VISUALIZATION AS A DIDACTIC TOOL

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The Current State of Society Development and the Pace of Knowledge Renewal Associated with Vast Amounts of Information Encourages Scientists to Seek Opportunities for Improving the Educational Process. Among Them - Visualization, as an Integral Tool for Processing Information About the Structure of Studied Objects. With the Emergence of Computer Technology, Visualization has Greatly Expanded the Possibilities for Intensifying the Educational Process by Using High-Quality Didactic Products.

The issue of improving the educational process through visualization has been studied by S. Arutkin, G. Briantseva, V. Koibichuk, S. Gerasimova, V. Kuzovleva, E. Makarova, N. Manko, I. Margolina, A. Raputo, S. Selemenov, D. Shekhovtsova, and others.

Computer visualization of educational materials has been explored in works by V. Kastornova, I. Kosenko, S. Lozovenko, E. Malkina, O. Mansurov, M. Nekrasova, A. Soboleva, B. Starichenko, S. Shushkevych, and others.

Despite the large amount of research conducted, the problem of illuminating technological processes remains when real processes are not accessible. The purpose of the study is to determine the possibilities of visualizing educational information, in particular, in revealing the essence of the technological process using modern digital technologies.

The concept of ”visualization” is interpreted as a set of means for transforming a physical phenomenon or information into a form that is visually perceived.

Let us focus on the main tasks of visualization:

- presentation of educational information;
- structuring of educational information;

- ensuring logical reproduction of information;

- the relationship between text and graphic images that promote active perception of educational information.

Among the methods of visualizing education are presentation, graph, diagram, chart, nomogram, poster, video, infographic, map, pictogram, collage, etc. The possibilities of visualizing education include:

- presenting knowledge in a concise form;
- externalizing educational information;
- developing visual-spatial thinking;
- using a large amount of information;
- structuring information;
- storing the obtained and processed visual information.

Visualization is of particular importance in revealing the essence of a technological process, which is the fundamental basis of production, based on the structure and principle of operation of technological equipment, parameters of technological processes, tooling and processed materials, products and their interaction. As a result of the execution of technological processes, changes occur in the physicochemical properties of materials, geometric shape, dimensions and relative position of parts, surface quality, external appearance of the production object, etc. Modern digital technologies have powerful graphic capabilities for visualizing the technological process in the absence of special complex laboratory equipment, freely changing parameters and input characteristics to obtain the optimal experimental result, and conducting a technological experiment when real modeling is impossible [1].

Conclusion. Visualization as a didactic tool accelerates and deepens the understanding of the structure of knowledge in the subject area. Visualization of educational information provides a more complete description of concepts and their relationships, promotes logical processing of knowledge, and the ability to use them in new situations.

Literature

1. Peregudova V. Visualization technology in the training of a teacher of labor education. Innovative approaches to ensuring the quality of education, scientific research and technological processes. Multi-authored monograph, Series of monographs Faculty of Architecture, Civil Engineering and Applied Arts Katowice School of Technology. Edited by Magdalena Gawron-Łapuszek Yana Suchikova. Monograph 43. 2020. P. 423-429