



WAYS TO USE VIRTUAL LEARNING OPPORTUNITIES IN LITERATURE TEACHING

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ABSTRACT

In education, multimedia learning systems, audio and video products, virtual laboratories, electronic libraries, and teaching tools in virtual reality environments help students master the content of academic subjects, expand their perceptions, and explore the studied material through interdisciplinary integration. This article discusses the use of virtual learning technologies in literature lessons.

Introduction. Recently, experiments on the effectiveness of conducting virtual laboratories have become widespread not only in the exact and natural sciences but also in social and aesthetic disciplines. When studying works of literature, relying on the possibilities of virtual environments and virtual reality is effective in developing students' comprehension and perception skills. It is also significant due to the possibility of remote management of the educational process. In virtual reality, experiments that are impossible to conduct naturally for certain reasons can be carried out artificially on a computer using software tools in a symbolic-graphical manner. In the virtual reality of literary education, the perception of the work's reality through the senses is replaced by information specially created using multimedia tools - imagery, images, and details. Although it is not possible to see virtual reality with the naked eye in the physical world, the user enters an imaginary world created with the help of computer devices. As a result, they can observe the process, participate in it, influence it, act independently, and to a certain extent modify it.

Main Part. The environment of virtual reality is created through computer simulation of real-life situations. Its main characteristics are the breadth of its sphere of influence, a high degree of visualization, and a three-dimensional environment. Virtual reality is a unique form of the human inner world and a cultural expression of interrelationships, but its degree of influence is limited compared to real physical reality. Therefore, feelings are interpreted mainly in relation to how a person perceives them, rather than the feelings themselves. At this point, it is worth addressing the issue of changing reality. In fact, practical experiences in every field require material resources, time, mental and physical effort, and it is known that they do not always yield the expected results. The convenience and economic efficiency of virtual experiments are aimed at eliminating and preventing such situations. For example, in the military sphere, in medicine, or when performing complex underwater operations in a virtual environment, it is possible to prevent errors or make changes to existing practices. This



provides solutions to problems related to protecting humans and nature in dangerous conditions, as well as saving time and resources.

In our opinion, the use of virtual technologies in literary education is characterized by the ability to identify and analyze the causes of tragic days, tragedies, and mistakes made by characters, move along the plot line through a mental “journey back in time”, create opportunities to view scenes from different angles, or virtually embody the life depicted in the work. If a reader influences the development of events with the hypothesis “What would have happened if the hero had acted differently in that situation?” then to a certain extent, a scenario contradicting the original plot might be observed. This aspect, of course, must be considered and planned in advance by the programmer and the author of the idea.

The creation of virtual maps for studying the writer's creative process, analyzing literary works by genre and theme, and organizing virtual laboratories and virtual trips to aid in the assimilation of literary and theoretical concepts are based on human-computer interactive communication. In this context, it is advisable to model software aimed at developing students' cognitive processes such as sensation, perception, thinking, speech, imagination, and attention. The perception of a work's reality in a virtual environment is a complex process that depends on the student's cognitive processes and the means of virtual representation.

According to M. Fayzieva and D. Sayfurov, who investigated the advantages of virtual educational technologies in education, virtual reality is “an interactive technology that enables the creation of an illusion on a computer that a person is acting in real reality. In this case, the perception of objective reality through natural sensory organs is replaced by artificially created computer information through a special interface, computer graphics, and sound” [1: p. 45].

Special devices are used to access virtual reality: a mouse, keyboard, joystick (a device that communicates with the computer and transmits data to it by switching to the corresponding parties). For users to experience virtual reality more deeply, special tools such as virtual glasses, virtual helmets, virtual gloves, and virtual suits are necessary. They create the following possibilities:

1. Glasses. This device is designed to view images in three dimensions. In this case, the image is sequentially sent to the glasses screen. As a result, a three-dimensional image of the image appears on the glasses screen.

2. Helmet. The two small screens inside the virtual reality helmet (German shell; cover [4: 57-p.]) designed to perceive an artificial environment are designed to display the size of the image. The image, in turn, is also significant in that it is designed separately for two eyes. The device allows you to visually view images with a width of 360 degrees. An interesting feature is that when the head is turned, the location of the image also changes accordingly.

