

UDC378.147.091.33:614.253.2

DOI: 10.15587/2519-4984.2022.254833

THE ANALYSIS OF PEDAGOGICAL TECHNOLOGIES EFFICIENCY IN THE PROFESSIONAL TRAINING OF MEDICAL SPECIALISTS

Iryna Radziievska

The formation of professional readiness of graduates through the development and improvement of the professional education system is an important criterion for a medical specialist. It is achieved by introducing modern pedagogical technologies into the educational process. The key to the formation of professional readiness of graduates is the use of interactive teaching methods, technologies of a person-oriented approach, formation of students' communication skills, contextual, imitation and problem-search methods, close cooperation of higher medical education institutions with clinical practice bases, information support, postgraduate training of teachers and graduates of educational institutions, adaptation to new market conditions.

Based on the conducted research, the following can be concluded: the effectiveness of the application of modern pedagogical technologies in the professional education of medical specialists has prospects for its development, forms a competitive and popular specialist in the labor market; medical education is one of the professional education types and contains a system of knowledge, skills, worldview and behavioral qualities of an individual; the main components for improving the formation of professional training of graduates are clinical training, innovative training methods, support for graduates in the workplace, self-education, motivation, readiness for continuous training and professional development; in the structure of professional training, the most important is psychological readiness of graduates of educational institutions, determined by the mood of the specialist's psyche and spiritual forces to solve professional problems and perform professional duties. The scientific originality of the obtained research results is determined by the fact that the paper presents an analysis of the effectiveness of modern pedagogical technologies in the training of students of graduation groups of specialty 223 Nursing, in order to estimate the degree of importance of mastering their professional skills for their successful professional activity and assessment by graduates of their knowledge, skills and abilities necessary in the future for high-quality performance of professional tasks

Keywords: modern pedagogical technologies, medical education, professional training, nursing

How to cite:

Radziievska, I. (2022). The analysis of pedagogical technologies efficiency in the professional training of medical specialists. ScienceRise: Pedagogical Education, 2 (47), 35–43. doi: <http://doi.org/10.15587/2519-4984.2022.254833>

© The Author(s) 2022

This is an open access article under the Creative Commons CC BY license hydrate

1. Introduction

The role and importance of nurses' activities in healthcare institutions has been constantly increasing recently, and therefore the problem of training medical personnel is extremely important and relevant. Every year, about 10 thousand nurses graduate in Ukraine. However, despite this fact, the industry has failed to increase the number of nursing staff for many years, which is explained by objective reasons (the age of employees, low wages, etc.). It is almost impossible to fully meet the need for practical healthcare in qualified nursing personnel.

It is the first problem, aggravated by the fact that the terms of training are growing. The length of a training period for a nurse on the basis of the complete secondary education has increased by one year and now amounts to 3 years with a total training volume of 180 ECTS credits. Moreover, an additional professional training is obligatory to obtain an access to certain manipulations and certain types of medical activities. The desire of a specialist to receive a basic higher education at the

first (Bachelor's) level in the chosen specialty extends the period of the study by another year and two additional years for obtaining the second (Master's) level of education. Thus, it takes years to train a qualified specialist, as well as further mandatory training throughout the entire period of professional activity is also essential.

Another problem in the personnel training is the imbalance between the need for applicants to obtain different levels of education and the willingness of the healthcare industry to accept a specialist of a new formation. Against the background of the personnel outflow from the industry, practical healthcare fails to provide young professionals with the opportunity to realize themselves in their daily activities, mostly delegating their competencies without taking into account the education received.

The third, perhaps the most important problem, is the lag in the level of equipment of educational institutions from the technological and informational requirements of practical healthcare. Most colleges are equipped with the outdated fixed assets and have already exhaust-

ed their technological and scientific reserve of the didactic bases.

Finally, one more important problem is the lack of the system for medium-term planning of the state order for personnel training (based on the data from Regional Monitoring and Forecasting of Personnel Support in the Industry).

The main trends in this area include:

- 1) the need to provide a high-quality nursing care;
- 2) an insufficient level of professional nursing education, its inconsistency with the level of modern requirements;
- 3) lack of professional training of pedagogical and managerial nursing personnel;
- 4) the need to create a base for scientific research in the field of nursing;
- 5) the lack of prospects for the professional growth and development opportunities within their profession;
- 6) a low prestige of the profession and significant outflow of the personnel from the profession.

