

THE USE OF «VIRTUAL TOURS» TECHNOLOGY IN THE TRAINING OF LAW ENFORCEMENT OFFICERS

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Abstract. *The aim of the study is to analyse the process of using «Virtual tours» technology in the educational process. This technology allows you to transfer the lesson from the passive into the interactive forms, to activate the cadets' cognitive activity and to involve them into the educational process. The use of visualization techniques develops broad-minded thinking and enhances a better learning of the curricular material.*

The main tasks of the research are to analyse the process of using «Virtual tours» technology in the educational process of law enforcement officers; to estimate the functional practice of «Virtual tours» technology. The study is fundamentally based on the dialectical-philosophical method alongside with the general scientific and specific scientific methods.

Keywords: *distance learning, education, training information technologies, virtual tours.*

Introduction

The use of «Virtual tours» technology in the learning process is becoming more popular in recent times. There is wide support for the use of this technology in the training of law enforcement officers. This technology is increasingly being applied in the Border Service and at the Institute of Border Service of the Republic of Belarus.

The study was conducted over the period of 2016-2018.

The subject of the research is to analyse «Virtual tours» technology in the educational process. This technology allows you to transfer the lesson from the passive to the interactive form, to activate the cadets' cognitive activity and to involve them into the educational process. The use of visualization techniques develops broad-minded thinking and promotes a better learning of the curricular material.

The main tasks of the study are as follows:

- 1) to analyse the process of using «Virtual tours» technology in the training process of law enforcement officers;
- 2) to estimate the functional practice of «Virtual tours» technology.

The research is fundamentally based on the dialectical-philosophical method alongside with general scientific and specific scientific methods.

The hypothesis of the research under consideration is in the assumption that the analysis of the practical results of implementing the «Virtual tours» technology in the educational process of law enforcement

officers must give a clear idea about the expediency and forthcoming perspectives.

Background and Purposes of Implementing the Technology of «Virtual tours» in Higher Education

«Virtual tour» is a method of realistic mapping of three-dimensional multi-element space on a screen. As a rule, the main elements of the virtual tour are spherical panoramas, interconnected by interactive transition-links (hotspots). Quite often, a cylindrical panorama, virtual 3D objects and ordinary photography are used in virtual tour. In other words, a virtual tour is a general designation for several spherical panoramas that are joined together, and can be virtually moved while watching. Virtual tours also include other interactive elements: pop-up windows, explanatory notes, hot keys, control keys, etc.

Currently, the following areas are specified for the use of «Virtual tours»:

- for advertising purposes, for the presentation of a place or a product;
- for tourist purposes, to show the place of visit, hotel and other tourist attractions;
- in the educational sphere while conducting classes;
- to assist people with disabilities;
- to assist people with a shortage of funds.

Conditions that are necessary for publishing a «Virtual tour»:

- at least two rooms, so that the user could move from one place to another – felt on an excursion;
- pop-up textual explanations or photos, detailed video;
- bright graphics and up-to-date effects;
- action elements – users perceive a virtual walk as an on-line game.
- Pros of «Virtual tours»:
 - availability;
 - possibility of viewing at any time;
 - possibility of multiple participation in the excursion and viewing the information attached;
 - a personal presence effect.

Cons of «Virtual tours»:

- impossibility to ask a question in real time;
- dependence on the creators – it is impossible to see what is not included in the tour;
- limited impressions.

This technology has been quite widespread in the educational environment. Virtual tours are often used during the presentation and acquaintance with the university, for detailed visualization of various objects, buildings, etc.

In the process of learning, «Virtual tours» are effective means of training sessions. They create «an effect of presence» for a student – bright, memorable visual images, and allow students to plunge into the environment, to visit any building, structure, land area or object virtually.

The Use of «Virtual tours» in the Institute of Border Service of the Republic of Belarus

It should be noted that the use of «Virtual tours» technology at the Institute of Border Service of the Republic of Belarus is closely related to the introduction of distance learning systems in the training of officers.

