

VIRTUAL REALITY IN TRAINING SPECIALISTS OF THE INDUSTRY OF CULTURE AND ARTS

^aOLEKSII ROHOTCHENKO, ^bTETIANA ZUZYAK, ^cOLEG CHUYKO, ^dSVITLANA KIZIM, ^eMARIIA OSPISHCHEVA-PAVLYSHYN

^{a,e}*Modern Art Research Institute of the National Academy of Arts of Ukraine, 18-D, Ye. Konovaltsa Str., 01133, Kyiv, Ukraine*

^{b,d}*Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University, 32, Ostrozkoho Str., 21001, Vinnitsia, Ukraine*

^c*Vasyl Stefanyk Precarpathian National University, 57, Shevchenko Str., 76000, Ivano-Frankivsk, Ukraine*

email: ^arogotchenko2007@ukr.net, ^bzuzyak@ukr.net,

^cart.trivium@gmail.com, ^dskizim2012@gmail.com,

^epavlishinma@gmail.com

Abstract: The article examines the conceptual foundations of virtual reality in the field of culture and art – both in socio-philosophical and practical terms. The concept and activities of virtual museums in different countries are described in detail and the possibilities of using virtual reality technologies, already tested in modern museums, in training specialists in the field of culture and art, are analyzed. It is shown that virtual reality has the potential to best implement the modern “subject-subject” concept of education in the field of culture and art, developing cognitive skills and creativity of learners.

Keywords: Art, Culture, Learning, Museum, Technology, Virtual reality.

1 Introduction

Virtual reality (VR) is a kind of semblance of the world around us, artificially created with the help of technical means and presented in digital form. The created effects are projected onto the human consciousness and allow experiencing sensations as close as possible to real ones. Back in the 20th century, it became clear that virtual reality has become a stable characteristic of modern society, and information is the basis of intellectual activity and the process of accumulating knowledge [2]. New information technologies have radically changed the sphere of production, public consciousness, and culture in general.

2017 will go down in history as the year when art became virtual. Increasingly more famous galleries and museums are exhibiting virtual reality artifacts. One of the oldest and most respected exhibitions of contemporary art, the Whitney Biennale in New York, is just such a work of the US artist Jordan Wolfson. At the London Sotheby's auction, one could see Salvador Dali's masterpiece “The Transitional Moment” in VR version. In January 2017, the American artist KAWS presented his VR project at the New York Public Library [16].

In turn, the new educational standards set an innovative task for the education system in the field of culture and art: to create such a learning environment that motivates students to independently obtain and process the information received, and exchange it. To solve this problem, it is necessary to develop new pedagogical approaches and technologies that would take into account the changes taking place in life itself, to push the boundaries of the learning environment far beyond the educational institution. However, the comprehension of this new reality in the context of education is slow and not always adequate, especially in the field of art pedagogy. Today, there is an obvious disagreement between education in the field of art and the dominant types of art culture in real life. This often negates the efforts of many art teachers, reduces the professional motivation of future teachers of music, visual arts, theater, and choreography. In this regard, the question of the possibilities and strategies of using virtual reality technologies in training specialists in the field of culture and art seems to be very relevant.

2 Materials and Methods

The communicative space of modernity is fundamentally different from the forms in which it existed in earlier times. Thus, starting from the 70s and 80s, the reality formed by computer and communication technologies enters the life of

people. Researchers of this phenomenon offer many definitions: “virtual reality”, “hyper-reality”, “pseudo-reality”, and so on [20]. In the context of the research topic, the phenomenon of “augmented reality” is also of interest, about which much has been said as a technical innovation, however, it seems that the boundaries of the use of this term are expanding and cover the entire cultural sphere of modern society.

Modern virtual reality is the result of the development of information and communication technologies; it should be considered a new specific sphere of human existence and a special cultural form of spiritual communication between people. All this allows saying that the depth of penetration of virtuality into the cultural and social life of a modern person is colossal and requires serious reflection. As a research strategy, it is advisable to use phenomenological, systemic methods and the method of complex and cultural-contextual analysis. The research methodology is based on the unity of theoretical-analytical and cultural-historical approaches.

3 Results

Currently the activities of the future specialist in culture and art are almost entirely accompanied by computer modeling [18]. Virtual reality has additional features that distinguish it from other manifestations of culture [27].