2. Literature review

The effectiveness of using modern pedagogical technologies in training of medical specialists has been proven by many researchers. The advantages of simulation training in the formation of professional and communication skills, their importance at the stages of pre-graduate and postgraduate education of medical students are discussed by a number of researchers. In particular, the positive impact of various types of simulation training on the level of medical specialists, the relevance and effectiveness of using innovative technologies in the development of practical and communication skills [1] are proved, the importance of using simulation training in postgraduate education [2] and in the implementation of quality control in higher medical educational institutions [3] is emphasized. The experience of implementing simulation training technologies has been applied in teaching pediatrics [4], propaedeutics of internal diseases [5], during the test tasks of various levels [6] and in the training of doctors [7]. Simulation of production situations and integration of high-tech skills modeling (HFS) into nursing education is a common strategy for professional development [8] and acquisition of clinical competencies of future specialists [9], modeling of production situations ensures the effectiveness of methods for knowledge improving of nurses and their productivity [10], has a strong educational effect, especially in the psychomotor sphere [11]. The researchers considered the contribution of integrated simulation-based learning as a learning tool on technical and non-technical issues, as well as how this work can be done for patient safety through a standardized training plan [12]. Simulation is a safe way to follow the training plan [13]. Simulation is a safe way to teach students: they can practice until they reach an advanced level of professional skills [14]. Since 2019, due to the spread of the COVID-19 pandemic, distance learning technologies on the basis of online educational platforms have become widely used [15]. In the modern educational environment, high-quality teaching of disciplines is unlikely to be carried out without tools and opportunities, provided by computer technologies and the Internet [16]. For example, the Moodle educational platform [17] is a model, expanding opportunities for knowledge development, it is considered “a good alternative to the traditional model of medical and pharmaceutical education

with the ability to replace practical training with video and audio materials” [18].

The process of vocational readiness formation of medical specialists based on the use of educational technologies will contribute to the adaptation to new needs of the society, providing the industry with highly qualified personnel, whose level of knowledge will correspond to the current level of technology and who will be able to constantly update it [19], will contribute to the desire of students for career growth [20]. According to researchers [21], there is a significant increase in interest in professional development all over the world, a demand for the life-long learning.

The study of the methodology effectiveness of applying modern pedagogical technologies in the professional education of medical specialists was carried out due to the assumption that personnel’s training for practical healthcare has been the main goal of institutions, providing higher and professional pre-higher medical education.

The priority task of the Strategy for the Development of Medical Education in Ukraine is to improve the quality of training of medical specialists. The solution of this problem will be facilitated by the modernization of educational institutions, providing professional training and mentoring of future doctors, as well as the implementation of a competence-based approach in the training process. This approach is distinctive in that fact that in the course of educational and professional activities future specialists will develop competencies, determining their overall professionalism and competitiveness. This approach is aimed at the educational result, which considers not only the amount of information learned, but also the ability of the graduate to act in various professional situations.

The main goal of modern education is to master various kinds of competencies during training: general and professional ones, determining the exact knowledge of a student, his/her understanding and ability to do after completing of an academic discipline, professional module or the entire educational and professional program in the specialty. So, if a competence is something that generates a skill or action, then accordingly, planning of a modern lesson and the entire educational process must be aimed at forming specific general and professional competencies.

Moreover, among other goals of professional training in institutions of higher medical education, the formation of communication skills in students has recently become of primary importance. Communicative competence is considered by many researchers as a set of knowledge, skills and abilities in the field of organizing interaction [22] and cooperation in the business sphere [23, 24]. In 1999, the Accreditation Council for Higher Medical Education (ACGME) announced interpersonal [25] and communication skills to be one of the six functions liable to be included in educational programs and obligatory for students [26] and human resources of the healthcare industry [27]. However, a certain proportion of students who complete clinical practice, fails to possess communication skills [28], although the success of communication depends on their personal qualities [29] and is personality-oriented [30].

Communicative competence, ensuring effective business interaction, is included in the system of professionally important qualities, predetermining the success of those types of professional activities that are based on

interaction in the “person-to-person” system, perfect communicative skills are likely to increase the competitiveness of a specialist in the labor market, guaranteeing a successful career [31]. Communicative knowledge must lie at the root of the specialist’s choice of optimal forms of communication with colleagues and patients and methods of mutual influence. Communication and competence level of future specialists is a key factor in their professional success. Evaluation of the effectiveness of pedagogical technologies also made it possible to determine the level of formation of communication skills in applicants and proved that purposeful systematic work on the formation of communicative competence of the future specialist affects the changes in the types of communication reactions, development of empathy, communicative self-control of students.

