PROBLEMS OF TEACHING "COMPUTER GRAPHICS AND VISUALIZATION" IN INSTITUTIONS OF HIGHER PEDAGOGICAL EDUCATION

D. R. Otaqulova ,
Navoi state pedagogy institute teacher

Today's in the day digital technologies all in the fields wide on the scale application to be done and of the computer graph programs improvement because of computer graphics about competent of experts preparation system improvement necessity appear is happening [1]. Because of the computer garfik programs using different ads, games, animation effects, to education about study resources and that's it such as tools when designing important importance occupation reaches [2,3].

Therefore, the same at the time our country higher education in institutions future _ information technologies specialists, informatics and information technologies teachers preparation form, method and tools improvement necessity appear is happening

This issues on the surface , that is information technologies current reach theory and practice , electronic education resources Create technologies , informatics and information technologies sciences teaching methodology , programming language teaching methodology improvement , future informatics of teachers Methodical system to improve about research our country is independent States Commonwealth and abroad A.A.Abduqodirov , U.SH. Begimkulov, F.M.Zakirova, D.M.Makhmudova, N.A.Kayumova, M.H.Lutfillayev, U.M.Mirsanov, I.V.Bajenova, A.D.Ongarbayeva, V.V.Polovinkina, YE.N.Stepanova, M.M.Abdurazakov, M.A.Sukharev, L.F.Adriana , Amanda Jane Bird, Andrija Bernik, Monika Mladenović, Par Michel Spach, Soraya Chachoua such as scientists by take went - of future informatics specialists , their teachers , and the methods of teaching subjects related to informatics and information technologies in the classrooms of higher educational institutions are devoted to improvement , and in their works, computer graphics and visualization no attention was paid to the methodology of teaching subjects.

At the same time U.A.Nasritdinova, A.G'. Eminov, Sh. In the works of D. Dilshodbekov, L.M.Turanova, A.N.Kostikov, M.V.Lagunova, I.V.Chugunova, D.V.Tretyakov, L.Y.Nodelman , he conducted research on the methodology of teaching computer graphics programs and the problems of developing students' competence in computer graphics.

Although some approaches to teaching subjects related to computer graphics and visualization have been put forward in the mentioned studies, there is a need to teach "Computer graphics and visualization" in pedagogical higher education institutions. The reasons for this necessity can be explained by the improvement of computer graphics programs and the need to prepare various projects with their help, as well as the inclusion of new versions of computer graphics in the content of textbooks of general secondary schools. Therefore, the current research, that is, the teaching of "Computer

graphics and visualization" in higher educational institutions of pedagogy, is one of the urgent problems.

At the scientific-theoretical level, the relevance of research is determined by the need to search for scientific and methodological approaches to training a qualified specialist who is ready for successful professional activity in the field of computer graphics. This problem is of particular importance in connection with global informatization and the widespread use of computer graphics in society. Therefore, training of specialists in the preparation of visual projects with the help of computer graphic programs remains one of the important issues [1].

Since earlier research on surilayat was devoted to this issue, pedagogy is considered to be the development of competence in the design of visual projects with the help of computer graphics programs in higher education institutions. That's why we initially conducted observation. The observation is related to the methodology of teaching informatics at the Navoi State Pedagogical Institute and the process of teaching subjects related to computer graphics to students of mathematics and informatics . Various interesting curricula and teaching methods have been developed with professors and teachers who conduct classes in the field of "Computer graphics and visualization" in this field of education. More than 15 lessons were observed to determine the level of knowledge of students in the field of science. Observation process In the academic year 2020-2021, the methodology of computer science teaching of the above-recognized pedagogical higher educational institutions and the state of teaching "Computer graphics and visualization" to students of mathematics and computer science education were studied. . It became known that professors and teachers approach each lesson creatively and use innovative technologies. It is a witness that lectures on "Computer graphics and visualization" are conducted using computer presentation programs and electronic educational resources among students of the observed higher educational institutions' computer science teaching methods and mathematics and computer science education fields. we were We have seen that practical and laboratory trainings are given to students with the quality of tasks, preparation of various assignments and projects. It can be observed that some students are bored and perform the assignments superficially, and the professors and teachers could not fully achieve the goals during the training, and the students did not have enough skills on the described topic. In our opinion, the lack of didactic teaching tools that meet scientifically based requirements and principles, as well as the lack of development of improved training methods based on their integration with teaching technologies, is also the reason for the decline of students' interest in "Computer graphics and visualization" science. is happening

Thus, according to the results of the analysis of normative legal documents, scientific-methodical sources and the current state of teaching in higher educational institutions of pedagogy, the solution of the pedagogical problem of increasing the teaching effectiveness of

computer graphics subjects depends on the fulfillment of the following main tasks It turned out to be:

- with the development, justification and implementation of the components of the computer graphics teaching methodology;

- to determine the pedagogical conditions that help to effectively train students of higher educational institutions in computer graphics;

- justification and development of teaching-methodical support, teaching-methodical manuals and methodical recommendations for the study of computer graphics, aimed at training competitive specialists for the modern labor market;

- development of training methods based on the integration of computer graphics subjects based on modern didactic electronic educational tools and interactive methods and conducting pedagogical experiments.

By carrying out the tasks mentioned above, it is possible to improve the methodology of teaching computer graphics subjects in pedagogical higher education institutions and to develop students' competence in preparing various projects with the help of computer graphics programs.

Books

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