This approach seems to be more reasonable and fruitful. VR is part of culture, but not all culture is virtual. It is all the more difficult to agree to consider the whole culture as VR [9]. It is noted that people earlier and especially now, within the framework of their normal, very real life, are increasingly communicating with VR [3]. Moreover, individual subjects face with it so closely that they cease to distinguish imitation of reality from it itself. But still, this does not mean that the entire spiritual and material life of people, the entire culture should be considered only as VR. It should be noted that the definition of VR can be applied to the entire culture purely formally. In the culture of each society, there is a lot of relative and random things and phenomena, from a general point of view, optional ones, determined by the subjective predilections of people. However, for each society, its culture, formed due to many objective and subjective circumstances, exists as a single and integral system. People in their mass are forced to submit to it (culture) as an objective reality for them, it cannot be replaced by any arbitrarily created VR. In this sense, culture cannot be identical to VR [12].

Nevertheless, despite the criticism of opponents, there are increasingly more supporters of virtual culture, and the fact that virtualistics is one of the curious directions of modern culture is quite obvious is considered as confirmed. More problematic ones seems to be attempts to give it a leading meaning for the entire modern culture, allowing, as it seems to some, to talk about a qualitatively new stage in the development of society. Of course, the entire culture and the most significant part of virtual reality is inextricably linked directly with a person, his social activity, mental state and consciousness. With certain reservations, it can be noted that culture from the point of view of virtual assessment is based on the contradiction between reality and unreality. In this situation, reality is all the time accompanied and evaluated by what is located around it, while it itself fades into the background.

Digital technologies played a decisive role in the formation of the paradigm of postmodernism and art corresponding to this paradigm, and later the paradigm of post-postmodernism paradoxically caused the acceleration of the process of intellectualization, formalization and “automation” of art, on the one hand, and the spread of intuitive synthetic judgment in science on the other [17].

The changes that have taken place in art, including under the influence of digital technologies, are so significant that they

made it possible to reveal in contemporary art a powerful focus on the virtualization of art practices [25], and to come to the conclusion that in modern conditions, raising the question of art as a whole is aesthetically pleasing, it is incorrect that modern aesthetics deals with four fundamentally different artistic types: traditional (academic, classical, “graceful”), realistic (representative), conceptual (presentational), marginal and electronic (digital, virtual) arts [24]. Experts argue that the “growth” of the trend of “digital virtualization” in art is of particular importance and the future of art lies “in the virtual world of networked spaces” [2, p. 139]. Allowing artists to master the virtual reality of a new, electronic type, digital technologies determined the possibility of designing a new type of art within the framework of actual art – artistic virtual reality [5], and within the framework of aesthetics – the theory of artistic and aesthetic virtualistics with the most important concept of “aesthetic virtual reality” [23].

In such an interesting and difficult time, it is impossible for a traditional museum to work in the old way without introducing any appropriate changes in its work. It is difficult to attract visitors today in the usual ways, because many museums are introducing interactive technologies into their work, thereby reaching a new level of interaction with visitors: the principles and mechanisms of their work are changing, additional interactive activities appear – virtual branches, audio guides, lecture halls, etc. Degree of interactivity of the museum depends on many factors: on its funding, the initiative of its employees, its focus, and includes many manifestations, all of which are aimed at one thing: the most effective involvement of the audience in communication with the museum space to gain personal experience [7].

Virtual museums play an important role in the formation of a single cultural, informational, and educational space, allowing all people to become familiar with cultural artifacts. At the same time, virtual museums promote the development of intercultural dialogue by representing and promoting the cultural capital of their country.

At present, it can be stated that the phenomenon of virtual museums has important properties. First, it always exists in virtual space. Its location is the Internet, but the basis is real exhibits, so it has its own structure. At the same time, each organizer is given the opportunity to choose the structure and organization that is most convenient and visual. Of course, the prototype for a virtual museum is a real museum with its structural organization (exhibits, exhibitions, expositions, storerooms, catalogs, etc.), but each organizer contributes something of his own to create own special virtual museum.

In addition, the virtual museum is based on artifacts and cultural objects of the past, present, and (in some cases) future. When considering the real museum that we are interested in, it becomes obvious that its virtual form is a “new reality”. While a traditional museum is characterized by permanent exhibitions and temporary exhibitions, a virtual one is able to display its exposition constantly only in its development (any exhibition can be presented to visitors for years, their number depends on new ideas, projects; restrictions are associated only with the direction of activity and thematic features of this museum). The emphasis is made on the fact that the virtual museum is autonomous and can exist independently, not depend on the existing museum, and form collections on its own.

