



## EFFECTIVENESS OF MULTIMEDIA TECHNOLOGIES

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### Annotation

The article considers the possibilities of using some modern computer and multimedia technologies in the educational process at the Department of Botany Gulistan State University.

**Keywords:** information technologies, multimedia presentation, electronic textbook.

The modern stage of the development of human society is characterized by the increased importance of information and communication technologies, the increase in the volume of information, the emergence of high technologies, which is a determining factor in the development of the economy, politics, science, and education. Obtaining a quality education is a complex problem, the solution of which allows you to meet the existing and future needs of the time. Multimedia technology training is based on the interaction of the student with the learning environment, the learning environment, which serves as an area of learning experience. Multimedia is one of the most promising areas of the use of computer technologies in education. Recently, with the growing development of multimedia technologies, the use of multimedia presentations in various branches of human activity has become increasingly popular. Multimedia presentations have become not only a modern style of communication, but also generally a good method of presenting any type of information for training. Multimedia technology training



is based on the interaction of the student with the learning environment, the learning environment, which serves as an area of learning experience. Multimedia is one of the most promising areas of the use of computer technologies in education. Recently, with the growing development of multimedia technologies, the use of multimedia presentations in various branches of human activity has become increasingly popular. Multimedia presentations have become not only a modern style of communication, but also generally a good method of presenting any type of information for training. Today, information computer technologies can be considered as a new way of knowledge transfer, which corresponds to a qualitatively new content of training and development of the student. Their implementation allows students to learn with interest, find sources of information, foster independence and responsibility in obtaining new knowledge, develop the discipline of intellectual activity. In recent years, there have been significant changes in solving the issues of informatization of the system of higher and secondary education. The material base of educational institutions has significantly improved. Thanks to the activity of specialists in the field of creating tools for the functioning of a new environment of professional activity of teachers, as well as the corresponding efforts of teacher teams, a large number of software tools and electronic materials for educational purposes have been developed. The current computer fleet in the education system and in the individual use sector, as well as the volume and quality of educational resources, make it possible to evaluate the virtual environment as a means of increasing the effectiveness of learning prepared for full-scale use. Real prerequisites have been created for the transition of higher and secondary schools to the mass use of information computer technologies in the educational process [1; 2]. The increasing trend of individualization of the educational process is aimed at increasing the number of hours allocated for independent training of students. This is made possible by constantly improving the means of training based on computer technology. These include electronic teaching aids, electronic textbooks and presentations, and various multimedia materials. The use of such tools in the process of independent training of students certainly changes the role of the teacher in the educational system. Electronic teaching materials allow the student to independently choose the proposed educational information in accordance with their individual abilities, while part of the teaching functions of the teacher passes to the student. The teacher only supports the student, orients in the flow of educational information and helps in solving emerging problems [3]. Thus, the modern



educational environment, supplemented by a new virtual component, gives the educational process a special quality: it acquires territorial and temporary independence for each student. Modern teaching tools based on the use of computer technologies provide a higher level of human awareness, and, accordingly, their education and social freedom. The Department of Botany of the Gulistan State Agricultural University (GulSU) has prepared methodological materials, including overview presentations on the modules of lecture courses, electronic textbooks, sets of presentations for laboratory classes, databases on the flora of individual territories. The use of high-quality presentations in laboratory lectures on various disciplines of botanical science provides an opportunity to conduct them at a higher level, combining both traditional forms of training and computer technologies. This alliance allows you to simultaneously use a variety of forms of presentation of educational information (graphic, text, audio-visual), united by a single structure, which allows you to convey it in the most visual and easily perceived form. The use of presentation materials during a laboratory workshop in a number of botanical disciplines allows students to demonstrate the details of the structure of plants that cannot be shown in the traditional conduct of the lesson. For example, in the course "Systematics of higher plants", slides facilitate the assimilation of the systematic structure of the studied species (the handwriting when writing on the blackboard may be incomprehensible). Demonstration of micro-preparations in the study of anatomical features of plants in parallel with the study of preparations under a microscope allows you to improve the perception and memorization of complex information, and the use of animation – step by step to consider the necessary details of the structure. In addition, the use of high-resolution photos of plants allows you to demonstrate the species in nature, to focus on the details of the structure, to demonstrate those parts of the plant that can not be viewed on a herbarium sample or in a fixed form, etc. The undoubted advantage of multimedia presentations is the speed and convenience of reproducing photos of plants and their parts, micro-preparations, diagrams, definitions, the systematic position of the studied species, etc., which significantly saves time in the classroom with a tendency to reduce classroom hours. The materials are linked to an interactive schedule, which makes it much easier for the student to find the necessary material. Thus, the created bank of digital educational resources allows the student to rethink and consolidate the lecture material, to understand the details of the structure of the studied objects in laboratory classes, to prepare for tasks for extracurricular work. In addition,



the constantly updated bank of digital educational resources provides new opportunities for organizing independent work of students using computer technologies, including when performing course and diploma projects. The created materials allow us to carry out educational activities at a qualitatively new level, effectively implementing the scheme: high-quality factual material-modern methods-the result. The nature of the presentation of the material ensures the involvement of employees and students in the work using modern computer technologies for storing, processing and analyzing information. All electronic manuals contain information about the morphology, ecology, distribution, substrate, decorative qualities of most species of the territory of the educational and scientific training ground "Khodzhamushkent". The manuals actively use colorful photos of plants and their communities, landscapes of good quality, most of which are copyrighted. Thus, the introduction of modern electronic educational aids provides qualitatively new approaches to conducting training sessions, field practices, preparing teaching aids and organizing scientific research at the Department of Botany of GulGU

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