

# Theoretical Principles Of Teaching Biology On The Base Of Media Technologies

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## Abstract

This article covers the issues of modernization of the education system in our country, organization of educational processes based on the most advanced technologies, and achieving high efficiency. Also, the organization of biology in higher education institutions based on media education technologies, the scientific-theoretical foundations of the development of students' media competence, and the positive aspects of teaching biology through media education resources have been revealed.

**Key words:** educational system, media education technologies, media education resources, biology education, understanding and coverage of information, audiovisual means, information dissemination.

## INTRODUCTION.

In accordance with the development trends in the field of education in the world, special attention is paid to the improvement of educational materials based on the electronic learning environment. In the concept of international education until 2030 adopted by UNESCO, "Creating opportunities for quality education throughout life" is defined as an urgent task. On a global scale, scientific and practical research is being carried out on the introduction of information technologies into the educational process, studying their didactic foundations, improving the methodology and methodological foundations of developing new methods and tools, and modeling the reproductive and productive levels of students' creative cognitive activity. It is necessary to

strengthen the role of the educational system in educating a student with intellectual potential, to create a foundation for the introduction of advanced pedagogical and information and communication technologies into the work of teachers.

The term "media" in Latin means "medium", i.e. "tool, method" and means a means of communication and information in various forms. According to A.A. Jurin, "media" is derived from the Latin word "media" and means "tool", "mediator", more precisely, "mass media". He also explains the concept of media education as follows: Media education is:

a) is a pedagogical science, which studies the impact of mass media (mass media) on children and adolescents and develops theoretical issues of preparing students to introduce them to the world of mass media;

b) is a practical collaborative activity of teachers and students, preparing children and teenagers to use mass media, the role of mass media in culture and acceptance of the world;

c) the field of education - its content - knowledge about the role of mass media in culture, world perception, and effective work with mass media information.

The concept of media education corresponds to the concepts of "educationauxmedias" in French, "mediadidaktik" in German, and "media education" in English. So, the media serves to organize educational processes with the help of visual materials, to provide high-quality education, and to achieve high mastery of students.

The keywords of media technology education are close and similar in both countries. In Germany, unlike these countries, education based on media technology has developed somewhat slowly. In the 60s of the 20th century, German pedagogues looked at the media as a special technical means of teaching.

Later, media technologies were integrated into educational processes with specific sciences in Germany. Geography, art, social sciences and other subjects were taught. According to the opinions of some German pedagogues regarding media education, media technological education serves to improve the scientific and methodological support of teaching students on the basis of media

technologies. In German universities, media technologies are studied in the main part of educational processes. It should be said that currently there are separate research institutes that teach media technologies in educational processes.

As for Swiss education, media technology education in this country was born and developed under the influence of German and French media pedagogy. As we know, Switzerland is a multi-ethnic country, more than 64% of Swiss people speak German, and more than 19% speak French. By the 50s and 60s of the 20th century, specific standards for media education were developed in Swiss schools. By the end of the 20th century, media education was introduced as an independent subject in Swiss gymnasiums. In it, the issues of improving the scientific and methodical support of teaching are prioritized.

Several associations have been established in the United States to widely introduce the use of media technologies in the educational system, including the Center for Media Literacy in Los Angeles, the Educational Video Center in Washington, New York, Center for Media Education in New Mexico, Strategies for Media Literacy in San Francisco, Citizens Behind Media Literacy in North Carolina, and the National Alliance for Media Arts and Culture (National Alliance for Media Arts and Culture) and others.

Currently, there are several positive aspects of organizing biology education processes in

educational institutions with the help of media technology tools. These may include:

- the skills of learners to easily receive information and use it in practice develop;
- the ability and skills to design verbal copies in visual form are formed;
- opportunities for unique understanding and use of information in pedagogical activities will expand;
- the possibility of free communication on the global Internet network will increase;
- through media, students have the opportunity to independently master, consolidate, repeat educational materials, and perform tasks freely;
- the effective use of modern information and educational resources by students will help to develop their information literacy;
- with the help of electronic textbooks, video lessons and virtual laboratory sessions created in the science of biology, it will be possible to observe any complex phenomenon or process related to science, show and explain experiments that are impossible to perform;
- it is possible to conduct interesting interactive biology lessons and laboratory tasks independently at home;
- virtual laboratory work can be presented as additional material for organizing educational processes in a more interesting and innovative way.

However, as a result of the research, the analytical results of the practice of biology education showed that there are the following problems in the teaching of this subject:

- lack of laboratory equipment for organizing and conducting laboratory classes in biology, the existing ones also do not meet the requirements;
- non-effective use of available laboratory equipment (if any) by science teachers in the course of lessons;
- non-effective use of media technologies in science;
- insufficient creation of electronic information and educational resources (electronic textbooks, video lessons, mobile applications, multimedia applications, presentations, etc.) on the topics;
- lack of creation of e-learning environment;
- teachers do not fully understand the meaning of concepts such as media education, media resource and media literacy;
- non-use of modern educational tools.

Therefore, raising the level of media literacy of students creates new aspects of educational concepts, that is, new views of realities and additional material in the process of reading and teaching. The study process is mainly related to independent education. The reason is that students will have more opportunities to use media technologies in the course of independent

education. This situation, taken into account in the organization of the experiment on the use of educational media technologies in educational processes, indicates that it is being implemented within the framework of the most important direction of modern media education - the modern trend of technical and natural cultures.

Based on the above opinions, special importance should be paid to the introduction of media education technologies in biology education today:

- reconstruction and repair of the material and technical base of educational institutions, introduction of new innovative equipment for teaching subjects into educational practice;

- to ensure the efficiency of educational processes with modern innovative and pedagogic and media-technological teaching methods and personnel with modern knowledge and skills who can compete with the times, to revise, improve and modernize the content of subjects raising the level of requirements;

- scientific and technical development of the educational content of the scientific-methodical support of teaching biology to students based on media technologies, etc.

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