DESIGN OF THE METHODOLOGICAL SYSTEM OF THE TRAINING PROCESS FOR THE SPECIALTY OF CIVIL ENGINEER

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ABSTRACT

The focus on the effectiveness of teaching computer graphics in the developed countries of the world is growing due to the importance of making significant changes in the development and globalization of computer technology, determining the development of advanced technologies. Today, the visualization of computer graphics education in the world's leading universities, the creation of favorable conditions for the training of specialists in the field, such as CAD master, animator, the development of design culture of future professionals play an important role in the education of sustainable development.

Key words: computer graphics, methodology, design, three dimensions, modeling, specialist.

The educational-methodical support of future specialists, aimed at the formation of flexibility, communication, intellectual, creative abilities, has been improved in accordance with the functionality of the operators specific to three-dimensional objects. Developed and recommended for educational practice a multimedia electronic textbook "Computer Graphics" to improve the teaching of the subject "Computer Graphics" on the basis of three-dimensional modeling methods;

The specialized content of the subject "Computer Graphics" in higher education institutions and the model of the design of the educational process (curricula, multimedia electronic manual and automated software for monitoring student knowledge) are recommended for the educational process.

«Development of pedagogical requirements for teaching the subject of "Computer Graphics" using three-dimensional modeling, teaching methods, imitation modeling technology for designing the methodological system of the educational process; This is explained by the improvement of the methodological system of teaching the subject "Computer Graphics" in order to increase the activity, quality and effectiveness of teaching students.

Multimedia electronic textbook based on three-dimensional modeling, automated assessment system, teaching aids, the results of pedagogical experiments in teaching computer graphics in higher education institutions, improving the quality of teaching the subject "Computer Graphics", the development of science and education , the system of higher education is determined by its usability in the system of retraining and advanced training of teachers.

The practical significance of computerization of education is that it is used to model, manage, study and diagnose not only events and processes in nature and society, but also in the educational process. In today's society, where all spheres of human activity are computerized, it is important to teach the younger generation to communicate freely with computers. After all, the widespread use of computers by young people serves to accelerate the development of science and technology in society and, on this basis, to achieve socio-economic development. “Introduction of modern forms and methods of teaching, computer and information and communication technologies in the educational process, provision of higher education institutions with modern teaching and laboratory equipment and teaching materials, support and encouragement of research and innovation activities, modernization of higher education institutions. to take measures to establish and develop scientific laboratories and to carry out important tasks such as training competitive personnel and demonstrating their professional mobility and creativity.

Computerization of education makes a huge contribution to human mental development. In the process of teaching using a computer, among the methods and techniques of human thinking, the student naturally encounters principles such as induction and deduction, generalization and definition, analysis and synthesis, description and systematization, abstraction and simulation. These, in turn, serve as a basis for developing their ability to draw logical conclusions, express, justify, prove their ideas, and on this basis to develop logical thinking. The computer is such a wide-ranging device that great pedagogical efficiency can be achieved when using perfectly designed programs.

In the control of students 'knowledge, the use of computer software systems in the learning process clearly shows the indicators of students' mastery of the subject and the effectiveness of the learning process. The advantage of this program is that the results achieved by students are divided into time, date and category and stored in tabular form in the results window of the program. The teacher can also get these results in the form of directions and group lists. Another feature of the program is that it creates a universal form of control. Because, using this program, it is possible to perform both a questionnaire and a test on the subject. It is possible to change the number of answers in the program depending on the answers to the question entered. Therefore, this program can be used to organize questionnaires and tests in any subject.

By applying such computer software systems in the educational process, processing the obtained results, using them in practice and analyzing its results, it is possible to quickly automatically analyze the theoretical and practical knowledge of a large number of students in the subject. Theoretically and practically, students in the field of "Engineering Graphics and Computer Graphics" are partially involved in the design automation. In the process of completing the assignment, students draw the joints and details of the drawings in working condition, paying special attention to the accuracy and correctness of the work, geometric construction. The main purpose of engineering computer graphics is to create models of design and technological processes using practical and operational programs and ready-made command packages, to teach students the knowledge, skills and abilities necessary for students to freely perform computer-aided design projects using modern software .

In carrying out this process, it is desirable to develop new tools for the development of spatial imagination and creative activity of students in the field of computer graphics, using the capabilities of currently improved graphics programs. Because computer graphics is a science that is directly related to the computer, the use of computer technology as a pedagogical tool in the learning process represents a solution to the problem of two-way successful teaching. In addition to the above methods and tools for developing students 'creative activity in the field of "Engineering Computer Graphics", the use of modeling tools available in graphics programs, thereby, first of all, to develop students' interest in science and create a basis for mastering their knowledge.