In military education, to ensure border security in modern conditions, it is required to upgrade the qualifications of servicemen constantly. This implies the steadiness of the formation of military personnel and can be ensured by the active introduction of distance learning technologies.

Distance learning is a purposeful process of interaction between teachers and cadets with each other, and means of training, regardless their location in space and time which is implemented in a specific didactic system.

The structure of the distance learning system is shown in Figure 1.

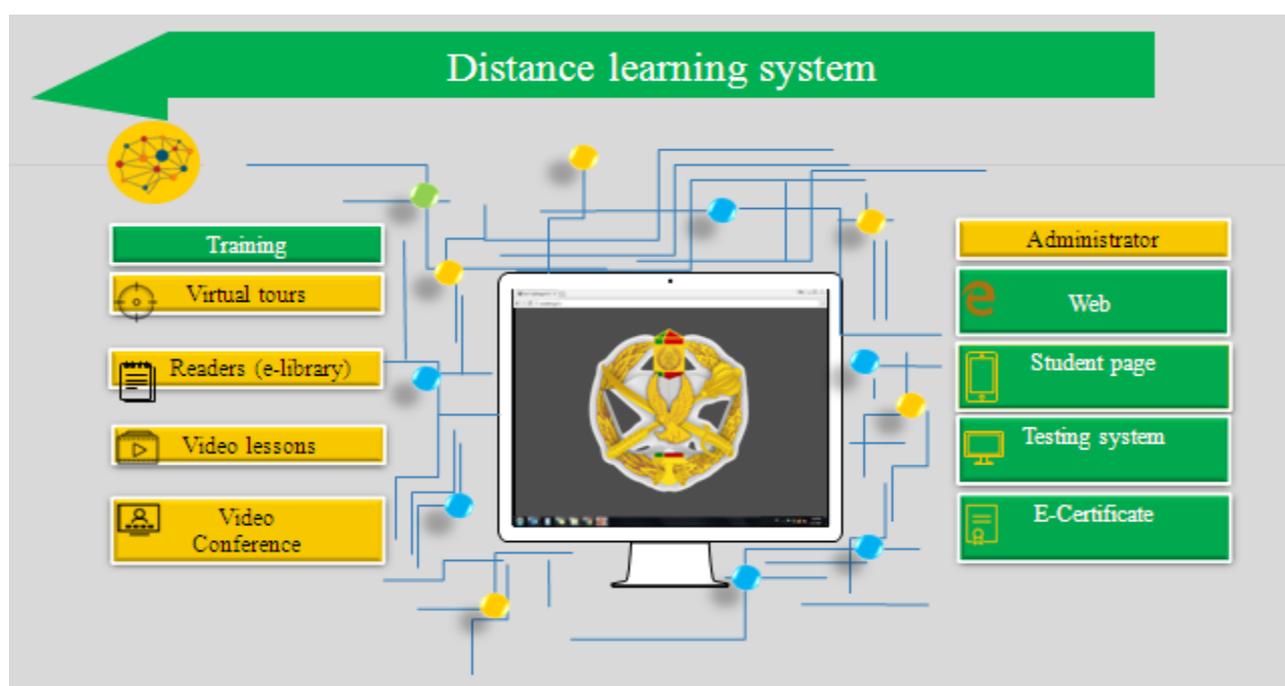


Figure 1. Structure of distance learning system

The use of educational technologies in the context of a computer informational and educational environment allows fulfilling the pedagogical support of cadets with different levels of education, those cadets who undergo advanced training and retraining.

The technology of «Virtual tours» starts to be introduced actively into the educational process in the Institute of Border Service of the Republic of Belarus during last two years. The most successful use of this technology in training sessions was shown by the example of the use of virtual tours by the state border units and the checkpoints. The use of such virtual tours in the learning process allows:

- to transfer the training session from passive into active forms;
- to activate cognitive activity of cadets;
- to increase the interest and motivation of students in the classroom;
- to improve the level of learning material;
- to reduce the cost of transporting students to training grounds.

