

THE INTEGRATION OF TECHNICAL AND COMPUTER GRAPHICS IN DESIGN ACTIVITIES OF UNIVERSITY STUDENTS

The efficiency of learning is increased when not only the expansion of the technical possibilities of computer-based tools, but with their optimal use in the educational process [1; 2].

In the context of our study the idea of integration is fundamental: we consider not only the integration of the different activities (visual, graphic, artistic, design, etc.) in design, integration of disciplines (technical and computer graphics) for the effective development of students' abilities, but also the integration of the components of pedagogical technologies of training.

The results of theoretical research allowed us to consider design-graphic specificity of design activity, its humanitarian nature, creative orientation as a basis for integration technical and computer graphics, for the purpose of development manifested in this activity abilities.

In determining the content of teaching technical and computer graphics with the focus on effective development of student abilities to design activity, leading to us was the principle of integration as the academic disciplines and components of learning technologies.

We have defined the basic principles of integration technical and computer graphics:

- continuity of training content and technical computer graphics involving the correlation of the main sections of the integrated course in these disciplines;

- computerization of teaching graphic disciplines aimed at the empowerment of presentation of educational information, the solution of pedagogical tasks of individualization and differentiation of teaching, the strengthening of learning motivation, etc.

- the associative relationship of the main concepts and topics of the course of technical and computer graphics;

- optimal combination of the visual and technical possibilities of computer graphics in design process;
- humanization of teaching of graphic disciplines, providing search values applied technical graphics in conjunction with computer graphics.

In our opinion, the implementation of drawing and computer modeling of designed objects involves not only the effective application of practical knowledge of the fundamentals of descriptive geometry, technical drawing and prospects, but also the assimilation and consolidation of that knowledge to a new qualitative level.

Modeling and transforming objects in three-dimensional computer graphics requires the application of practical knowledge of the classification of surfaces and methods of their education. In the process of computer simulation of the object, the possible way of modeling best suited for a given object, based on the prediction of the possible outcome of sequences of transformations of mental operating images of objects and their elements to determine their spatial properties.

Knowledge about the basic parameters of geometric solids and about their education are the most important knowledge of the parametric computer modeling in three dimensions.

In our opinion, the handling of various types of images, correlation of the basic concepts of technical and computer graphics, identification of spatial properties and relations of objects, their active transformation, an arbitrary change of reference systems in the process of drawing and computer modeling of designed objects contribute to the development of the flexible shifting of attention, spatial thinking and imagination, the accuracy of the anticipatory images, intuition, memory, etc.

Thus, integration technical and computer graphics in the process of training of students to graphic disciplines, incorporating elements of creativity in the process of implementation of graphical tasks, can influence the development of their abilities to design activity.

REFERENCES:

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2. Azhgikhin S.G. Formation of technological knowledge of university students in the learning process design in graphic design. Historical, social and educational thought. 2011. № 3. P. 39-43.