3. Aim and objectives of the study

The aim of the study is to test the feasibility of introducing modern pedagogical technologies in the process of training specialists in specialty 223 Nursing.

The following tasks were set to achieve the purpose:

1. To conduct a survey of respondents on the feasibility of using modern pedagogical technologies in the educational process.
2. To outline the prospects for the development of professional education of nurses based on the analysis of the effectiveness of modern pedagogical technologies.
3. To identify the ways to improve the training quality of nursing specialists.

4. Materials and Methods

The department for training specialists of specialty 222 Nursing of the Cherkasy Medical Academy served as a study base. The first stage of the study was aimed at generalizing of the socio-demographic characteristics of respondents. For this purpose, an online survey of applicants for graduation groups was conducted. A total of 208 people took part in the survey, of which 84 respondents studied on the basis of the complete secondary education, 124 respondents studied on the basis of the basic general secondary education. Thus, all respondents were distributed into groups according to the acquired level of education: 40.4 % got a complete secondary education, 59.6 % – basic general secondary education (Fig. 1). All participants provided information consent.

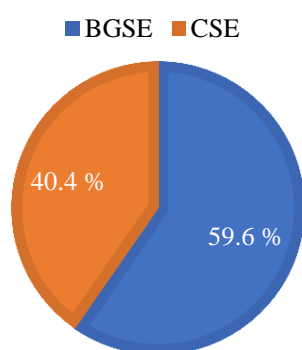


Fig. 1. Distribution of respondents by level of education, as a percentage

Our own educational and methodological developments were introduced into the educational process, designed in such a way that the use of modern educational technologies made it possible to ensure the maximum implementation of the set goals of practical and theoretical classes. The chosen pedagogical technology was focused on the specifics of the content of the discipline, the age of students, and the material and technical equipment of the educational process. Each teacher had an opportunity to make choice of the technology that would most contribute to solving of a certain didactic problem at each stage of training. The internal didactic content of the discipline was individual. The online educational platform Moodle was also used to achieve this goal.

The study of the level of formation of students' communication skills was conducted according to the method of B. Fedorishyn "Identification and evaluation of communicative and organizational aptitudes (KOS-2)". The "KOS-2" method is used to diagnose the potential opportunities of people to develop their communication and organizational abilities, determines the appropriate abilities of a person: the ability to easily and quickly establish communication with others, have successful organizational skills, achieve goals, and take initiative [32].

The educational program for training specialists in the specialty "Nursing" provides for their study of disciplines of general and professional cycles, including the following subjects: fundamentals of psychology and interpersonal communication, nursing ethics and deontology, management and leadership in nursing, marketing of medical services. The normative content of training, defined by the educational standard, provides for compliance with the rules of effective interaction in a team to guarantee a proper medical care to various categories of population, the implementation of nursing administration, control over the work of junior medical personnel, the organization and training of patients and their families, the management of complex work processes in the field of health, which are unpredictable and require new strategic approaches, organization of the work and professional development of personnel, taking into account the acquired skills of effective teamwork, leadership positions, proper quality, accessibility and fairness.

The study was conducted by the method of psychological testing, since it quickly and accurately determines personal and professional qualities a person possesses. It is based on the principle of presenting and evaluating certain features of their behavior in various situations that are familiar to an experienced person. When answering, the subject proceeds from the experience of their behavior in a particular situation. The analysis of communication and organizational abilities considers their structure, isolating in it the components that can serve as indicators of appropriate abilities. In the course of the study, psychological testing on the basis of the abovementioned technique was conducted with the results later analyzed.

The methodology by B. Fedorishin (1996) provides for the development of a questionnaire, containing forty questions, arranged in a certain order: questions to identify communication and organizational abilities alternate with each other. During the research, respondents are given a letter with questions, an answer form, and

instructed to complete test tasks. Processing and evaluation of the results were carried out using decoders and on scales for evaluating communicative and organizational aptitudes.

The assessment scales contained five levels of predisposition:

- 1 – low; 2 – below average;
- 3 – average; 4 – high;
- 5 – very high.

