic language , in which the production of each product begins and ends according to the drawing, where the entire production process is inextricably linked with the use of graphic activity. "... it should be taken into account that a person receives 87% of information in life through the visual channel and only 12% through the auditory canal."

S.N.Balyagin and N.S.In his work, Briling notes that the graphic literacy of an engineer develops in engineering classes while cultivating creativity and design ability and desire.

Russian engineer and professor V.I.Kurdyumov gives a more detailed definition of graphic language: "if drawing is the language of a technique that is equally understood by all people, then drawing geometry serves as a grammar of this language, since it teaches us to read drawings correctly and express our thoughts."

The role of geometric-graphic education is determined by the need to process a large flow of various information: educational, scientific, economic-statistical, etc., and the need for its visual presentation. Modern science and technology require a high level of visual culture from a specialist; it is very important to use modern information processing tools (hardware and

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software computer graphics); the subject area of illustrative and business graphics is expanding. The level of professional training is largely determined by the amount of knowledge and skills necessary to technically competently present any information using graphics.

Therefore, one of the main pedagogical tasks of teaching geometric and graphic Sciences is to teach students mental activity and methods of independent work, which are more suitable for the characteristics of their future profession.

The level of development of geometric-graphic skills determines the success of the professional training of a technical specialist. Special skills occupy a special place in the preparation of the future specialist. These are general education, metacognitive abilities that are interrelated. The presence of special skills in the structure of geometric-graphic skills strongly affects the student's learning process and their professional geometric-graphic training.

REFERENCES

1. Kuzmina, N.V. The concept of "pedagogical system" and criteria for its assessment //Methods of systematic pedagogical research. L., 1980.
2. Rudneva, T.I. (ed.) Psychological and pedagogical problems of modern professional education / Collection of scientific articles. Samara: Publishing house of "Univers-groups", 2005. 220 p.
3. L.A. Trofimuk. Development of graphic communication, Russian engineering graphics: A monograph. Lesosibirsk branch of SibSTU. Krasnoyarsk: SibGTU, 2003.-72 p.
4. Fokin Yu.:G. Theory and technology of teaching: an activity-based approach: textbook.student's handbook. higher. studies. institutions / Yu.G. Fokin. - 3rd ed., ispr. -M.: Publishing center "Academy", 2008. - 240 p.
5. Brilling N.S, Balyagin S.N, Church: A Reference. Equipment. M.: Storyizdat, 1994.-421 P.
6. R.R.Jabbarov. Patterns in applied art of the uzbek folk // European Journal of Arts, 2023, No1. – C. 11–14. DOI: https://doi.org/10.29013/EJA-23-1-11-14
7. Jabbarov Rustam Ravshanovich, (2024). The study of teaching applied decorative arts in higher education institutions through software solutions: a review of methodological literature. current research journal of pedagogics, 5(10), 106–111. https://doi.org/10.37547/pedagogics-crjp-05-10-18
8. Khurshida Pirmakhmatovna Khayitboboeva, (2021). A Study Of The Problems Of Tradition And Innovation In Modern Uzbek Folk Art. The American Journal of Social Science and Education Innovations, 3(11), 14–20. https://doi.org/10.37547/tajssei/Volume03Issue11-04
9. Xayitboboyeva, Xurshida Pirmaxmatovna, & Jo‘Rayeva, Madina Ziyodovna (2023). Toshkent yog‘och o‘ymakorligida ibragimovlar sulolasining o‘rni. Oriental renaissance: Innovative, educational, natural and social sciences, 3 (2), 862-868. https://cyberleninka.ru/article/n/toshkent-yog-och-o-ymakorligida-ibragimovlar-sulolasining-o-rni
10. Khurshida P. Khaitbobayeva, & Hayotjon R. Gaffarov. (2023). The role of nurota embroidery in the applied art of uzbekistan. Art and Design: Social Science, 3(03), 3–5. https://doi.org/10.37547/ssa-V3-I2-2

Published: February 25, 2025 | Pages: 21-24

11. Култашева Нигорахон Данияровна. (2023). Кулолчилик ривожида Нарзуллаев сулоласининг ўрни. Educational research in universal sciences, 2(3), 458–464. https://doi.org/10.5281/zenodo.7832102
12. Daniyarovna, K. N., & Abdumalikovna, S. S. Bauxauz–germaniya madaniyatining fenomeni sifatida. https://www.oriens.uz/media/journalarticles/63_Kultasheva_Nigoraxon_Daniyarovna_433-438.pdf
13. Nigorakhon Kultasheva. (2022). Bayat mukhtarov and his plastic innovations. Art and Design: Social Science, 2(01), 6–8. https://doi.org/10.37547/ssa-V2-I1-3