

USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN PREPARATION OF JUNIOR SPECIALISTS IN PHARMACY

Shchokina N., Saforonova G.

National University of Pharmacy, Kharkiv, Ukraine

natik1954@mail.ru

High rates of the global economy, industry and science strengthen requirements for graduates; constantly growing amounts of new information lead to using of innovative forms and methods in the educational process.

Information and communication technologies (ICT) perform activating effect on the learning process of students as they change the scheme of transfer of knowledge and teaching methods. However, the introduction of ICT into the education system not only affects the educational technologies but also introduces new ones to the process of education. They are associated with the use of computers and telecommunications, special equipment, software and hardware, data processing systems. They are also associated with the creation of new learning tools and knowledge preservations, which include electronic textbooks and multimedia; libraries and archives, global and local educational network; information searching and information reference systems.

One of the ways to interest and encourage students to work independently is the implementation of ICT into the learning process. The use of educational software (GCC), including multimedia systems sufficiently relevant in today's educational space. These systems make it possible to provide effective support to the active perception of educational material.

The advantage of virtual laboratories is that the student can choose different modes of operation of the program; change the parameters of the objects or processes; observe and analyze results; draw conclusions based on their observations; operate independently of a laboratory in any places, using a computer, tablet or smartphone; perform tasks using the Internet. They provide the conditions for understanding the problems, the study of patterns forming hypotheses based on their subsequent experimental verification. Thus, a lot of opportunities appear for student for research and creative activity that promotes cognitive interest.

To effectively enhance learning of students in teaching course "Analytical Chemistry" we have used virtual chemical laboratories that allowed performing

experiments to record experimentally obtained data, use reference books, instructions, etc. on a personal computer and in the Internet.

In conducting laboratory studies of qualitative analysis of experiments and tasks of identifying some inorganic substances, the students performed the task via online portal for virtual laboratory VirtualLab (virtulab.net).

In the "Report" section students completed the relevant sections, fixing the value obtained in the course of the experiment of the measured values, analyzed findings and made appropriate conclusions.

As in a real laboratory work, in the virtual one students had to learn research skills, nomination hypotheses and their checking standardization conditions, clear fixation conditions and the experimental results (harvested in laboratory journals or in electronic form), choose the format of presentation of results and then plan an independent research (project). The ability to conduct virtual experiments greatly expanded the list of chemicals that are still traditionally used in laboratory practice and now require special storage usage and also are toxic and poisonous gives the opportunity to work with them during the laboratory sessions. When performing virtual experiments, students were able to work with them; required for a particular experiment equipment and instruments, whose presence in the laboratory can not be thus been able to work out laboratory practice.

For the experimental use of social networks in the learning process, we have created a closed group "Analytical Chemistry" in VK, whose participants were students of EG. Students had the opportunity to receive counseling teacher to communicate with each other, discuss issues that arose during the study subjects. In addition, the group uploaded photos and videos of some experiments, additional literature on the subject "Analytical Chemistry" provided links to specialized sites and online virtual lab.

It is found that ICTs contribute to professional development and self-improvement students develop skills in group skills of self-presentation, laying the groundwork professional skills, changing the ratio of students to teaching in a positive way, stimulate analytical thinking, promote the interest of educational material, increase the activity of teaching and learning activities, positively affect the psychological state and feeling of comfort.