The next stage of an online survey on the effectiveness of using modern pedagogical technologies in the professional education of medical personnel was conducted at the end of the study of professional disciplines, before the final semester control. An anonymous survey of applicants for specialty 223 Nursing was conducted, a total of 208 respondents took part in the survey. The analysis of test types was carried out using the axiological method, which made it possible to evaluate professional knowledge and skills. Statistical observation method was used to substantiate and represent in graphic form the findings of the efficiency of implementation of modern pedagogical technologies in the educational process.

5. Results and discussion

The technology of the personality-oriented approach was implemented during the development of the final course of full-time learning of professional cycle disciplines by educational applicants. As a rule, these are people over the age of 18, including those who work in healthcare institutions and are sufficiently motivated. Students work on weekends and take night shifts, which cause fatigue. That is why a person-oriented learning technology was chosen, while the acquisition of competencies depends on the activity of educational applicants.

Distribution of applicants by age:

- under 18 years – 34 participants;
- 19 years – 125 participants;
- 20 years – 30 participants;
- 21 years and above – 19 participants (Fig. 2).

Of these, 83.2 % of respondents are females and 16.8 % are males.

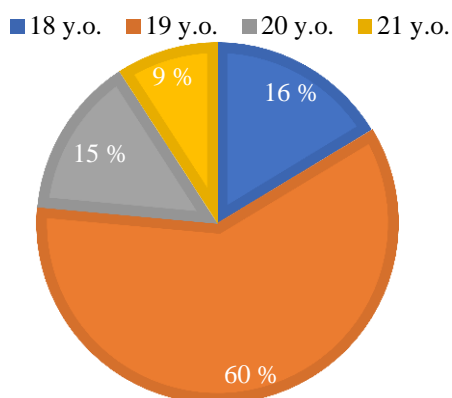


Fig. 2. Distribution of respondents by age, as a percentage

Our own educational and methodological developments were introduced into the educational process, designed in such a way that the use of modern education-

al technologies made it possible to ensure the maximum implementation of the set goals of practical and theoretical classes. The chosen pedagogical technology was focused on the specifics of the discipline content, students' age, and the material and technical equipment of the educational process. Each teacher could make choice of the technology that would most contribute to solving of a certain didactic problem at each training stage. The internal didactic content of the discipline was individual.

The purpose of applying the technology of a person-oriented approach was to develop the activity of the individual in the educational process.

To determine the initial level of knowledge of applicants in professional disciplines, the teachers of clinical departments used a frontal survey on the basis of the brainstorming method (option – individual brainstorming). Such methods as observation and conversation were applicable to study subjective experience. Preparing for theoretical classes, teachers should have provided methods for presenting educational material, how they will be consistent with the personal experience of students, the experience of their training in previous courses and the content of future professional activities. The developed multimedia presentations were used for better information visualization. A blitz survey was conducted to consolidate the material.

The effectiveness of material acquisition during a lecture was determined by the degree of activity and interest of students in the lesson. As a rule, brainstorming is very productive and gives good results. The applicants use their own experience significant for them. From the beginning of the lesson, they were involved in understanding the material presented, relying on a subjective survey, which sparked their interest and maintained it throughout the lecture. We determined the awareness of applicants' responses as an indicator of understanding of a new educational material.

Thus, the technology of a person-oriented approach requires a teacher to have tact and a certain level of qualification: to know the psychological and age characteristics of students and groups in general; to identify and show the practical value of the material being studied; to create opportunities for students' self-realization based on their motivation.

During the training practice under the supervision of a teacher in the disciplines of the professional cycle, the technology of contextual learning was used. The formation of a holistic model of a student's future professional activity is the main goal of any professional education. Contextual training is the training, in which the subject and social content of professional work is dynamically modeled, thereby providing conditions for the transformation of the student's educational activity into the professional activity of a specialist. As a type of practical tasks, training situational tasks were used. The case study at a practical lesson is a "documented model" of a patient in the form of a task. It best corresponds to the ideas of the contextual approach: it contains real cases that could have taken place and resulted in errors in their solution. Students had to find out and analyze errors. In this case the student have to be able to quickly, efficiently and correctly interpret the information received, find the necessary initial data to solve the problem, identify

the patient's problems, and make a patient's care plan. We were able to simulate real professional work fragments and interpersonal relationships through learning situations when working in a team. It made the contours and contexts of the future profession. In the course of studying disciplines of the professional cycle the simulation training was also widely used. The classes are held on the basis of the Academy's Simulation Training Center, where a situation close to the professional one is simulated. Certain specialized skills and abilities are developed (working on simulators, with devices, etc.) by means of training. Building an educational process based on contextual learning technology brings the content and process of students' learning activities as close as possible to their further work in the profession. Situational training focuses on the fact that knowledge and skills are presented not as a subject, on which the student's activity should be directed, but as a means to solve the problems of a specialist's activity.

