

CURRENT STATUS OF GRAPHIC TEACHING METHODOLOGY AND WAYS TO IMPROVE IT

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Annotation:

This article discusses the current state of teaching graphics and ways to improve it. Based on technological data and written sources, the author explores the specifics of the topic that have clarified the problem based on the available scientific literature.

Keywords: Computer graphics, education system, teaching methods, development.

Introduction

The role and importance of the subject of "Computer Graphics", which is currently taught in universities, can be considered as meeting the material and spiritual needs of our social life, as well as the breadth of opportunities for all professionals to automate their work. Therefore, at the present time in the universities of the Republic to study computer graphics in different fields, to create a methodological framework for its use in a number of areas, the effective use of computer technology and new areas that come into our lives (specialized artist, special effector, vector artist, The issue of providing qualified specialists such as CAD-master, modeler, animator, texture designer, visualizer, etc.) has led to an increase in the need for teaching "Computer Graphics" as a science in universities. Today, in the teaching of the subject "Computer Graphics" in universities, it is important to apply the necessary pedagogical and psychological tools in practice and scientifically substantiate them in the formation of purposeful actions of students in relation to science and thus to achieve a certain result.

It is known that before coming to the university, if students have the necessary basic knowledge and skills in the field of "Computer Graphics", they will develop the necessary spatial imagination, the ability to read drawings. This suggests that it is advisable to start related courses in the secondary special, vocational education system. Thanks to the scientific research of a number of researchers in this area, practical results are being achieved that can have great effects on the educational process.

KA Grebennikov studied the problem of developing pedagogical and technological bases for the use of computer graphics in the teaching of general subjects in the system of secondary special, vocational education in the specialty "Design". In this research work he is a specialist in the system of secondary special, vocational education.

A pedagogical model of the use of computer graphics in the professional training of designers has been developed, which reveals the importance of computer graphics.

Ye.M. In the research work carried out by Tretyakova, the technology of designing and implementing the content of the subject "Computer Graphics" for the specialty of construction in professional colleges was developed. It has a special course "Computer Graphics", which is scientifically based and proven in practice to increase the knowledge and skills of students in the use of computer technology, trained on the basis of a model program developed on it.

Also, in the research conducted by DC Saidahmedova developed a theoretical basis for teaching the subject "Technical Drawing" in professional colleges using the capabilities of computer technology. The dissertation scientifically substantiated the methodology of activating the learning process of students through the use of didactic games, the creation of its pedagogical conditions and increasing the effectiveness of the lesson through the use of computer graphics in teaching the subject "Technical Drawing". The author has developed a multimedia e-learning manual "Technical Drawing" for students of professional colleges, based on interactive methods, didactic games and computer technology, and combining it with traditional teaching methods. , tasks that improve teaching methods, including the development of students' spatial imagination, correct and fast reading of drawings, as well as the formation of such qualities as observation, ingenuity and intelligence, computer-based intellectual game programs ("Crossword", "Rebus", "Wheel" and "Labyrinth").

As a result of research conducted by L.V.

M.V. According to Matveeva, the illustrative function of computer graphics is performed when students master the finished graphic, animated and video educational materials. If they acquire knowledge by constructing a mathematical model of the object being studied, the cognitive function of computer graphics is fulfilled. The illustrative and cognitive functions of computer graphics are conditionally different. On the one hand, even a simple graphic image can lead to the birth of a new idea in a student or the opening of new facets in it. On the other hand, the cognitive function is not always fully realized, for example, when the student reflects only the already known features of the object under study, only the illustrative function is performed.⁵

In his research, the Indian scientist J. Rash showed that the main purpose of teaching the subject of "Computer Graphics" should be to develop creative activity in students in computer design of production issues.⁶

Computer graphics is computer graphics or computer-generated graphics. Computer graphics is used as a drawing and modeling tool. If computer graphics is understood as an image on a monitor, then it can be said that computer graphics appeared at the same time as the computer. Sometimes, the realization of computer graphics is associated with the time of year when computer games appeared. In other words, computer graphics is one of the fastest growing areas of new information technology, which forms the content of an automated design system. "Modern automatic design system not only transforms the drawing into an "electronic drawing", but also computer technology is characterized by the

breadth of its database and the ability to use effective methods of geometric modeling of objects.

In order to develop spatial imagination in the mind of the student, first of all, it is observed that he has an interest in science and on the basis of this interest acquires knowledge and remembers them, accumulates knowledge and turns it into skills and abilities. The student analyzes the given problem in his mind and draws conclusions based on the acquired knowledge, skills and abilities. Whether a student's spatial perception is right or wrong depends directly on his or her above characteristics. In computer graphics, each component of the graphic objects, which is integrated into the spatial representation, is both technically and graphically interconnected, which expands the spatial representation of the situation, the correct execution of actions and the correct conclusion, otherwise in other words, it provides technical and graphical connectivity. For example, if we spatially imagine the concept of 'conic sections', then we must first analyze and synthesize the conditions of intersection of a cone, a plane and a cone with a plane. This, in turn, leads to the expansion of the human mind and the gradual development of the individual's ability to develop a real spatial graphic image. The problem of developing creative graphic thinking along with spatial graphic imagination is relevant in the development of creative activity of students during the teaching of graphic sciences.

Natural assimilation - can be inherited from a person's character or inherited. Students who are able to master naturally will be able to spatially imagine how the problem will be solved in the process of solving the problem (e.g., creating a third view of a detail drawing and a vivid image). Such students also quickly understand the topic in the classroom and are satisfied with the teacher's example in solving graphic tasks. However, not all students have the natural assimilation process described above. They may not be able to imagine a solution to the problem even if they act on their own. Therefore, it is advisable to use the process of artificial assimilation at such a time.

Artificial mastering - in this case, students are able to solve the problem by performing the problem in accordance with different laws and regulations, using the capabilities of different software tools. In artificial learning, students' creative activities expand and their professional knowledge and skills become more and more skilled. As a result, it is observed that a student who artificially masters a science has a stronger level of knowledge than a student who can master it naturally. In both learning processes, the student is required to carry out independent creative work in the field. A student with a natural learning ability develops the ability to master a science faster. In artificial learning, the acquisition of skills accelerates as the level of knowledge increases. Modern AutoCAD (Auto Computer - Aided Design - computer-aided design) system interface is designed taking into account the capabilities of the most modern computer tools and technologies, which guarantees a high quality execution of drawings and diagrams, design tasks. The use of different methods of 3D modeling (three-dimensional design) in the teaching of computer graphics not only develops students' interest in science in the classroom, but also allows them to use almost all the capabilities of graphics systems.

In graphics applications, information processing is focused on the human visual, auditory, and sensory organs, i.e., images and sound are widely used to convey information. The main goal is to convert information into image and sound. Although there are many computer graphics programs available today, they differ from each other depending on the areas of interaction. Experts in each field choose a graphics program that is convenient for their work. The capabilities of the programs are also focused on a specific area. Therefore, when choosing a graphics program, first of all, it is necessary to take into account its capabilities. In most cases, there is a need to master another program or science before using a graphics program.

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