Anatoliy Nester[1]
Oksana Rohulska[2]
Galyna Kalda[3]
Izabela Piegdoń[4]
Anastasja Prydoloba[5]

STUDY OF CIVIL SAFETY ISSUES IN THE TRAINING OF SPECIALISTS IN ENVIRONMENTAL ENGINEERING AND CONSTRUCTION

The article deals with the expediency of using multimedia technologies in the training of future specialists in environmental engineering and construction, including at the initial stage in the study of the subject "Introduction to the specialty". It is emphasized that these technologies open unprecedented prospects in solving important tasks and lead to the transition from the traditional scheme of transfer of reproductive knowledge to a new, creative form of learning. It is established that multimedia technologies in the classes of future specialists in environmental engineering and construction contribute to: the formation of professional skills through the use of Internet materials of different levels of complexity; improving listening skills with the help of authentic sound texts, film episodes; development of dialogue skills, improvement of professional correspondence skills, enrichment of professional vocabulary (both active and passive), which reflects a certain stage in the development of culture, various technical equipment, social and political structure of society; enrichment of students with cultural knowledge, including professional etiquette, features of traditions; improving knowledge through online exercises and tests.

It is proved that the use of multimedia presentations in the training of future specialists in environmental engineering and construction, provides the function of transmitting information, as well as receiving feedback in the process of its perception and assimilation, as information presented in visual form is most accessible to perception.

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[1] Anatoliy Nester, Khmelnitskiy National University, Institutska street, 11, Khmielnitskiy, 29016; nesteranatol111@gmail.com, http://orcid.org/0000-0002-1276-6068

[2] Oksana Rohulska, Khmelnitskiy National University, Institutska street, 11, Khmielnitskiy, 29016; oxana.rogulska@gmail.com, http://orcid.org/0000-0001-5603-0274

[3] Autor do korespondencji/corresponding author: Galyna Kalda, Rzeszow University of Technology, al. Powstańców Warszawy 12, 35-959 Rzeszów; Khmelnitskiy National University, Institutska street, 11, Khmielnitskiy, 29016; +48 865-10-68, kaldagal@prz.edu.pl, http://orcid.org/0000-0002-5142-0473

[4] Izabela Piegdoń, Rzeszow University of Technology, al. Powstańców Warszawy 12, 35-959 Rzeszów; +48 865-10-68, piegi@prz.edu.pl, http://orcid.org/0000-0003-1094-4569

[5] Anastacja Prydoloba, Khmelnitskiy National University, Institutska street, 11, Khmielnitskiy, 29016; nastya.prydoloba@gmail.com, http://orcid.org/0000-0002-6118-1226

It is noted that the use of multimedia technologies in the training of future professionals contributes to the intensification and enrichment of the educational process, evokes a conscious perception of educational material, motivates and activates student learning, individualizes the process of studying specialties, diversifies classes, and promotes mental and creative skills. construction and civil security, increases interest in training and the level of professional skills.

1. Introduction

The aim of the article is to study the feasibility of using multimedia technologies in the training of future specialists in environmental engineering and construction, which open unprecedented prospects in solving important learning problems and lead to the transition from the traditional scheme of reproductive knowledge transfer to a new, creative form of learning. The paper proves that the use of multimedia presentations in the training of future specialists in environmental engineering and construction, in particular in classes on admission to the specialty, provides the function of information transfer. At the same time, it is productive to receive feedback in the process of perception and assimilation of information, which is presented in a visual form, the most accessible for perception, is assimilated easier and faster.

2. Formulation of the problem

The social and economic development of the country requires the provision of qualified personnel who are able to quickly adapt to the new fleeting conditions of modern life and constantly update the scientific knowledge acquired in higher education institutions. Unfortunately, today the traditional system of education in higher education does not create appropriate conditions for the effective development of abilities and creative abilities of students, as a result society receives "passive" professionals who are not fully ready to pursue professional activities in a rapidly informatizing society.