The use of problem-based learning technology in practical classes involves teaching students on the example of complex situations, which ensures successful preliminary preparation for future work in real-world conditions of practical healthcare. It is important because the success of the patient's treatment, and sometimes his/her life, largely depends on how professionally competent, quickly and organized the staff acts.

A partial search method was also used, which combined a student's perception of the teacher's explanations with his/her own search activity for the work implementation. The training methods here involve listening and justifying, analyzing facts, systematizing, and finding solutions to problems. The student becomes not so much an object of learning as a subject of this process, and the teacher becomes its organizer. There is a transition from learning with actual knowledge to understanding events, acquiring skills and applying in life what has been accumulated during training. The implementation of this technology depends on the level of students' training, their activity, ability to work, etc., so each group of students has a different result.

To form a medical professional, not only certain manipulations but also the ability to work in a team must be taught. The technology of learning in collaboration ("learning together") is applied in this case. Therefore, the reason for this technology to be used during a practical lesson is not only to acquire knowledge, but also to come to know how to work in a team, communicate, and always be ready to help each other.

Students were explained how to work with the help of this technology at the stage of lesson preparation. The task of each participant was not only to do, but also to learn something together. The basic principles of collaborative learning technology are explained (one task for the entire group; one reward per group; individual responsibility of each student; equal opportunities for each student to achieve success).

The study group was divided into small groups of 3 to 4 people. No more than 3 groups can participate. Each of them should have strong, average and weak students. The group receives one task to work on. Gradually, they share the results with other subgroups until a common solution is developed. As a result of the joint

work of individual groups and all groups as a whole, the assimilation of the material is achieved.

Within the group, students independently determine the roles of each of them in solving a common task: tracking the correctness of the task, performed by partners, monitoring the activity of each group member, as well as the communication culture within the group.

The teacher stands as an organizer of independent cognitive and creative activities for students. The trainer monitors the activity of students and helps any group, if necessary throughout the work. Not only the success of the task, done by groups of students, is controlled, but also the way they communicate, help each other.

As a result, the group must present one solution to the problem, and any team member must also be able to give the necessary explanation, that is, prove it. The students of other groups can clarify the answer, make additions, and correct inaccuracies. After work completion experts sum up the results and announce them. The students to supervise the process assess the level of activity of each student. Summing up, the teacher evaluates not only the knowledge, but also the effort that students spend on acquiring knowledge, achieving an overall result.

Hence, in addition to providing patient care and documentation, students master communication skills and acquire a sense of mutual assistance. Students form their own point of view, they acquire the ability to prove and defend their opinion. The problem of work organization is to control the process and result of training. The ability to cooperate is acquired gradually.

The program of the study of communicative inclinations introduced a group of questions of the following content [32]:

- 1) Are you prone to communicate with people?;
- 2) Do you have many or good friends?;
- 3) Do you like to spend time most often with your friends or do you prefer to spend time alone?;
- 4) Do you quickly get used to new people in your environment, to a new team?;
- 5) How quickly and positively do you respond to requests from friends, good acquaintances?;
- 6) Are you keen on social work?;
- 7) Do you easily establish contacts with strangers?;
- 8) Do you feel embarrassment when performing in front of the public at large?

Twenty special questions were used correspondingly.

The program for identifying organizational inclinations includes questions of other content:

- 1) speed of orientation in difficult situations;
- 2) dexterity, initiative, perseverance, insistence;
- 3) predisposition to organizational activities;
- 4) independence, self-criticism;
- 5) endurance;
- 6) attitude to social work;
- 7) sociability.

Twenty questions, characterizing organizational aptitudes to a certain extent, have been elaborated on the given basis.