3. Glove. This tool, where information is placed, is aimed at capturing, moving and moving objects in virtual reality, which provides virtuality.

4. Costume. It helps to feel reality by being designed to track all movements in the form of a jumpsuit consisting of magnetic sensors [3: p. 31].

Multimedia systems designed to create virtual environments are divided into practical and specialized software environments. Practical applications are designed or used applications. Software tools that create multimedia applications are specialized programs. They include graphic, video, audio editors and editing tools. The functions of multimedia tools such



as text, graphics, images, sound, animation, video are improving year by year, which has a positive impact on the field of education.

Virtual reality is inextricably linked with the concepts of immersion and interactivity. Immersion is the ability of a person to imagine himself in a virtual reality, while interactivity is the ability of the user to interact with objects in a virtual reality in real time and influence them [1: p. 47]. There are several types of virtual reality: passive virtual reality, controlled virtual reality, interactive virtual reality.

Passive virtual reality is the observation of an autonomous graphic image through sound, not controlled by a person. A controllable virtual entity is understood as having the ability to select a script, image, or sound that is referenced to the user in a specified amount. The ability of the user to control the virtual environment based on the laws of the world developed using a special device tasked with tracking is a characteristic of an interactive virtual entity. "Tracking is intended to provide the coordinates (x, y, z) and the angles (a, b, g) of the location of a real object in the virtual environment" [1: p. 48].

To ensure interactivity, it is necessary to perform actions inherent in the virtual reality system: visible with the eye, audible through sound. This requires the combination of large-scale sound and video systems, cybernetic helmets, a helmet designed for the human head, glasses display, olfactory "mice", control gloves, and a wireless interface. The reflection of the plot of the work in the virtual environment is carried out by expressing the actions of the characters in a certain sequence in the form of animations. The virtual environment facilitates the perception and understanding of the object by students. Technologies with interactive features are necessary when creating animations or drawing images.

Virtual technologies have their own characteristics. In particular, "creating educational materials intended for repeated use (saving time); exchange of methods between teachers via the Internet; students' access to educational materials at any time; preparation of multimedia materials that make the content understandable; "recording the attendance and learning efficiency of participants; ensuring a stress-free learning system" [5: p. 8], etc.

In our opinion, when creating virtual laboratories, it is advisable to pay attention, first of all, to the content of the subject. This raises the issue of choosing appropriate methods and techniques for conducting experiments according to the nature of the topics. In our opinion, the issue of studying works of art within the scope of the possibilities of virtual existence opens the way for the development of students' figurative imagination and artistic and aesthetic thinking, as well as conducting experiments via a computer, working with various pedagogical software tools, and a comprehensive understanding of the internal and external structure of the object. Most importantly, virtual existence is significantly different from traditional educational approaches in that it provides the opportunity to act as an observer, participant, evaluator and influencer of reality.

It is desirable that the possibilities of virtual reality, which are currently relevant for use in literary education, include the latest achievements in the field of information technology, effectively use the experience of developed countries in virtual laboratory exercises, and, importantly, be created taking into account the curriculum, programs, and the age and psychological characteristics of students. It is necessary to implement a project to create a virtual environment in the process of literary education. Within the framework of the project,



a virtual environment will be required: a special room, tools for entering the virtual environment.

By “entering” the virtual version of the work prepared using pedagogical software, it is possible to observe the sequence of the plot, the relationships between the characters, move with them or influence them. From this point of view, it is advisable to approach the issue of studying literary works based on their nature. For example, the plot of works such as H. Shaykhov’s “First Test”, R. Bradbury’s “One Day of Summer”, J. Verne’s “The Fifteen-Year-Old Captain”, and A. K. Doyle’s “The Guild of the Tangle” [2: 96–168] in the “World of Fantasy and Adventure” season, which is planned to be studied in grade 6, can be studied using virtual technologies. This is also required by the processes of globalization and the interests and aspirations of young people who keep up with the times.