A striking example of such a museum that does not depend on a physical site and exists only on the Internet is the Google Cultural Institute. The Institute began its existence in 2011 and has united many sites on its website. Founded as a project that brings together the best art museums, according to Google, the project has grown significantly over the years and turned into a platform that brings together art museums, interesting natural sites, and the most visible objects of street art around the world. The Cultural Institute from Google meets all the requirements for a virtual museum: the visitor is fully able to try the interactive features of the site, walking through the expositions, independently choosing objects for study.

The National Museum of Singapore is currently running an immersive installation called *The History of the Forest*. The exhibition is dedicated to 69 images from the collection of natural history drawings by William Farquhar. They have been turned into 3D animations that visitors can interact with. Visitors download the app and then use the camera on their phone or tablet to explore the paintings [18]. October 2019 for the Parisian Louvre was marked by the opening of the virtual reality exhibition “*Mona Lisa: Behind the Glass*”. This is not just an opportunity to examine in detail the canvas of the genius of art Leonardo da Vinci, but also an opportunity to observe in the smallest detail how the picture has changed throughout the entire time.

One of the examples of the implementation of VR by the Tate Gallery is also of interest: in 2017, using virtual reality, they recreated the studio of the artist Amedeo Modigliani as part of an exhibition dedicated to his work. Visitors could visit Paris a century ago and see the place where the artist once worked [1].

From 2015 to 2018, the Tate Gallery climbed to the fifth place in the number of visitors in the British capital, according to statistics from ALVA, the London Top Tourist Attractions Association. This museum actively implements technology, conducts interactive exhibitions and installations for visitors using VR and other technologies. At the same time, more traditional museums, such as the British Museum and the National Museum of History, only lose visitors every year (for example, in the latter, between 2013 and 2017, there were 1 million fewer annual visitors there) [6]. Statistics show that people are more interested in attending interactive exhibitions, so the introduction of VR helps to attract visitors [5].

Nevertheless, there is a nuance: a virtual museum, in order to be considered a museum (based on the above definition of a museum), should rely on the broadcast of real objects/exhibits. The obligatory nature of this factor helps us to define a virtual museum. So, for example, in the mentioned Cultural Institute from Google, all objects are real”. Perhaps in the future, when virtual museums strengthen their status, this condition will not be so mandatory: for example, a real exhibit will cease to exist for some reason, and its virtual analogue will remain and retain the status of cultural value.

4 Discussion

Based on all that has been said, several features inherent in a virtual museum can be distinguished, which are very positive for use in the learning process [13]:

1. The Virtual Museum is an excellent platform for communication. The Internet site allows creating an accessible environment for feedback, any visitor can leave a wish/review, contact the site administrators and get answers to all questions of interest. In addition, some virtual platforms have their own chat rooms for communication of visitors with each other, drawing up a viewer rating of a particular exposition.
2. Saving time. The convenience of a virtual museum is that the visitor himself chooses the time of visit, and this can be weekends, holidays, and night time. In addition, many virtual museums have convenient and very detailed search engines, which is very convenient when one needs to find a particular exhibit. Even if a real museum is available, one will still need to spend certain resources on the road and search for the required object. In a virtual museum, this problem is solved by a search engine.
3. Availability. To visit the virtual museum, only Internet access is required. Thus, the visitor can experience cultural values anywhere in the world from the comfort of his home or any other convenient place. Most virtual museums are constantly being improved and have mobile versions, so this automatically removes most of the obstacles on the way to a real museum, such as its territorial accessibility, degree of inclusivity.

4. Flexible exhibition environment. The virtual museum is independent of the premises and its technical capabilities. The virtual museum is free to choose its structure, the space of the virtual museum itself differs from the real museum, which sometimes allows going beyond the exposition and creating independent projects in virtual reality.

Historical museums can show how different locations looked many years ago, reconstruct historical cultural monuments, and offer visitors a virtual tour of different eras. Art museums can bring iconic paintings to life; VR technology allows not only to travel through time and gain useful knowledge, but also to build a dialogue between the exposition and the guests of the museum. Literary museums can create virtual films based on the works of authors to whom a particular museum is dedicated, this will allow visitors to get acquainted with the work of writers in a playful way. Architectural museums using virtual reality technologies can recreate the most ancient structures, significant monuments of architecture and architecture, visitors can walk through the created locations and see everything in the smallest details.