The results of the methodology by B. Fedorishin were rather interesting and informative. The analysis of

the study data revealed a fairly large percentage of students with low and below average levels of both communication and organizational abilities – 36 % and 45 % of respondents (Fig. 3, 4):

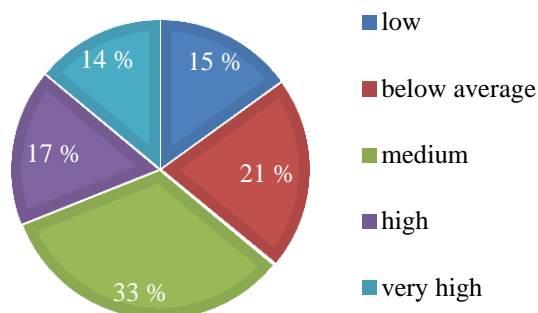


Fig. 3. Levels of communication skills (% of the number of respondents)

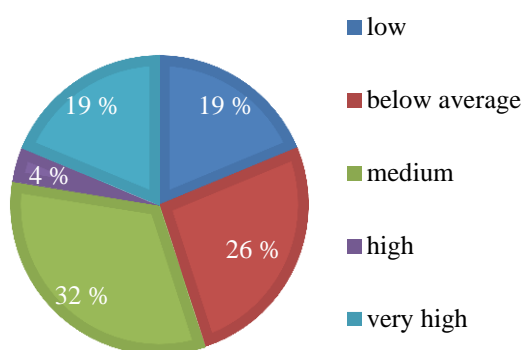


Fig. 4. Levels of organizational skills (% of the number of respondents)

The data obtained indicate an extremely rare manifestation of initiative in social activities in almost 1/3 of students; they have difficulties in establishing contacts with people, do not seek to communicate, and more often they prefer to avoid making independent decisions. These are students with potentially unstable indicators of the desire to establish contacts with people. However, 64 % of respondents have medium, high and very high communication skills: they are unlikely to get lost in a new environment, quickly find friends, constantly strive to expand acquaintances, engage in social activities, help relatives, friends, take the initiative in communication, and participate in the organization of public events with pleasure. 51 % of respondents also have medium and very high organizational skills; however, only 4 % of students with high abilities were included in this group. They quickly navigate difficult situations, are proactive, make their own decisions, and resolutely defend their opinions.

The data analysis showed that 1/3 of students has low and below-average scores. It means that these students have difficulty, communicating effectively. The low formation of communication competence skills among future doctors indicates that they are unlikely to be able to solve a number of professional tasks. Hence, these students must form the above-mentioned skills

during their studies. About 2/3 of students have high and very high communication and organizational skills, that is, they are ready for effective social and professional communication. Only 33 % and 32 %, respectively have average abilities in this regard.

According to our findings, the level of communication and organizational abilities depends to a greater extent on psychological and personal characteristics and indicates the high efficiency of the formation of these skills in the learning process. Communicative and organizational abilities are quite plastic and can be developed when applying positive motivation of students, modern educational teaching technologies, interactive methods in the educational process that will contribute to the development of communication skills and purposefully develop both communicative and organizational abilities.

The developed questionnaire contained a list of the following questions:

1) Are you satisfied with the training organization in your specialty?

2) Do you consider the order of disciplines logical and consistent?

3) Do you find studying at the Academy practically oriented?

4) Is the material support of the educational process sufficient?

5) Do you use the information available on the Moodle platform during your training?

6) Do you consider the educational material presented efficiently and easily?

7) Do you think that the use of modern training technologies contributes to your development as a professional?

8) Are you going to work in your specialty?

9) Are you going to study in the future?

10) Does the quality of the educational process depend on the teacher's personality?

11) Do you consider your assessment at the Academy objective?

Processing and generalization of responses showed the following results (Fig. 5):

1) the vast majority of graduate students, from 48.1 % to 83.6 %, gave positive answers to the survey questions, they believe that the use of modern learning technologies contributes to their professional development, the study of disciplines is logical and consistent, training at the Academy is practically oriented and the quality of the educational process in many cases also depends on the personality of a teacher;

2) from 3.8 % to 37.1 % of respondents gave the answer "partially" to the questions raised, they are not fully satisfied with the organization and accessibility of the presentation of educational material;

3) the answer "No" to the survey questions was given from 2.9 % to 16.3 % of respondents, mostly applicants who are unlikely to work in their chosen profession and to continue their studies.

Thus, a high percentage of positive results of the survey indicates that the use of modern training technologies contributes to a fairly rapid assimilation of the content of the future specialty and deepens the general and professional development of future graduates.

