

MODEL AND METHODOLOGY FOR THE FORMATION OF PROFESSIONAL COMPETENCE OF STUDENTS USING 3D VISUALIZATION TECHNOLOGY IN DISTANCE EDUCATION

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Annotation

This article will refer to the analysis of the model phenomenon in pedagogical research of the model and methodology for the formation of professional competence of students using 3D visualization technology in distance education. According to the definitions given in some dictionaries and reference books, the understanding of the model as an abstract image of some seemingly reality is noted.

Keywords: distance education, 3D, visualization, professional competence, model, pedagogical research, model phenomenon, etc.

Introduction

Models can be of different types. In the context of this article, the focus is on the model. In the current period, it is observed that modeling is becoming one of the topical methods of scientific and pedagogical research.

The most important thing in the development of the model is the choice of its principles. This article is the following of the modeling in our work:

- consistency and equivalence that is, the model must comply with the requirements of modern theoretical methodological paradigms for higher education;
- accuracy, that is, the model must determine the compliance of the results with the set goals and objectives;
- universality, the model is based on the basic principles of any educational institution that can be transmitted to the educational environment.

The Model is mainly represented by the following main components. This article will refer to the analysis of each component of the model in our work (fig.

The goal determines what methods to use when solving tasks, what software environment to choose and how the research results will be reflected.

Literature view

V.D.Shadrikov noted that the purpose of this model will be to create pedagogical conditions for the formation of professional competencies of bachelors in the field of service in the

process of education in technical higher educational institutions. This competence provides an opportunity to effectively carry out professional activities based on information technology.

Its functions are as follows:

- competence-based approach and methods of graphic visualization in the context of informatization of the educational process analysis of the training of future engineers in the service sector using 3D technologies;
- the application of the model to the educational process and the justification of the effectiveness of its use are as follows.

The component of the model reflects the design of the content of this preparation.

The pedagogical experience that must be carried out in the conditions of test work, the design of the content of disciplines is carried out on the basis of such principles as: fundamentality, practical orientation, continuity, network character, continuity.

As a result, in our work, this article describes each principle of choosing the content of training future engineers in the service sector using graphic visualization and 3D technology methods.

Research Methodology

The principle of fundamental is associated with rapidly changing information technologies, changing the requirements for the professional training of Engineers;

The principle of practical orientation of the content of education is ensured by a combination of theoretical, science and practice-oriented knowledge, that is, the development of specific software products for the study of information technologies and their use in professional activities.

The principle of continuity of education is due to the constant enrichment of the knowledge system and the acquisition by students of methods of Independent Education.

The principle of continuity implies consistency between educational goals, content, methods, forms and Means.

In the context of this article, the component of preparing engineering training in the field of graphic visualization and service using 3D technologies is based on knowledge in the field of engineering and computer graphics.

Analysis and results

The component of the model for the formation of professional competence of bachelors in the service sector using graphic visualization, 3D technologies and distance learning methods provides completeness and variability of knowledge, ensuring the unity of professional, information and communication education. In this regard, the future engineer is the following in the field of computer graphics: methods of using software and technical means of computer graphics, the application of various color models, the use of techniques for creating vector primitives, techniques and tools for working with raster graphics, the basics of operation.

Develop skills in working with 3D primitives, with special literature, reference books, etc., acquire such knowledge.

This content describes the cognitive component of professional competence that we have identified in this research work, namely the following:

in the field of information and communication technologies;

- in the field of computer modeling;
- in the field of engineering graphics;
- in the field of computer, interactive graphics and ALT;
- helps to form the presence of such knowledge as working with color, choosing harmonious shades, knowing the necessary file formats and the use of graphic information processing packages in general.

At this point, it should be noted that the content of training will have to contribute to the motivation of mastering professional engineering knowledge, skills, a constant desire to study information technology.

Thus, the formation of professional competence, if the content of training is holistic, and in the following:

- the approach to training personnel is carried out in the context of a competency format, taking into account modern information educational technologies;
- restructuring the cycle of general technical disciplines, taking into account the need to form professional competence;
- occurs with the manifestation of topics aimed at mastering future engineers with information technology in such a way as to include them in the content of training.

In distance education, game technologies are often used using various pedagogical games such as: teaching, teaching, control and generalization: cognitive, educational, developmental; reproductive, productive, creative; communicative, diagnostic, vocational guidance, psychotechnics and others.

In the context of the study, an evaluative and effective component is considered. The evaluative and effective component of the model for the formation of professional competence of bachelors in the service sector using graphic visualization, 3D technologies and distance learning methods is organized in accordance with its structure and includes such formation levels as: high, medium, low.

Conclusion / Recommendations

Geometric jacroly in modern engineering uses the skills of working with editors independently in the development of graphic models of drugs and surfaces and solving practical practical problems.

They make it difficult to use tools and different color models; choose a combination of color shades and colors; make changes; create and edit graphic objects and graphic information in

general. They do not have any skills: the use of various graphic editors in the construction of graphic objects; in the creation, adjustment and design of several images; they use independent skills in working with graphic objects using graphic objects when creating innovative projects in solving Service and practical problems.

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