It should be noted that the traditional system of education has a number of shortcomings, including: dominance of verbal teaching methods, teacher activity and student passivity, curriculum orientation on the average student, dominance of students' memory load, presentation of information in abstract-logical form; dominance of reproductive teaching methods, established structure of classes, irrational use of time to organize productive activities of students, insufficient use of innovative learning technologies, interactive methods, lack of methodological and methodological approaches and principles that would ensure the formation of integrity and systematic knowledge in class, etc. Therefore, the future specialist is not prepared for those forms of work that occur in professional activities, is not able to find the necessary information for a particular production decision, and make an independent creative decision in difficult conditions.

The above shortcomings of the traditional education system are a serious problem for the educational process of training future specialists in civil security and construction for professional activities. Given the above, the need is especially urgent in updating the content and approaches to professional training of future specialists in civil security and construction in higher education institutions of Ukraine, shifting attention from the learning process to its results, inviting specialists in the practical field, focusing content and organization of training on modern methodological approaches and principles, taking into account foreign experience, use of modern innovative, interactive pedagogical technologies, new methods, modern methods, forms and means of training that will contribute to the formation of readiness of future specialists in civil security and construction for professional activity.

Such conditions can be created through the widespread use of modern information technologies, which open unprecedented prospects in solving important problems and lead to the transition from the traditional scheme of reproductive knowledge transfer to a new, creative form of learning.

Analysis of scientific sources. In modern science and training, attention is paid to the problem of introducing information technology into the educational process. Such scientists as Belikov A.S., Yaremko Z.M., Filipchuk V.L. are engaged in scientific research on the use of computer equipment and new information technologies in training, etc.

The use of information technology training is considered in the works of Tkachuk K.N., Gogitashvili G.G., Batluk V.A., Azimova E., Klarina M.V. etc. Problems of using multimedia equipment in education were studied by such scientists as Voloshyna N.P., Ishchuk S.O., Koval T.V., Shevchenko L.I. etc.

Unresolved part of the problem. Despite the significant number of scientific papers that consider the feasibility of using information technology in education, the use of multimedia technologies in the training of civil security and construction specialists is given insufficient attention.

The purpose of the article is to explore the feasibility of using multimedia technologies in the training of specialists for construction and civil security.

Presenting main material. Training of modern specialists can not be completed without a book that reflects the main achievements of science and industry. But the existing means of information technology expand our learning opportunities [1].

As noted in some papers, information technology tools are currently divided into hardware and software. Hardware includes a personal computer and its components, local and wide area networks, modern peripherals, video cameras, CDs and DVDs. Software (software) is a set of information processing system programs and software documents required for the operation of these programs. These include the Internet and its tools (e-mail, browsers, websites, search engines, forums, audio and video chats), IP telephony tools, platforms for online courses, blogs, microblogs, photo storage services, video, presentations, contact services, smart technologies, cloud technologies, geoservices [2].

The computer (laptop, netbook, tablet device, smartphone, etc.), as a technical base of new information technologies - is a means of communication, of rapid receipt and processing of information, a means of updating knowledge and a means of acquiring new skills. The computer becomes an indispensable assistant to the teacher and students in mastering information flows, helps to model and illustrate processes, phenomena, objects, events, ideas, thoughts, research, conclusions, combining text and images, diagrams, tables, etc.

Important for the formation of the future specialist are excursions to production units, which having a real production with the latest technologies and a wide range of computer networks can give a good impetus to the formation of personality and employee. The development and improvement of computer tools has made it possible to widely use multimedia technologies in the educational process, which in turn allow to integrate different media presentation environments: text, static and dynamic graphics, video and audio recordings of existing enterprises and technologies into a single complex, which makes student an active participant in the educational process [3,5].

The use of multimedia technologies in the educational process contributes to: the growth of informativeness and representative value of educational material; stimulation of cognitive processes (perception and awareness of information), and, consequently, a deeper understanding of educational material and systematization of acquired knowledge; development of mental and creative abilities of students; formation of stable motivation of cognitive activity of students in classes; expanding the boundaries of independent activity of students; diversification of forms of information presentation and types of educational tasks; creating a learning environment that provides "immersion" of the student in the imaginary world of enterprises and technologies, in certain social and industrial situations; systematic use of game techniques; providing instant feedback, the ability to reflect; raising the level of information culture of students and the level of training of students in the field of modern information technologies; improving the system of training at different stages of the lesson; development of students' skills of teamwork and collective cognition; creating a favorable psychological climate in the classroom; opportunities for individualization of training; increasing the aesthetic and emotional level of employment through the use of sound entourage of the production site; increasing the amount of work done in the classroom.

