AJPMHS GLOBAL RESEARCH NETWORK

AMERICAN Journal of Pediatric Medicine and Health Sciences
Volume 01, Issue 07, 2023 ISSN (E): 2993-2149

The Usage of Digital Technology in Teaching Biology

Ostonova Xurshidabonu Gafurovna
Tashkent national center of teaching new methodology to educators, Methodologist

Abstract: This article provides information about the methods and possibilities of using digital technologies in the teaching of biological science. The programs that can be used in biological science and the effects of these programs on the effectiveness of the lesson are widely covered.

Keywords: digital microscope, teaching methodology, development, camera, program.

In recent days, we cannot imagine our life without modern technologies, the reason is that digital technologies are effectively used in all developed countries also make a huge contribution to the further development of the potential of youngsters.

Information technologies in education are considered to be closely related to the supplying information of this sphere, the use of digital technologies as a means of controlling the cognitive activity of students, providing teachers and students with textual, visual and other information.

In recent years, the respected head of state has created many conditions for the use of digital technologies in education. If we consider only on the scale of one university, the buildings are equipped with all modern technologies. This allows young people to quickly and easily master their field using various interactive methods.

Computer tools used in teaching are designed to implement programmable educational ideas. Modern digital technologies with appropriate software provide the user with such opportunities as managing the educational process and evaluating its results, providing the student with certain data blocks. Alternatively, the program displays all possible advantages simultaneously: audio, graphic, digital, symbolic, and so on.

Digital technologies lay the foundation for the student's work on himself. That is, it gives the student a great opportunity to conduct independent research, as well as research without some support from the teacher. Mastering computer skills gives him the freedom of creativity, not limited to the volume of the lesson or the choice. It shows its effectiveness in teaching a student with the help of video cameras, digital microscopes or multimedia media.

In particular, youngsters often use multimedia to integrate text, sound, video, graphics and animation into a computer system.

Nowadays , many electronic biology manuals have been created, which in one form or another are suitable for autonomous learning or self-development.

Programs such as FigTree (phylogenetic Tree editor), Mesquite (Java Comparative Biology program), and Genepop (population genetic analysis) are widely used in biology teaching.

Universities are great importance in the use of electronic tools or self-improvement of students. However, we are still in a passive position when using these technologies.

The main disadvantages of the computer learning program currently consists of:

- despite the fact that it is easy, searching for information, especially if it is hyperlinked, takes a lot of time during the lesson if it is not related to;
- sometimes biological errors also occur in real material; illustrations do not always correspond to textual material, etc
- When eliminating such problems, in-depth study and research of sources will be required.

The role of animation in teaching biology is invaluable. As we know, biology is studied by in-depth study of the activity of active molecules and particles. Accordingly, a modern multimedia program is unthinkable without computer graphics. The tasks facing students are interesting and often difficult to solve, which requires increasing educational motivation, developing logical thinking, practicing their own computer science skills and identifying connections with mathematics, using creative opportunities.

Digital technology program management allows students of any level to actively participate in the educational and cognitive process and present their thoughts at a high level. Classes should be conducted at a high level of complexity, include questions that are interesting and understandable to everyone. The use of elements of 5 D modeling technology in biology lessons improves the preparation of students for practical classes, which leads to the successful development of technical specialties. Computer modeling activities not only deepen the spatial imagination of students, but also contribute to the development of their intellectual and creative abilities in the field of modeling.

Today, the available methodological approaches are considered to be of great importance in the development of students' research activities at a high level. Modern biology has made it possible to clearly see cells and molecules. 5 D technologies and digital equipment in the modern educational system, the introduction of mannequins and visual aids allows students to get a clear idea of physiological processes and practical knowledge. On the other hand, the traditional means of teaching biology have lagged far behind. Traditional representations of visual information not only cannot correctly describe 5 D biology, but also cannot contribute to the process of assimilation by students with visual disabilities.

Thus, we can testify that the use of digital technologies in biology lessons is possible when studying almost any subject, whether it's practical classes or theoretical classes. Thanks to the correct location, the right choice of colors, design, the use of diagrams and tables, sound guidance and equipment, the material is easier and faster absorbed by students, since it is through it that most receptors pass.

The time spent in class is also reduced, there is no need to write the material on the board. The material can be stored on digital media if all students have a personal computer at home. (CD, USB flash drive, USB) and transferred to a personal computer. This helps students save time. Allows you to easily share tasks, it brings a lot of convenience to both the teacher and the students on the spot.

Today we would not be mistaken if we considered information computer technologies as a new way of educating and developing young people to transfer knowledge corresponding to qualitatively new content. This method allows students to study with interest, find sources of information, develop independent thinking when acquiring new knowledge, develops the discipline of intellectual activity.

Summing up, we can say that all modern technologies used in the field of biology show their effectiveness in improving the knowledge and skills of young specialists, despite some shortcomings. We can clearly see this as a result of the recognized achievements and research of our young biologists.

REFERENCES

1. Pratov, A.Tuxtayev, F.Azimova "Botany"., Uzbekiston 2015.

2. Pratov, A.Tuxtayev, F.Azimova, M. Umaraliyeva., “Biology”., Uzbekiston 2017.
3. O.Mavlonov., “Zoology”., National Encyclopedia of Uzbekistan 2017.4
4. B.Aminov, T.Tilovov, O.Mavlonov., “Biology ” 2019.
5. Хуторской А. В. Технология проектирования ключевых и предметных компетенций. эидос.ру›журнал/2012/0829−05.htмл 9. Шатохин Э. «Использование элементов технологии Dмоделирования на уроках информатики и при организации внеурочной деятельность как средство повышения уровня развития пространственного мышления учащихся» //https://new.белиро.ру › wp-content › уплоадс › 2016/10 › апо_шатохин.
6. Радионова Н.Ф., Тряпицына А.П.Компетентностный подход в педагогическом образовании /
7. Электронный научный журнал Вестник Омского государственного педагогического университета. Выпуск 2006. www.omsk.эdu.
8. Галеева Н.Л. Система компетенций как инструмент управления качеством образования // Интернет-журнал “Эйдос” − 2007. − 30 сентября. http://www.эидос.ру/журнал/2007/0930.