Since the entire aesthetic virtual reality of a particular art project is artificially formed by a network artist, contemporary art critics suggest calling it "virtual art" [10]. In addition, given that within the limits of aesthetic virtual reality, two large spaces can be distinguished, differing in the nature of the recipient's aesthetic activity, namely: dynamic and interactive aesthetic spaces researchers suggest distinguishing between presentation and interactive virtual art [21].

In fact, dynamic aesthetic spaces (presentation virtual art), intended solely for their presentation as virtual aesthetic objects, their virtual visit and contemplation, without the active participation of the recipient in their modification corresponds to the so-called "passive" form of virtual reality, within which the user acts as a recipient of information, and interactive aesthetic spaces (interactive virtual art), "designed for active interaction with the recipient, for his creative participation" – an "active" form, within which two-way information exchange is provided, that allows the recipient to influence the virtual environment [25]. Since, along with the passive and active forms, one more, "research", form of virtual reality is often distinguished, within which the user is given the opportunity to choose the information flow due to free movement in the virtual space; one more subspace can be distinguished within the aesthetic virtual reality research, and within the limits of virtual art, one more form is 'research virtual art'. Taking into account the very concept of modern education, which involves strengthening the interaction of the teacher and students, increasing the creative component and independent work of students, it seems expedient to combine all three forms of art of virtual reality in training specialists in the field of culture and art.

One of the basic attitudes of artists and organizers of museum exhibitions is based on the perception of drawing as a process. As conceived, this process can be seen: if to carefully look at the work of artists in virtual reality glasses, one can watch how the work is created by the artist right in front of own eyes (in virtual reality). Somewhere in the virtual space the painter's hand "flies", changing the picture that the visitor sees here and now. This brings the viewers closer to the artist, allows them to look at the work differently and become an accomplice in the creation of the art object. Specially developed software allows artists to draw complex 3D shapes right in the air. For each artist, programmers created personal tools and loaded certain ready-made models into the program [21].

Moreover, there are other interesting projects. The unique project of the Tretyakov Gallery invites to plunge into art using VR technology. One can look into the workshops of Kazimir Malevich and Natalia Goncharova, and then become the main character of Shishkin's "Morning in a Pine Forest" and "The Scream" by Edvard Munch.

The Tretyakov Gallery presents an unusual project that allows not only to get in touch with the works of Kazimir Malevich, Natalia Goncharova, Ivan Shishkin and Edvard Munch, but also to be inside their works, to comprehend the creative methods of great artists. Thanks to virtual reality technologies, viewers can create their own picture in the best traditions of the avant-garde, offer their own interpretation of "Morning in a Pine Forest" and deeply feel the aesthetics of the famous Norwegian expressionist [11]. Such projects can be excellent teaching tools. Sensors are installed in the room, which form the space for creativity. The artist launches a computer drawing program through a special online service using the Internet. Then he picks up joystick brushes, puts on VR glasses and, using a virtual palette, creates a picture in a volumetric space that exists only in a digital environment. Thus, the process of merging the latest modern technologies and art takes place.

It is quite obvious that virtual museums today have already "ready-made" technologies for successful application in the educational process, both in the theoretical and in the practical part.

Today, scientific circles are increasingly substantiating a statement that has been confirmed in practice about the emergence of a virtual civilization and the formation of cyber culture [26]. Culture is understood primarily as all that significant created by people themselves, by humanity. It complements 'natural' nature and is, therefore, rightly called second nature, or humanized nature. The greatest sociologist of the 20th century P. Sorokin characterized culture as a system of values with the help of which society integrates, maintains the functioning and interconnection of its institutions. Explaining the understanding of culture as a set of values and norms used by people, he cites, in particular, a curious example: "In the classroom, the teacher and students are individuals, the totality of these personalities, together with the norms of their relations, constitutes the classroom society, not only scientific and other ideas that they possess and exchange, but books, blackboards, furniture, lamps and the room itself represent the culture of this society" [19, p. 36].

Noting the general axiological characteristic of culture, let us consider the problem of its interaction with the rapidly expanding virtual reality. Recently, there has been a very noticeable tendency to identify virtual reality with the entire human culture and public consciousness as a whole.

In the future, cyberculture has every reason to become a full-fledged culture, having mastered a special virtual – way of understanding and explaining the world. The basis for this conclusion is that this idea itself is gaining increasing recognition in very different branches of theoretical science and practice [12]. In addition, it should be noted that there is also a social need for new ways of explaining the world and mastering it.