The introduction of virtual tour technology in the Border Service began with the creation of a virtual tour in the Institute of Border Service of the Republic of Belarus. When creating a tour at the Institute of Border Service of the Republic of Belarus the following equipment was used:

- Canon EOS 6D Camera;
- Samyang 14mm f / 2.8 ED AS IF UMC Lens;
- Canon EF 24-105mm f / 4L IS USM Lens;
- Canon EF 8-15mm f / 4L Fisheye USM Lens;
- Manfrotto 055XPROB Tripod;
- Nodal Ninja 5 R-D16 Rotator + EZ-Leveler Panoramic head;
- Manfrotto 804RC2 Head;
- Canon Speedlite 580EX Flash.

Currently, the «Virtual tour» is publicly available and widely used in order to demonstrate the housing and living conditions and the training base in the Institute of Border Service of the Republic of Belarus to future applicants. It gives us an opportunity to show in detail the conditions in which the cadets live and study without physical presence. According to the conducted polls, the applicants estimate the created virtual tour very positively because it gives a very detailed idea of the Institute of Border Service of the Republic of Belarus and allows not to visit it. The parents of the cadets evaluate this tour positively as well highlighting its modernity.

Taking into consideration the positive experience of creating the «Virtual tour» of the Institute and its high evaluation, it was decided to create training virtual tours for the territorial border guard units. Therefore, the Institute decided to buy special equipment and create virtual

tours for educational purposes on its own. Thus, the following equipment was purchased:

- Canon EOS 6D Camera
- Canon EF 24-105mm f / 4L IS USM Lens
- Canon EF 8-15mm f / 4L Fisheye USM Lens
- Manfrotto 055XPROB Tripod
- Manfrotto 804RC2 Head

This equipment could provide the creation of «Virtual tours» in the Institute. By now, virtual tours have already been created for such units as: the frontier post «Losha» and the border checkpoint «Novaya Guta» and the process of creating new tours continues. It is possible to create «Virtual tours» for a specific division of the border units at the request of the departments of the Institute.

In the training sessions, «Virtual tours» are often used in studying the situation and conditions in a particular unit, working places, etc. The practice of planning the service and arranging staff using a virtual tour of the unit has proved to be well established. If at the first lessons the teacher only introduces the situation with the help of a virtual tour, shows the plan of the building, service rooms, territory, a certain segment, so the next sessions the cadets use simple navigation independently or under teacher's control carry out practical assignments in accordance with the location of the unit. The experiment on conducting classes using virtual tours showed an interesting result. After conducting theoretical classes in the classroom using a virtual tour for a particular unit and arriving for practical training in the same unit, the cadets did not become confused with the situation, and did not spend much time studying the location, but immediately joined the work. The plan of the building and the surrounding area were already known to them in advance and thoroughly learned during the classroom! Cadets' testing based on the results of conducting classes using virtual tours showed that the perception and subsequent mastering of the material improved by more than 70% compared to showing cadets conventional photos of the unit.

The application of this technology is also approved by teachers. Its use in class does not require additional skills and greatly facilitates the visualization of the material being taught.

Thus, we can state that the use of «Virtual tour» technology in the course of conducting various types of training is justified. Moreover, it requires its further development.

Conclusions and suggestions

1. The use of «Virtual tour» technology is now becoming more and more justified. The application of this technology in the educational process shows high efficiency, including the Institute of Border Service of the Republic of Belarus.
2. The use of such «Virtual tours » in the learning process allows:
 - to transfer the training session from passive into active forms;
 - to activate cognitive activity of students;
 - to increase the interest and motivation of students in the classroom;
 - to improve the level of learning material;
 - to reduce the cost of transporting students to training grounds.
3. The use of «Virtual tour» technology in the process of training cadets of the Institute of Border Service of the Republic of Belarus shows its high efficiency, the quality of the training and the level of mastering the training material by the cadets have been improved.
4. In order to develop distance-learning technologies, it is necessary to introduce «Virtual tour» technology into the educational process of the Institute of Border Service of the Republic of Belarus, to expand it and to create these tours for different territorial units.

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