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INNOVATIVE METHODS OF VISUALIZATION OF LEARNING OBJECTS WHILE TEACHING ENGLISH AT HIGHER EDUCATIONAL INSTITUTIONS

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Анотація

У сучасному світі, що швидко розвивається, дуже важливо подавати складну інформацію простими методами. Під час навчального процесу, щоб донести до цільової аудиторії складні концепції, дані та процеси, педагоги працюють над тим, як привернути увагу та сприяти розумінню. Саме тут інфографіка стає чудовим і потужним інструментом. Інфографіка може покращити складні комунікації та перетворити насичену інформацію у візуально привабливий і легко засвоюваний матеріал.

Ключові слова: візуалізація, інфографіка, графічні елементи, скрайбінг, карти структурованої інформації, електронні підручники.

Abstract

In today's fast-paced world, to present complex information simply is crucial. During the educational process educators work to communicate intricate concepts, data, and processes to their target audience, they face the challenge of capturing attention and promoting understanding. This is where infographics emerge as an awesome and powerful tool. Infographics can enhance complex communications and transform dense information into visually compelling and easily digestible content.

Keywords: visualization, infographics, graphic elements, scribing, maps of structured information, electronic textbooks.

The key factor in increasing the effectiveness of the educational process is the use of visualization, which makes it possible to solve a complex of pedagogical problems: to make complex educational material understandable, accessible for understanding, without reducing its scientific level; attract and develop students' interest in studying subjects; to increase the volume of experimental and research work; to create conditions for informal assimilation of the content of education, for the acquisition of deep, systematic knowledge, etc. Visualization of educational information is a set of graphic elements and connections between them, which is used to transfer knowledge from the teacher to students, and reveals the reasons and goals of these connections. Modern, relevant forms of visualization of educational materials include scribing, infographics, maps of structured information, electronic textbooks, etc.

One of the newest visualization technologies, which is now actively spreading in educational practice, is scribing. Scribing is a visualization technology that provides a display of key points of the content of educational material (properties of the learning object, its internal and external connections) by using simple graphic elements (pictures, symbols, words, schemes, diagrams) sequentially created on the screen in accordance with the presentation. The main effect of scribing is to capture the attention of the audience with specific graphic images focusing on the key points of the presented material — ideas, peculiarities, features, etc., that is, the main thing that needs to be perceived can be understood and remembered. Scribing uses the principle of drawing by hand, and this "living drawing" precisely fascinates students, makes them wait with interest for what will happen next thereby immersing them in the educational problem. The use of scribing makes it possible to make work attractive for students, to ensure its creative character, and to promote interest in acquiring new subject knowledge and technological skills. Today there are several types of scribing technologies: painted, application, magnetic, flannel, computer, video scribing.

Another type of data visualization, creation of information schemes and information presentation models is the process of creating infographics. An infographic is a graphic visual representation of information, data or knowledge designed to quickly and clearly display complex information. It can improve information perception by using graphic materials to enhance the visual system's ability to see patterns and trends. Infographics are designed to inform, attract attention and persuade. It is appropriate

to use infographics when there is an excessive information load and regulated time limits. The teacher can reduce the time spent on conveying information by four times.

Maps of structured information (mind maps, mental maps, logic diagrams) are an important form of data visualization. Maps of structured information are a unique technology for working with information, a way of depicting the process of general system thinking with the help of diagrams. The success of using mind maps lies in the fact that they are built taking into account the peculiarities of thinking and are based on its laws. Maps engage many more parts of the brain than similar tools. Mind maps are used to collect and present a large amount of diverse data on a single sheet showing connections and distances and stimulate imagination solving problems through the development of new ways. Maps of structured information allow you to maximize the effectiveness and efficiency of studying the material. They are a great tool for thinking and memorizing. Maps save time, give a quick and complete overview of a large topic (area, problem, subject) as well as allow to plan strategies and make choices. They free thinking and increase productivity.

The modern educational process is taking on new forms and methods thanks to active informatization. Today, e-learning technologies that use electronic means can be considered traditional. It is worth including electronic textbooks as the main source of educational information. An electronic textbook is an electronic publication that contains systematized data of a scientific or applied nature presented in a form convenient for learning and teaching, in the form of text, graphics, digital, sound, music, photo, video and other information or as a combination of them. An electronic textbook has a number of advantages over a traditional one: interactivity, i.e. availability of feedback; use of multimedia capabilities; possibility to go to additional sources of information using links; ease of updating the material; the possibility of building a convenient navigation mechanism; developed search engine. These characteristics allow it to acquire the functions of a universal educational tool.

Thus, the necessity and expediency of using visualization of educational information is due to the need for a comprehensive presentation of the material in the most convenient form for perception, understanding, assimilation and memorization. It has been proven that the use of innovative visualization technologies in the educational process increases the quality and effectiveness of education.

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