

VIRTUAL LEARNING TOOLS AND THEIR ROLE IN IMPROVING THE EFFECTIVENESS OF EDUCATION

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ABSTRACT

With the penetration of modern technologies into the field of education, new opportunities are emerging in the teaching of history. Virtualized historical processes allow students to visualize the past more clearly, gain a deeper understanding of historical events, and increase interest in history. Currently, in the process of global development, the use of new innovative technologies in science and the creation of virtual projects has become a requirement. Therefore, in the methodology of teaching history, it is important to use innovative technologies to better explain to students such issues as the importance, relevance and problems of history. Therefore, it is essential that every teacher of history has the ability not only to use modern technologies but also to use them.

Keywords: Virtual Learning Tools, History Teaching Methodology, Interactive, Immersive 3D, Giza Project.

INTRODUCTION

Teaching aids are teaching aids, textbooks, resources, visual aids, technical means and others used for the effective organization of the educational process and the transfer of knowledge. Thanks to these, it becomes easier for learners to understand topics, to remember. In pedagogical activity, blackboards and boards in the classroom formed the basis of the educational tool for many years, and as a result of the development of science and technology, electronic and digital means (projectors, screens) appeared. To date, interactive whiteboards have provided an opportunity to participate in historical processes and to demonstrate practical exercises in the classroom, where they were initially used to provide information. Increasing Internet speed has led to the emergence of online platforms and applications for distance learning, their development and improvement.

The above-mentioned educational tools are widely used in all disciplines. At the same time, the modern teacher is demanding the use of various digital tools anew. A history teacher creates imagination with the help of narration and visual tools (pictures, maps, presentations) of the distant past. Today, there ¹ is an opportunity to convey historical events through virtual reality.

¹ The concept and technology of virtual reality began to take shape in the 50-60s of the XX century. American film director Morton Heilig invented the world's first virtual simulator "Sensorama" in 1956. This device was the first technology to allow users to experience a virtual environment by seeing, hearing, smelling, and vibrating. After that, devices that provide augmented virtual reality appeared. For example: The first augmented reality device developed by Philco Corporation was Headsight, which was

In the science of history, virtual and augmented reality technology adds virtual objects to historical events. In this, the user observes the world in an "augmented" view through a smartphone, tablet or special glasses. It keeps the interaction with the real environment and makes the knowledge more interesting. Through the reconstruction of historic sites, it takes learners back in time. Thus, virtual reality and augmented reality technologies open up enormous opportunities in the study of history. They allow readers to become more familiar with historical events, places, and periods. By "touring" historical sites, with virtual reality-based educational aids, students can explore ancient cities, temples, or castles, see military actions that took place in history, important treaties signed, and other historical events. A virtual visit to the world's most famous museums allows you to book a visit at any time of the day while saving time and resources.

ANALYSIS & RESULTS

Traditional methods of teaching history often rely on textbooks, lectures, and the occasional trip to museums or historical sites. While these methods provide valuable information, they sometimes fail to fully capture readers' imagination. From this point of view, virtual tools (virtual reality, augmented reality, and 3D modeling) are essential for representation of past events, personalities, and cultures in a vivid and interactive way. With them, students will have the opportunity to "visit" and "experience" historical sites, architectural monuments, ancient civilizations and important historical events in a virtual environment. Creating virtual models of the past provides researchers with a powerful tool for deeper understanding of historical events. Virtual models make it possible to visualize aspects of the past that are lost or difficult to understand with traditional research methods. This helps to form a more accurate and complete picture of historical periods.

Virtual tools transform the science of history from a "dry" set of facts into a live and interactive experience. At the same time, the following advantages can be listed:

First, students will have the opportunity to experience historical events virtually, rather than simply reading and learning. This helps us to understand the historical context in a deeper way.

Second, most readers retain what they see for a long time because their visual memory is stronger. And in those with weak visual memory, they activate their memory.

Third, it allows students to actively participate in historical processes, which allows for active learning instead of passive learning.

