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PRINCIPLES OF THE USAGE OF INFORMATIONAL TECHNOLOGIES DURING TEACHING THE MODULE "USAGE OF MILITARY TOPOGRAPHY IN POLICE DURING THE PERFOMANCE OF OPERATIONAL-WORKING TASKS" AS A METHOD OF EDUCATIONAL QUALITY'S INCREASE

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Abstract. *The article is dedicated to the important issue — the improvement of the quality of education, which can be achieved with the help of usage of the informational technology in the studying of subject "Fundamentals of military topography" for future police officers of the National Academy of Internal Affairs.*
Keywords: *innovations, innovative technologies, process of studying, interactive technologies, topography, maps, schemes.*

Formulation of the problem. The integration processes of our country towards the European community initiated changes in the educational sphere similar to the European ones. Therefore, in recent years the question of new information technologies' usage in higher educational institutions raised increasingly. It's not only because of the new technical means but also due to the new forms and methods of teaching, a new approach to the educational process.

The analysis of recent researches and publications of scientific and pedagogical literature shows that the theoretical problems of the usage of innovative teaching methods were reflected in the works of V. Vlasov, A. Vlasov, S. Nikolaev, I. Kolomiyets, I. Bulakh, V. Avanisov. The researchers such as E. Polat, E. Dmitreyeva, S. Novikov, T. Polipova, L. Tsvetkova and others are actively involved in the development and implementation of the new informational technologies in the educational process.

The purpose of the article is to analyze the feasibility of using the informational technology while teaching the module "Usage of military topography in police authorities in the performance of the operational tasks."

Knowledge and skills in the sphere of application of the computer technology in a particular field of activity is an important component of professional training. The experience shows that teaching of the module "Usage of military topography in police authorities in the performance of operational tasks" requires constant modification. On the second course of future police officers' training in the working curriculum of the discipline "Tactical-special training" we can find this module.

The appearance of new informational technologies and appropriate new equipment that is needed for use, initiates the permanent process of transforming these technologies into the curriculum, which leads to the upbuilding of the educational material. Therefore, the studying of the module "Usage of military topography in police forces in the performance of operational tasks" by future police officers is particularly acute in connection with the existence of police education contradictions, due, firstly, to the need for future police officers to learn a large amount of information from the given module in conditions of limited auditorium time, and secondly, the necessity of timely modification of the content of the proposed teaching material with the solution of the specific tasks indicated in the requirements for educational process [4].

We need such an approach for studying this module that would allow effective assimilation of the material at the obligatory level. This is possible due to the implementation of the completeness of the usage of informational technology in the training module [5].

As the using of informational technology, the Internet resources and *CorelDraw* programme were used.

A fairly large number of the Internet sites with different capabilities can greatly facilitate the work of the operational headquarters for the preparation of graphic documents.

Using the possibilities of the Internet allows you to create schemes of any part of the settlement using large scale, starting from 1:10 000 and larger. Today there is quite a large number of online sites that provide digital plans online.

The most common and used are the following resources:

Mapia.Ua (http://mapia.ua)

Global Projects — a company that was the first one introduced to the Internet users a high-quality online map of Ukraine from a domestic manufacturer that is not inferior in the functionality of maps from *Google Maps.*

Mapia — a service with the detailing of the main Ukrainian cities (including the names of the streets and the numeration of houses), with the indication of the highways of Ukraine. The map has the possibility of laying on the route and other services.

The open API of this developer allows you to embed snippets of online maps directly into the site page. The free *Mapia API* has a limit — allows you to make only 5000 queries to the server per day.

Based on *API Mapia*, online map services are built from *map.online.u*a and *maps.bigmir.net*

There are disadvantages including the limited number of city plans: Dnipropetrovsk, Donetsk, Zaporizhzhia, Ivano-Frankivsk, Kiev, Lviv, Mikolaiv, Odessa, Sevastopol, Kharkiv, Cherkasy, Yalta.

Besides when displaying a settlement plan, the maximum scale is limited to 100 m (1:10 000).

Google Maps (http://maps.google.com).

Google Maps — the most functional online map, however, is not entirely suitable for Ukraine. Now its value is the presence of a huge amount of satellite images for Ukraine which any other online service can not boast. Maps *Google Maps* are integrated with Wikipedia and Panoramio.com. Users can use the "More" setting to see on the map some icons available for the displayed area of the Panoramio photographs, the Wikipedia articles, videos from *YouTube*. The Open API allows you to use this map on your own site and blog pages.

Google detailed and updated the map of Ukraine. Details of all Ukrainian highways and streets of big cities are available in *Google Earth*. We can find the map of Ukraine on *Google Earth Ukraine.*

Google Maps — a complete map of Ukraine with maps of major cities (Kiev, Kharkiv, Donetsk, Lviv, Odessa, etc.), all highways of Ukraine, all settlements.

The advantages include the possibility of laying on several routes between settlements, indicating the distance and time required for the rout.

Maps Visicom (http://maps.visicom.ua).

