

TYPE Original Research PAGE NO. 135-139 DOI 10.55640/eijp-05-01-30

Check for updates

OPEN ACCESS

SUBMITED 30 October 2024 ACCEPTED 30 December 2024 PUBLISHED 30 January 2025 VOLUME Vol.05 Issue01 2025

COPYRIGHT

© 2025 Original content from this work may be used under the terms of the creative commons attributes 4.0 License.

In the Teaching of Engineering and Computer Graphics in Technical Higher Education Institutions, It Is Necessary to Shape the Creativity of Students in The Profession Through Interest in Circle Training

Malikov Kozim

Tashkent State transport University PhD associate professor, Uzbekistan

Abstract: This article provides recommendations for the formation of a creative approach to the profession through circle classes in engineering and computer science at technical universities.

Keywords: Circle, student, teacher, graphics, excursion, conversation, gifted students, personality.

Introduction: In our country, scientific research is being carried out on the practical comprehensive preparation of future specialists for professional activities and the effective use of innovative technologies in this process, and in these processes it is aimed at shaping students ' creative abilities. In order to further improve the process of theoretical and practical training and independent educational processes in all areas of higher education, special attention is paid to improving the mechanisms for the formation of scientific and professional circles among students their skills in a circle. In the educational process, an important place is occupied by the formation of professional and practical skills of students, the creation of promising plans and the use of advanced foreign experience in identifying and eliminating identified shortcomings and problems, as well as improving the didactic supply of this process.

European International Journal of Pedagogics

It will be necessary to organize the reserves of

knowledge in the teaching of engineering graphics at the level of world practice, improve the skills of the use of modern pedagogical and information technologies of training in the training of personnel, to develop the necessary theoretical and practical knowledge, skills and skills in students such as an independent thinker in a pedagogical educational person, an independent "From international experience, the introduction of advanced standards of higher education, including a gradual transition from an education aimed at obtaining theoretical knowledge in educational programs to an educational system aimed at the formation of practical skills," was established as a priority . In this case, it is of urgent importance to improve the methodology for the development of professional graphic competence in students, as well as to provide all didactic opportunities for them to master the reproductive, productive and creative levels of professional graphic activity.

In the process of education aimed at the development of the personality of the student, his mentalintellectual, creative features are manifested. In this regard, especially in the educational process, the opportunities for the formation of creative activities of students are wider. Today, the educational reforms carried out due to independence depend on the training of highly qualified personnel who approach their work creatively, contribute to the rapid development of science, technology, art, production. Accordingly, it is important and necessary to educate each student in the spirit of creativity, based on the requirements for the development of society.

In higher education institutions, on the basis of educational plans, subjects are separated into blocks. This science is in the main block of engineering and computer graphics, as well as Circle training is organized, and thus each science has its own structure, it is possible to draw up a charter based on faninng life measures, bring those under the Charter of the circle of engineering and computer graphics, general rules like all disciplines, the main goals and objectives of the circle of engineering and computer graphics,

It defines the theoretical systems of teaching engineering and computer graphics in higher education institutions, the basic principles, current issues, its solutions, goals and objectives, as well as the main directions of teaching this subject in educational institutions, including:

- Ensuring continuity and continuity in its educational system in the teaching of engineering and computer graphics, which is being taught in higher education;

- Education of students in their higher education on the basis of national and universal values;

- content of qualities of hard work, Economy, Initiative and entrepreneurship in students;

- in the organization of circles in engineering and computer graphics in higher education, including several issues on the formation of independent, creative and innovative thinking in students, content of selfdevelopment skills, identifying talented students through the correct development of the regulation of the circle, organizing work with talented students, Science Olympiad consists in developing regulations for participation in various competitions.

The purpose of the circle in engineering and computer graphics in higher education institutions the lesson provides an opportunity for students in classes to train students in the direction and specialty of education, to properly apply the principles of theoretical and practical, architectural construction, construction, design using computer graphics in their projects. Thus, the main task of the circle of engineering and computer graphics science is to properly organize students by inextricably linking them with the lesson, to increase interest in studying students in professional activities.

Organized from the disciplines of engineering and computer graphics, the circle training will increase students ' interest in learning the basics of Science, get additional information, in addition to the literature of Republican scientists, introduce students to jaxon dabiyas and also motivate them to learn a foreign language, cultivate the skills to use internet information related to science, develop independent learning skills and creative abilities, , it is encouraged to independently Loh different models as well as be able to draw drawings through programs.

In all spheres, progress in science, technology and other fields is growing very quickly in pictures, but it is also required that young people have excellent knowledge of Science and technology in the fields. Because it is a requirement of this day that every young man become a master of the professions he has acquired.