The Internet itself today is an unprecedented phenomenon, significant primarily because of its virtual nature: being anarchic in its structure, having no direct governing structures, it nevertheless has a very high degree of self-organization, which is most valuable in our dynamically developing time.

The Internet creates a "virtual community of people", thereby transforming modern culture into a so-called "global village", where there are no boundaries for communication. Paying attention to the fact that the new virtual civilization with its cyber culture and rapidly expanding virtual psychology begins to destroy and replace the new European type of culture, There is amazing fact of the creation in Japan of an entire virtual city with a population of 10 thousand people. The system that simulates the city uses the latest computer graphics to enhance the implementation of the virtual environment [11]. Each computer owner can become a resident of this city by choosing an appearance from the offered 1100 options. Residents of the city marry, have fun, communicate, elect the government, etc.

A slightly different understanding of VR can be observed in Trant: "Virtual reality has additional features that distinguish it from other manifestations of culture. VR is part of culture, but not all culture is virtual [23, p. 372]. People for the most part are forced to submit to culture as an objective reality for them; it cannot be replaced by any VR created voluntarily. In this sense, culture cannot be identical with VR, as it was noted above.

5 Conclusion

Considering all the facts of the combination of culture and virtual reality in the present and the emerging prospects of the future, it can be quite definitely said that humanity is gradually moving from a 'written' culture to a 'screen' culture, from an industrial civilization to a post-industrial civilization informational. Numerous areas of integration of culture and VR are already clearly outlined, they are quite wide and will cover now or in the near future very diverse areas of human activity, including education in general and teaching technologies in particular.

It is interesting to note that the views of postmodernists (J. Baudrillard, W. Eco) regarding the processes of virtualization of the modern cultural and communicative space are extremely pessimistic. In particular, Baudrillard speaks of the end of real reality, which gave way to the reality of simulacra. Hyperreality is one of the basic concepts of the philosophy of postmodernism, expressing the cultural situation when the phenomena of truth, adequacy, reality cease to be perceived as ontologically based and are perceived as phenomena of a symbolic order [8]. In such a semantic space, the phenomenon of reality, according to postmodernists, acquires the characteristics of hyperreality, within which the original and the copy (fake) coexist in the same cultural context. Thus, postmodernism takes a person out of the dictates of one particular culture: the transcultural world is not located in the directory zone in relation to the existing cultures, but simultaneously inside all of them. Hyperreality in the views of postmodernists can be assessed as a culture's reaction to its own simulation: the processes of mimicry, simulations lead to the falsification of the very desires of a person, having a tremendous impact on his psyche [5].

However, it is difficult to agree with this opinion – virtual reality is not a simulacrum, but a legitimate fruit of cultural creativity, directly related to value instances and even to ideal absolute reality.

Most definitions of teaching methods emphasize that this category includes both the activities of the teacher and the activities of the student: "The teaching method is a system of sequential interrelated actions of the teacher and students, ensuring the assimilation of the content of education" [19, p. 22]. In our opinion, modern information tools for presenting educational material are so specific and developed that they produce qualitatively new properties of the content of education, which were not contained in traditional methods. VR radically transforms the principle of visibility, creating a semblance of real objects through information modeling. As a result, the student receives almost the same (or stronger) personal experience in visual, auditory, tactile, olfactory perception, in the implementation of actions, as in real interaction with similar situations.

In teaching, through the use of information systems, the subjectivity of both the teacher and the student is sharply increased, the boundaries of the implementation of the principles of visibility and accessibility, inclusive learning, the connection between learning and life, and the potential of emotional impact on the student are expanding. These and other features of VR methods and program-informational training allow speaking of them as dominants in the implementation of subject pedagogy. The essence of subjective pedagogy lies in the fact that the educational process is viewed as the interaction of not subject and object but two subjects – a teacher and a student. The main object of pedagogical activity is the subject. The goal of subjective pedagogy is the formation of a subject in cognition,

learning, objective activity, experience, interpersonal and social relations, etc. In subjective pedagogy, the task is to form a student as a full-fledged subject of life with his self-regulation, self-determination, self-determination, self-education (continuous education) at all stages of life way [14]. VR images, when they are included as content, a component of a task, have a significant effect on increasing creativity, stimulating the process characteristics of thinking, which is critically necessary in teaching in the field of culture and art.

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