Fourth, it increases students' interest in the subject of history and encourages them to study further.

Using virtual tools in history classes requires the following hardware and software:

1. The latest model of computers or tablets, which can provide full-fledged operation of programs;

designed for military purposes and was developed as an auxiliary device for the pilot. In 1968, Ivan Sutherland (Ivan Sutherland) and his student Bob Sproull created the first VR headset called Sword of Damocles. The device was the first computer-controlled VR system to display simple 3D graphics. The development of VR technology (reached a new level) in the 1980s and 1990s. American data visualization and biometric technology scientist Jaron Lanier introduced and popularized the term "virtual reality" in 1987. He founded VPL Research, a company that manufactures VR glasses.

2. Smartphones with special glasses (for example, Oculus Rift, HTC Vive) for AR applications;
3. High-speed Internet connection;
4. Development of the competence of educators and learners to use modern technologies.

Virtualized tools can be used at all stages of education in teaching the science of history. It is especially effective in virtual learning by reconstructing archaeology and ancient civilizations, medieval palaces, culture, and way of life in 3D format. It is important to approach the topic to be studied, depending on the interest of the learners. For example, for those interested in the history of hostilities, that is, the history of military art, military equipment and weapons, the digitization of topographic maps of the battled areas using modern GIS technologies, the clothing and equipment of soldiers who took part in the battle, the activities of medical workers, communications workers and other additional service personnel are studied by virtual means, military equipment, weapons, tanks, It is possible to show the extent to which military operations affected the war, the military supplies, logistics system, strategic tactics, economic resources of the countries involved in the war, and detailed information about the war in general.

Effective projects in teaching history are established on the official platforms of several prestigious foreign universities. In particular, several historical processes of history, historical objects, a virtual form of museums have been developed and placed. In addition to the lessons, students will also be given tasks on virtualizing their historical processes and creating a 3D format.

A prime example of virtual reality in education is Harvard University's Giza Project². This project offers an immersive VR tour of the Giza Plateau, home to the symbolic pyramids and Sphinxes. Students will be able to explore the tombs, temples, and surrounding landscape based on expert commentary that provides insight into the ancient Egyptians' construction techniques, religious significance, and daily life.

CONCLUSION

In history teaching, virtualized tools create a fully immersive environment in which users can explore historical places and events as if they were participating. The resulting experiences are not only visually striking, but also provide a deeper understanding of historical contexts. Virtual tours and digital artifacts provide ample opportunity for learners who do not have the resources to visit historical sites in person. By virtual viewing of ancient civilizations, students will be aroused in the interest of the science of history.

As digital technology continues to evolve, we can expect innovations to be introduced into education that will further bridge the gap between the past and the present. The use of new generation technology will modernize education. Complete integration of virtualization technologies into the training process and the implementation of regular monitoring will yield effective results.

Thus, the tools for virtualizing historical processes not only improve the quality of education, but also encourage learners to understand and analyze global historical processes, which helps them to become broad-minded, critically thinking individuals.

² Batafsil qarang. <https://www.openculture.com/2021/04/harvards-digital-giza-project.html>

REFERENCES

1. Begimkulov U.Sh. Pedagogical talimda zamonaviy akhborot tekhnologiini zhoriy etishning ilmiy-nazariy asoslari. – T.: Fan, 2007. - p. 143.
2. Ishmuhammedov R. Innovation in education. – Tashkent: «Fan», 2010.
3. Gafforov.Y. Methods of using new pedagogical technologies in teaching special subjects // Textbook // T.: "Shafolat nur fayz" 2021. 156 b.
4. K. Ijaz, A. Bogdanovych, and T. Trescak, "Virtual worlds vs books and videos in history education," *Interactive Learning Environments*, vol. 25, no. 7, pp. 904–929, 2017. doi: 10.1080/10494820.2016.1225099.
5. <https://www.linkedin.com/company/lucidloonlab>.
6. <https://brittanywashburn.com/2024/02/exploring-virtual-reality-in-history-education/>.