The possibilities of multimedia teaching aids used in classes with future specialists in civil security and construction are inexhaustible, they contribute to: the formation of skills and abilities to develop instructions on labor protection, through the use of Internet materials of varying complexity; improving listening skills through the use of film episodes; enriching students, which include production etiquette and features of the traditions of industrial production and construction [4].

The use of multimedia presentations in the training of future specialists in civil security and construction provides the function of transmitting information, as well as receiving feedback in the process of its perception and assimilation, because the information presented in a visual form is the most accessible, easier and faster. This is especially important when teaching beginners while studying the subject "Introduction to the specialty" for both construction and civil security. Therefore, the dominant place in the classes is given to Microsoft PowerPoint, which is part of the office suite Microsoft Office. PowerPoint presentations can be shown both on the monitor for a small circle of people, and on the screen by means of a multimedia projector. It provides an opportunity to carry out virtual interaction of the user with objects (shops, sections of construction and industrial productions) or processes of cognition which are displayed on the screen. In other words, the use of multimedia presentations allows you to create an informational and visual image of the object under study (technological process). The principle of this program is a sequential slide show - individual frames of the presentation, containing various elements and methods of formatting [6].

Each slide can be displayed on the screen, printed on paper or transparencies, filled with text and graphic information, with the possibility of using multimedia components (animations, audio and video files, etc.) [7].

Therefore, during the demonstration, objects can be displayed immediately on slides, and can appear on them gradually, at a certain time specified by the user to enhance clarity and focus on particularly important points of its content. If necessary, the user has the opportunity to break a predetermined sequence of slide shows and go to any of them in any order. Through hotspots, users can click on hyperlinks to go to other slides, other presentations, or websites. Video and audio can also be creatively embedded in slides [8].

The main advantages of the presentation of the material:
• information capacity – the ability to place a large amount of graphic, textual, audio information in one presentation;
• compactness – for the presentation you can use different types of modern media, characterized by small size and convenience;
• emotional appeal – presentations provide an opportunity to present information not only in a convenient sequence, but also to effectively combine sound and visual images, to choose dominant colors that create a positive attitude to the recipients of information;
• clarity – the presentation illustrates, concretizes or substantiates certain theoretical positions;
• there is enough media and a computer for the presentation, it can be demonstrated in terms of mobility – in general in different;
• interactivity – the ability to directly influence the course of the presentation;
• economic benefit – duplication of presentations on media costs much less than printing materials;

• versatility – a once-created presentation can later be used in other settings and for a different purpose [9].

When creating slides, you need to consider the basic requirements, namely: slides must contain a minimum number of words; for headings it is necessary to use a legible font (the size of letters, numbers, signs, their contrast should be such that to students from the last desks the presentation was well visible); post only basic information on the slide (suggestions, definitions, words, terms that students will write in notebooks, read aloud, etc., during the presentation); background, letters, lines should be a calm, "non-toxic" color that will not irritate and tire the eyes of students, drawings, pictures, photographs and other illustrative materials should fill the entire screen field as evenly as possible, be of high quality, clarity, contrast. Sufficient time (at least 2-3 minutes) should be allotted for viewing one slide so that students can focus on the image, follow the sequence of actions, consider all the elements of the slide, record the final result, make notes in workbooks; the soundtrack of the slides should not be sharp, distracting or annoying; the use of graphics and animation should make the presentation more attractive, focus attention, and not distract from the semantic content, The design of the presentation should be unique, harmonious and consistent with the overall style, because it depends on the persuasiveness of the presentation and the impression of it [10].

3. Conclusion

Multimedia technologies, in particular presentation, are one of the most common and effective means of illustrating educational material. The study allowed us to conclude that the use of multimedia technologies in the training of future specialists in civil security and construction contributes to the intensification and enrichment of the educational process, encourages conscious perception of educational material, motivates and activates students' learning activities, individualizes learning, diversifies and also promotes the development of mental and creative abilities of students, increases interest in learning and the level of mastery of the future specialty.

The prospect of further research is to improve the methodological tools of the teacher, namely: methods, techniques, tools, forms of organization of educational activities of students in the information and educational environment of higher education institutions.

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