Taking into account the fact that even a professor with high professional skills in the field of Education does not have the opportunity to inform students of all the achievements in the fields of Science in the course of lectures, practical and laboratory classes, during the development of Jahan, many branches of Science and technology and the volume of their information expanded greatly. Therefore, increasing the interest of students in the processes of Circle training through their interests in science, along with the direct development, should independently recommend additional literature, methodological recommendation, exhibition on fields, excursion, meetings with leading scientists of Science and various competitions through the efficient use of

their leisure activities. The head of the circle also gives students in the course of the circle general directions, connecting them with professional directions, and not teaching engineering and computer graphics. When organizing circle work, it is important to take into account the conditions of the teaching student. For example, in urban centers, higher educational institutions located outside the city, as well as the organization of Circle training, organized taking into account the conditions of any enterprise, production and the like, will give positive results. In this, the characteristics of comparing and analyzing the results obtained from observability in students, drawing practical conclusions, generating skills and qualifications will begin to form.

When conducting circles, the requirements for the circle of engineering and computer graphics and knowledge are needed, and each member of the circle needs to study the laws of theoretical knowledge about graphics, practical skills, the transition from the geometric picture of spatial bodies to its planimetric Image (Flat drawing) and the transfer of the interaction of elements of a spatial body from its planimetric. It is also necessary to have a methodological approach to the processes of knowledge of the subjects of science, history and development of graphic Sciences and theoretical knowledge and skills related to the formation of a scientific worldview, the manifestation of their technical thoughts through drawing in the future, the process of working on the drawing of any described object, or objects, and the, they receive a general understanding of the design elements and acquire gualifications based on an individual and collective approach to implementation in practice. It is necessary to pay serious attention to the educational side of the work, not indulging only in the provision of knowledge in round-robin work, which is especially important in the current conditions. In addition to specialist knowledge, our students should also have knowledge of the state symbols, peace, tranquility, etc.

- Conditions for the organization of circles in the educational process:
- Introduction to practical skills in mastering theoretical and practical knowledge in learning;
- Define students knowledge of graphic Sox;
- To increase the activity of knowledge of students and to establish the formation of a degree.

In the educational process, the tasks of theoretical and practical training, as well as in circle training, as well as

the purpose and function of each training, are laid down.

The circle allows you to express training tasks as follows:

Strengthening, generalizing and expanding the knowledge and Skills received by students during the training of the student in the continuum of theoretical and practical training;

Loyhalash, ishlab chiqarish, korxona va shu kabi unumli mehnatga asoslangan ijodiy faoliyatga talabalarni jalb qilish;

Expanding the imagination by integrating with presentday production on the basis of modern programs;

Preparation for the choice of profession based on the modern needs of the modern progressive free;

Formation of a positive attitude towards the sphere of space. To'garak olib boriladigan mashg'ulotlar asosan 4 turga bo'linadi

1. Individual activities with individual students.

2. Activities conducted with a group of students.

3. Activities carried out in a cumulative order with students.

4. Organization of work with talented students.

Individual activities with individual students include the use of innovative technologies, the creation of visual posters, models, observation, and organization of exhibitions in order to develop creativity activities.

It is possible to carry out activities such as Circle training, posters, organizing excursions, model, layouts in the case of Circle work with a group of students.

Public classes can be attended by students. In such activities, it is advisable to give graphic assignments, such as various nights on science, Olympics, competitions, meetings with representatives of the fan Soha, the organization of exhibitions based on excursion materials, the cultivation of zexni by several students.

It will be necessary to figure out the plans of the circle in the field, which is due to the requirements of the current time. The use of all forms of Circle training in educational institutions, based on the orientation of students to the profession, will undoubtedly lead to effective results.

Continuous connection of the tasks of the FA of engineering and computer graphics with the tasks of a round-robin training:

it is a discipline that studies the issues of depicting objects in the plane, and its main tasks include:

- teaching the representation of uncomplicated objects in complex drawing and axonometric projections:

- reading assembly drawings and schemes and the

formation of drawing skills;

- reading a drawing, that is, the formation of a skill to mentally visualize the shape and dimensions of objects according to their drawings;

- teaching graphic methods for determining positional and metric relationships between spatial bodies;

- by introducing the Basic Rules of KHYaT and state standards laid on drawings and schemes, the formation of creative abilities in students will help at the same time increase spatial imagination and develop the formation of logical thinking.

The rules for performing a drawing and laying it on a board do not depend entirely on the technology of its execution: "manual" and drawings performed in the program must be painted to the same standards.

To complete the drawing, the following conditions must be observed:

 advanced spatial imagination necessary for creativity in order to create a virtual model of a product, system or object;

- technical erudition, knowledge of the rules of design documentation, special training in the use of graphic software.

The possibility of student cognitive activity increases indefinitely, and the role of the educator also changes.

There is uncertainty in understanding the essence of creativity. Some researchers equate creativity with different types of thinking and thus consider it to be one of the functions of reason.

Most scientists associate the creative potential of a person with the presence of inclinations, abilities, necessary conditions for creative activity that require certain conditions for development and practical application. This potential task is explained by the fact that it is realized in the creative activity of the individual, which in turn requires the presence of certain abilities.