Modeling is the processing of details and projects into different forms

It is a way of imagining a model in 2D and 3D dimensions and their spatial appearance. 2D modeling represents a plane model of an object, in which all the constructive functions of the drawing are depicted. «Engineering computer graphics»

The use of modeling tools in the teaching of "Computer Graphics" provides practical assistance in the formation of purposeful actions of students in relation to science and the development of skills in this area. Due to the above factors, along with pedagogical tools for students to master the subject, it is advisable to plan the practical activities of students in the subject "Engineering Computer Graphics" on the basis of the following system.

Testing students 'oral knowledge of science is a convenient way to develop students' oral speech, as a result of which students have the opportunity to fully express their views on the subject and independently.

LITERATURES

1. Resolution of the President of the Republic of Uzbekistan dated July 27, 2017 No PK-3151 "On measures to further expand the participation of industries and sectors of the economy in improving the quality of training." Collection of Legislation of the Republic of Uzbekistan, 2017, No. 30, Article 729.
2. Saidaxmedova D.S. Use of computer technology in teaching technical drawing in professional colleges. Diss ... ped.fan.nom. T., 2011 - 166 p.
3. Dustova, Surayyo. "The anthology of hasanmurad laffasi." Архив Научных Публикаций JSPI (2020).
4. Мамурова, Феруза Исломовна, and Дилфуза Исломовна Мамурова. "Компьютер графикаси фанини ўқитиш ҳолати." Tulaganov aa: 145.
5. Erkinovna, Magdieva Marhabo. "THE ROLE AND IMPORTANCE OF THE CREATIVE APPROACH IN THE TEACHING OF FOLK ART AND THE SCIENCE OF ARTISTIC DESIGN." E-Conference Globe. 2021.
6. Salimovich, Sharipov Sohib, and Nematova Mohibegim Fazliddinovna. "Dictionaries in Modern Life." International Journal on Integrated Education 2.6: 166-168.
7. 12. Rasulmukhamedov, M., Kadyrov, I., & Davronov, D. (2021). ABOUT THE INFLUENCE OF A ZEOLITE CONTAINING FILLER (NATROLITE) ON THE PROPERTIES OF CEMENT BINDER. International Engineering Journal For Research & Development, 6(1), 7-7.
8. 13. Adilkhodjayev, A. I., Kadyrov, I. A., & Umarov, K. S. (2020). ABOUT THE INFLUENCE OF A ZEOLITE CONTAINING FILLER (NATROLITE) ON THE PROPERTIES OF CEMENT BINDER. Journal of Tashkent Institute of Railway Engineers, 16(2), 20-27.
9. .Khodjayeva N. S., Mamurova D. I., Nafisa A. IMPORTANCE IN PEDAGOGICAL TECHNIQUES AND EDUCATIONAL ACTIVITY //International Engineering Journal For Research & Development. – 2020. – Т. 5. – №. CONGRESS. – С. 5-5.
10. Olimov, Shirinboy Sharofovich. "THE INNOVATION PROCESS IS A PRIORITY IN THE DEVELOPMENT OF PEDAGOGICAL SCIENCES." (2021).
11. Мамурова, Д. И., & Мамурова, Ф. И. (2015). Соотношения навыков черчения с опытом психологического исследования. Вестник по педагогике и психологии Южной Сибири, (1).
12. 4. Islamovna M.F., Umedullaevna S.S. SHADOW FORMATION IN PERSPECTIVE //International Engineering Journal For Research & Development. – 2020. – Т. 5. – №. 4. – С. 5-5.
13. Murotdilloevna, A. M. (2021). The role of museums in the activities of the university at bukhara state university. ACADEMICIA: AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL, 11(1), 285-290.
14. Авлиякулов, М. М. (2017). Система «мастер-ученик» в обучении ремесленному делу. ЕВРАЗИЙСКИЙ НАУЧНЫЙ, 32.
15. Marufovich, B. M. (2021, April). FEATURES OF ARCHITECTURAL ELEMENTS. In E-Conference Globe (Vol. 3, No. 1, pp. 93-95).
16. Botirov, J. S., Bakaev, S. S., Avliyakulov, M. M., Shirinov, A. L., & Abdullaev, S. S. (2021). The same goes for art classes in private schools specific properties. Journal of Contemporary Issues in

Business and Government, 27(2), 1643-1650.