For example, virtual experiments on the science fiction work “The First Test” [2: 98– 105-p.] by H.Shaykhov require organization in connection with other disciplines, in particular, physics and astronomy, in terms of the fact that the subject takes place in space. To expand students' ideas about celestial bodies, trips to virtual planetariums posted on the You Tube channel can be organized. This involves the following:

- 1) creating a script that condenses the subject to embody the work in a virtual environment, taking into account time and volume;
- 2) determining the optimal ways to express the speech of the narrator and characters, taking into account the effect of sound on the reader's senses;
- 3) clarifying the technique of expressing the scene, details and time;
- 4) planning measures for the virtual environment, taking into account the impact on the psychology of students;
- 5) predicting the extent to which the virtual product will meet the goals of literary education;
- 6) designing actions to be taken by students;
- 7) determining the opportunities for students to influence the subject of the work and introducing special personnel for this;
- 8) involving students in working with virtual technologies, encouraging them to offer their ideas, etc.

Since the above is, of course, serious, requires a lot of time, effort and money, it is advisable for the author of the creative idea (teacher) to design the process in advance. In this case, it is important for the programmer to cooperate with the parties financing the project, if necessary. Of course, the effective outcome of the project closely depends on the reliability of the idea, its specific purpose, the creativity of the authors and the rational use of the capabilities of pedagogical software.

The plot of the work unfolds in a virtual reality environment through the following scenes:

1. A spacecraft moving towards the “Black Whale” constellation in space, crew members, celestial bodies in the Solar System, and the blue planet Earth visible from above.
2. Life inside the spaceship: a dome-shaped Main Control Panel, a mother busy with household chores, colorful fish in an aquarium, and a little girl tending to flowers.
3. A conversation between father and daughter. Shahnoza's objection.
4. An unexpected incident encountered by the “Rainbow” crew in the Milky Way.



5. A robot malfunctioning and posing a threat to the girl.
6. Shahnoza successfully passing the test.

If the events of the work are simulated based on pedagogical educational programs, then through special equipment (glasses, helmet, gloves, suit), the student can navigate through the development of events. However, it is first necessary to become more deeply acquainted with the content of the work, determine the meaning of the words used, and study the extent to which the imagery aligns with the laws of physics and astronomy.

Considering that students have encountered scenes similar to those in the story many times in movies or cartoons, mastering the content doesn't seem difficult or boring. For this, work is carried out on the questions and tasks set in the textbook, which is considered an important stage. It is advisable to clarify the meaning of terms unfamiliar to a 6th-grade student in physics, such as dosimeter, gravitometer, barometer, radiation counter, cybernetic devices, robot with a positron brain, infrasonic waves, or the Milky Way. The "Black Whale" constellation invented by the author, the higher intelligent beings resembling centipedes encountered by Earthlings on some planet, their communication style (speaking by changing the color of the lower part of their eyes), and creatures shaped like ocean water also require relying on imagination. The teacher can develop students' speech, imagination, creative and logical thinking by focusing their attention on the following:

- Describing the "Black Whale" constellation, life there, and how they imagine aliens (assigning homework to draw a picture or create a model of a spacecraft in their imagination);
- describe the appearance of the characters upon their return to Earth, and the difference in Shahnoza's thinking from her peers;
- state their hypotheses about the ratio of time between planets;
- get to know their thoughts on how they would act if they encountered a problem like Shahnoza in life;
- share their thoughts on how society could benefit from the Uzbek family's heavenly journey;
- compare the work to an episode of a film (fiction, documentary, cartoon) they have watched, and identify similarities;
- guess what the writer's goal was in creating the work and express their opinions on this basis;
- share their thoughts on what ideas the story evoked in readers, how they could implement them, etc.

In conclusion, programmed scenes are designed for predetermined time frames and are developed with the intention of influencing the narrative in a virtual environment, thus expanding students' perceptual capabilities. Virtual educational technologies aimed at developing creativity necessitate reliance on the interconnections between fine arts, music, and technology. This is significant as it serves to reveal the spirit of the time and place depicted in the work, as well as the author's perspective.



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