Attracting the attention of students is one of the main conditions for the successful organization of the educational process.

When studying any information, it should be taken into account that human memory has the ability to choose. Despite the fact that human memory refers to a mixed type, in different people, a certain type of memory prevails. Therefore, the simultaneous use of various teaching aids creates more favorable conditions for perception. In this case, students can count on an analyzer that is more advanced in them.

People with a rich spatial imagination quickly receive and analyze information. They are considered mature professionals of their work. Works created by such specialists, first manifested in their imagination in several manifestations, choosing the best among them, and only then presenting the result to the public. The geometry of the product being created is first formed in the imagination of the constructor, and then reflected on paper or a computer. In the process of forming an imaginary model of the product being created, the main subjective ability of the constructor, called spatial imagination, is used. The advanced spatial imagination allows you not only to create models of products, but also to perform imaginary processing actions on them and create a more refined model in the automated design system that you use.

Imagination is the process of remembering things and phenomena, circumstances, images of reality, as well as creative fantasies. Enriching imagination with new images plays an important role in solving thinking tasks. Imagination is important in the acquisition of knowledge, the acquisition of professional qualifications. In jrayon to conduct round-the-clock conversations, students are taken to further awaken their interests in Kasib and further shape their creative abilities.

REFERENCES

Kozim Gafurovich Malikov. THEORY AND PRACTICE OF CONSTRUCTION OF AXONOMERTIC PROJECTS. European Journal of Research and Reflection in Educational Sciences. Vol. 8 No. 9, 2020 ISSN 2056-5855. 2.

Kozim Gafurovich Malikov. Axonometry New Practical raphical ethods For Determining System Parameters. Psychology and Education Journal, 2021, 58, 2, 5710-5718.

Malikov Kozim Gafurovich. Yordamchi toʻgʻri burchakli proeksiyalash usulidan foydalanib standart aksonometriya parametrlarini aniqlash. 2017/7. 22-26 betlar. KASB-HUNAR TA'LIMI. 2023-yil, 1-son. 213-218 betlar.

Xalimov M.K., Soliddinova S. The knowledge gained by students in enjineering graphics and its transformation to experientr and skill // ducational Research in Universal Sciences, ISSN: 2278-4853, volume 10 impact Factor: SJIF 2021=7,699. –2021. India– №2. 260-264. http://dx.doi.org/10.5958/2278-4853.2021.00040.9

Tursunbayev S., Ashirbayev A., Valiyev A., Xalimov M., Tashimov N. The effect of the amount of lithium in aluminum lithium alloys on the property of fluidity. Country: France., ISSN: 2267-1242., Авторы, опубликованные YeDP Sciences, 2023 г., 21 августа 2023., https://doi.org/10.1051/e3sconf/202341704010

Xalimov M.K. Elements of student space imagination in the teaching of graphic sciences and methods of using

it. // current research journal of pedagogics (ISSN – 2767-3278) volume 03 ISSUE 02 Pages: 103-116 sjif impact factor (2021: 5. 714) oclc – 1242041055 metadata if – 8.145., -B.105. https://masterjournals.com/index.php/crjp/article/vi ew/753. Modern Scientific Research International Scientific Journal 2023 Vol1 Issue 3

Ахмедов, О. Н. (2023). Miasto Przyszłości, 34, 110– 113. Retrieved from https://miastoprzyszlosci.com.pl/index.php/mp/articl e/view/1265

Jabbarov A.E., Axmedov N.O. "Positional based on theoretical knowledge and metric issues work". The Multidisciplinary Journal Of Science And Technology. Vol 4 Is 1, (2024) 195-201-MJST. https://mjstjournal.com/index.php/mjst/article/view/ 745/1990

Axmedov N.O. "Constructing ellipse points as an isometry of a circle using the graphical method". International Journal of Human Computing Studies. (IJHCS) Volume: 6 Issue: 1 | Jan 2024. https://creativecommons.org/licenses/by/4.0/

Dilshodbekov Shokhboz Dilshodbek Ugli. Computer modeling and its influence on the development of abilities for design activity. // current research journal of pedagogics. V olume 4 ISSUE3 Pages: 47-52. (2023) https://masterjournals.com/index.php/crjp/article/vi ew/1206/1069

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

Daniyarovna, K. N., & Abdumalikovna, S. S. Bauxauz– germaniya madaniyatining fenomeni sifatida. https://www.oriens.uz/media/journalarticles/63_Kult asheva_Nigoraxon_Daniyarovna_433-438.pdf

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

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

Xayitboboyeva, Xurshida Pirmaxmatovna, & JoʻRayeva, Madina Ziyodovna (2023). Toshkent yogʻoch oʻymakorligida ibragimovlar sulolasining oʻrni. Oriental renaissance: Innovative, educational, natural and social sciences, 3 (2), 862-868. https://cyberleninka.ru/article/n/toshkent-yog-och-oymakorligida-ibragimovlar-sulolasining-o-rni 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