Online map of Ukraine *Visicom Maps* is a detailed map (in three languages) of 60 Ukrainian cities, presented on a scale of 1:10 000 and contains contours of the buildings within administrative boundaries of cities and the entire address area. The map includes the designation of all the highways of Ukraine (international highways of Ukraine, national highways, regional highways, even pise and countryside roads). Also on the map there is the placement of infrastructure along the roads: petrol stations, restaurants, hotels. *Visicom Maps* API allows you to place objects on a map, mark a site object, lay the shortest route and make a map for your site or blog.

<META> Karty Ukrainy (Maps of Ukraine)

(http://map.meta.ua/#zoom=8&lat=49.73705&lon=30.1947&base=B00).

Online map *<META> Karty Ukrainy* — it's a detailed map (in three languages: Russian, Ukrainian, English) of 90 Ukrainian cities, placed in the classifier by alphabet or by regions.

The maximum scale of plans — 1: 2 000 contains the outlines of buildings within the administrative boundaries of cities and the entire address area.

The map includes the designation of all the highways of Ukraine (international highways of Ukraine, national highways, regional highways up to the pise and countryside roads). Also, on the map, if necessary, it can be displayed the infrastructure of the settlement.

An electronic version of a detailed plan of a settlement or a separate section of it gives an opportunity both to use the finished scheme and to prepare for the future activity the scheme with the necessary details. In particular, it can be used for the laying on of routes, the calculation of the rout, the location of the halt, etc.

On the other hand, schemes from the Internet resources, as a rule, abound with a large amount of unnecessary information, which can not be removed. In addition, in the process of work, the scheme of the desired area is usually not available. Consequently, it must be created by ourselves.

While studying the graphic documents of different branches of the control (starting from the company and above), it is evident not quite competent usage of computer programmes, hence the low quality of the document itself, which in turn does not allow using the developed scheme in planning properly, setting the task and managing it during a special operation. For the most part, the schemes do not meet the requirements for the graphic document.

Using of CorelDraw.

The creation of a detailed layout of the area requires the employees of the OIA to possess the skills of using certain computer programmes.

Consider a possible option for creating a scheme. To do this, you need to install *CorelDraw* on your computer (the version of the programme does not matter) and the ability to access the Internet. The programme package under the general name *CorelDraw* includes a large number of programmes for working with vector and raster graphics. *Here are some of them*:

- *Corel Draw* — drawings of vector graphics;
- *Corel Photo Paint* — work with raster graphics;
- *Corel Capture* — screen capture;
- *Corel Scan* — image scanning.

Depending on the task (preparation and conduction of the calculation of the rout, planning of measures for the protection of public order, etc.) it is determined one of the Internet sites that allow you to make this scheme. First of all, creating the scheme the worker must determine the required degree of details (the scale on the site is indicated in the left or right bottom part of the scheme).

For example, for the sake of clarity we consider the option of drawing up the scheme of Khreshchatyk street in Kiev on a scale of 1: 2 000. Use the site *<META> Karty Ukrainy* and place in the center of the screen the area we need for us, so that it does not get to the area of the screen where the toolbar is located. It should also be taken into account that the selected area has to suit into the conditional rectangle, which will be used to build the given schema.

Next, in the "START" menu in the "All Programs" directory, we find *CorelDraw* the programme and launch it.

The format of the document must be determined at the beginning of the usage *CorelDraw*, since in the future there may be problems with the zooming of the graphic part (entering it in the required size of the sheet of paper), in addition, an inexperienced user may make mistakes during printing the completed document. For example: the document is created in A3 format, the size of the print area is set to A4, the printer prints only A4. The printed documents will only display what appeared in the A4 format fields.

When you start the programme, the Quick Launch dialog box appears, in which the "Open the last" dialog is offered (there are offered the last five used documents) or "Start new" ("New blank document", "Create from the template"), select the option "New blank document".

Next, in the "Create new document" window, choose the required format. It needs to be clarified that *CorelDraw* can print any required format in the specified mode, since the printing options determine the maximum possible printing format for an existing printer, and the document itself is divided into the required number of pages.

In case of the uncorrect choice of format it can be fixed to the desired one by changing the toolbar. In this case, the central panel can also determine the horizontal or vertical orientation of the document. Later, returning to the site for the necessary area with the help of the "Print Screen" key on the keyboard, capture the image we need and place it on a clean sheet of open source *CorelDraw*.

Work with fragments should be performed on a new page, as there will be a large number of elements in the active process which may lead to accidental deletion or distortion.

After finishing the entire peace of the area that we are interested in, it is usually formed an uneven edge .To eliminate this disadvantage you can perform a plot or add it to the correct form (rectangle, square) with a similar background. The background color is selected based on the palette of predominant color. The resulting scheme can be printed separately or used when creating the corresponding graphic document (inserted in this document) [4].

Perfomance of operational and service tasks by police authorities is carried out on the area or closely connected with it, therefore the locality was and remains one of the important elements of the operational environment. It promotes success in case of a comprehensive and correct estimation of its tactical and protective properties, skilled usage in stressful operational conditions, and, conversely, may adversely affect the course of the operation in case of its incorrect estimation [3].

Conclusions. The analysed possibilities of creation of graphic documents from maps, plans of settlements, drawing up schemes in the area and the method of execution of graphic documents using the possibilities of information

technologies are aimed to form an understanding of the need for professional competence in the general system of professional education of Ukrainian police officer.

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