ASPECTS OF DEVELOPMENT OF PROFESSIONAL GRAPHIC COMPETENCE OF STUDENTS USING THREE-DIMENSIONAL GRAPHIC PROGRAMS

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Abstract

Three-dimensional graphics programs (3D graphics programs) currently play a large role in education, art, game design, animation, architecture and many other fields. Using these programs to develop students' professional graphic skills serves as an effective tool for strengthening their technical and creative skills. This article presents the main aspects of developing students' skills using 3D graphics programs.

Keywords: computer graphics, professional graphics skills, experience, practice, technical skills, software, 3D technologies, aspect, Cinema 4D, 2D and 3D.

Introduction

The importance of 3D technologies and graphics programs for the development of professional graphics skills among students is increasing every year. 3D graphics programs, especially Cinema 4D and other similar programs, play an important role in the formation of constructive and creative skills in students. For example, in the Cinema 4D program, students learn to create drawings in 2D and 3D space, which helps them develop their professional graphics skills. Through this program, students are able to solve real-world problems during class and improve their ability to solve graphic tasks independently.

By teaching 3D technologies, students also develop creative skills, draw geometry, and solve design problems. The use of interactive methods, multimedia tools and computer graphics programs remains an integral part of the modern educational process.

One of the priorities of the development of the higher education system is the preparation of graduates with creative thinking and professional skills. For this, it is necessary to introduce new approaches that ensure the realization of educational needs in the qualification requirements for training specialists at universities, that is, the design of the educational process with the help of digital educational tools and advanced pedagogical technologies.

In this regard, the Decree of the President of the Republic of Uzbekistan dated October 8, 2019 on approval of the Concept for the development of the higher education system of the Republic of Uzbekistan until 2030 No. Introduction applies; Organization of distance learning programs

based on modern information and communication technologies; Priority tasks such as the implementation of the E-MINBAR platform, which allows online monitoring and reduction of lectures and practicals, as well as their uploading to electronic information storage devices, and the use of cloud technologies in training processes have been identified.

In order to fulfill the tasks specified in the Regulation, it is necessary to develop the professional competence of students in higher education institutions, including junior computer science teachers.

In this regard, research was carried out on the theory and practice, as well as the methodology of developing skills of students of higher educational institutions in our country], Sh.U. Eshonkulov [6], R.M. Sadikov [8], D.M. It was developed by scientists such as Kurbaniyazova [10], U.N. Ibragimov [11], N.Y. Kurbanov [12], M.R. Kadirova [13], N.A. Muslimov [31] and Q. Abdullayeva [31].

Theory and practice of methodological training of young teachers of computer science, research on the methodology of teaching subjects in the field of computer science N.I. Tailakov, F.M. Makhmudova, D.M. Makhmudova, N.A. Kayumovalar; Studies on the problems and solutions of competence development of students related to computer science and information communication technologies were researched by B.Z.Torayev, I.A.Eshmamatov, A.G.Eminov, U.A.Nasritdinova.

Also the problems of improving the methodological system of training young teachers of computer science in the countries of the Commonwealth of Independent States, the theory and practice of developing the competence of students in information technologies A.D. Ongarbayeva, D.V. Kondratenko, L.M. Ivkina, Y. V. Kirgizova, V. V. Kalitina, M. M. Abdurazakov, It was researched by scientists such as Ye V. Boykov, V. A. Krasilnikova, S. A. Sushkov.

Research methodology. The above studies are mainly scientific research works dedicated to the theory and practice of teaching computer science and information technologies in universities, improving the methodological system of training computer science teachers and developing students' professional and graphic competence, however Using three-dimensional graphic programs to develop students' professional graphic competence, insufficient attention has been paid to the use of aspects. Therefore, the proposed research is considered one of the biggest problems today.

The use of three-dimensional graphics programs plays a very important role in the development of professional graphics skills. In order to develop this competence, attention should be paid to the following aspects.

1. Effective use of software – Learning software skills: Programs such as Blender, Maya, 3ds Max. A thorough understanding of the features and tools available in each program.

2. Technical Skills Development – Modeling: Creating a cone, creating and optimizing straight geometry when creating a 3D model.

3. Creative Approach – Creative Concepts: Developing unique and original design ideas. Using sketching and brainstorming techniques.

4. Experience and Practice – Projects: Gain experience by working on real projects.

5. Compliance with Industry Standards - New Technologies: Follow new technologies and trends in 3D graphics.

6. Management and Collaboration – Teamwork: Work as a team, manage projects, and communicate effectively with other professionals.

7. Sharing experiences and networking – Be active in 3D graphics communities and forums. Exchange of experiences with successful professionals.

1. Various aspects of professional graphic skills development can be explained using examples:

2. Development of technical knowledge and skills: Students will, for example, be able to create drawings in AutoCAD. With this program you combine two-dimensional (2D) drawings with three-dimensional (3D) models. They organize the creation of technical drawings and the analysis of the drawings based on the technological requirements.

Develop creative thinking: A student trained in 3D modeling creates new product designs using Blender or 3D Studio Max. For example, by creating unique, innovative shapes and structures in product design, as well as selecting the right materials and textures, students improve their creative skills.

Analytical Thinking and Problem Solving: In developing graphic literacy, the student works with graphic programs to find solutions to real-world problems. For example, when creating an architectural project, students create drawings and models taking into account the structure, size and technical characteristics of the building using graphic programs.

By taking these aspects into account, it is possible to develop expertise in 3D graphics programs.

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