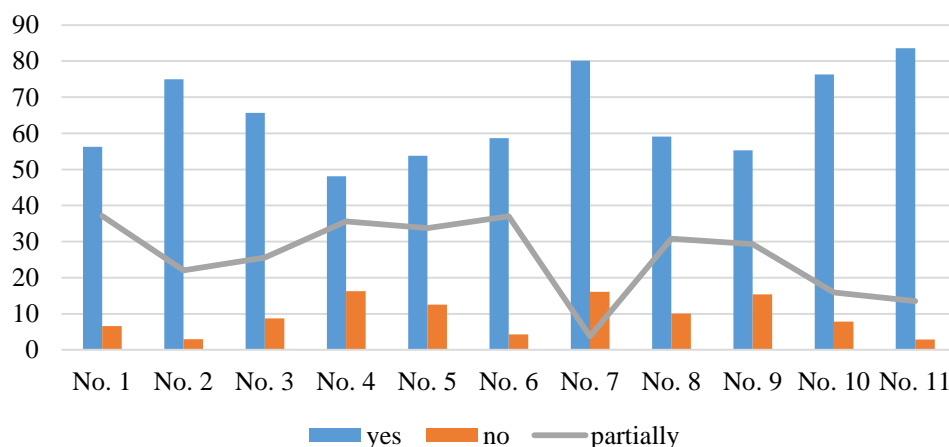


Fig. 5. Respondents' responses to the survey questions (Y-axis – the number of answers, X-axis – the number of the questions)

Therefore, despite the evident difficulties of reforming the field of nursing education, there are enough reasons for them; we believe that one of the main ones is the low motivation, lack of activity and initiative of the medical staff itself. The reasons for passivity are explained as followed: the profession of a nurse is not considered independent, has a low prestige and is associated with the impossibility of professional promotion. However, without a high-quality nursing care, modern medical care is impossible. Changes in the field of learning and professional training of nurses should be aimed at ensuring that their activities are organized at a higher level, so that they receive in-depth knowledge.

Limitations of the study. This study was limited to the Department of specialist training in specialty 222 Nursing. It involved applicants and lecturers of clinical disciplines of Cherkasy Medical Academy.

Prospects for further research. In conclusion, it should be emphasized, that the analysis showed the effectiveness of using advanced pedagogical technologies at the present stage of medical specialists training. Their implementation in the educational process, in our opinion, will ensure a high quality and efficiency of mastering professional skills and abilities by future doctors. The prospect of further research is the development of ways to further introduce and implement certain pedagogical technologies and the creation, testing, experimental testing of the effectiveness of technologies for the formation of professional competence of future medical specialists.

6. Conclusion

1. The scientific originality of the obtained research results is determined by the fact that the paper presents an analysis of the effectiveness of modern pedagogical technologies in the training of students of graduation groups of specialty 223 Nursing, in order to estimate the degree of importance of mastering their professional skills for their successful professional activity and assessment by graduates of their knowledge, skills and abilities necessary in the future for high-quality performance of professional tasks. The vast majority of graduate students, from 48.1 % to 83.6 %, believe that the use of modern learning technologies contributes to their professional development, the study of

disciplines is logical and consistent, training at the Academy is practically oriented and the quality of the educational process in many cases also depends on the personality of the teacher; a high percentage of positive results in the survey indicates that the use of modern learning technologies contributes to a fairly rapid assimilation of the content of the future specialty and effectively deepens the general and professional development of future graduates.

2. The analysis of the effectiveness of the use of pedagogical technologies in the professional education of nurses presents certain prospects for its development. We consider it appropriate to propose the following measures to improve the quality of training of medical personnel. These issues relate to the state policy regarding the training and employment of nurses, as well as institutions of pre-graduate and postgraduate education that provide their professional training.

Firstly, a clear mechanism of state and regional forecasting, monitoring and regulation of training of medical specialists at higher and professional pre-higher education must be formed. This will eliminate the disparity in the number of doctors and nurses in urban and rural areas and between different levels of the health care system. It will improve the professional level of specialists on the basis of further development of the system of continuing education of medical and pharmaceutical workers, ensure continuity of training, coordinating the activities of educational institutions, and contribute to the development of a funded system of postgraduate education of nursing personnel.

Secondly, we consider it appropriate to speed up the process of developing professional standards for higher and professional pre-higher education, to develop standards for postgraduate training, differentiated according to the level of education. It will support the required level of competence of medical professionals, as well as the quality and productivity of their work through the use of a postgraduate training system.

Thirdly, improving the regulatory framework for the activities of educational institutions will contribute to modernizing the content of training and the quality of training, strengthening educational, research and production complexes that unite educational institutions. The state policy on the activities of educational institutions

must also be aimed at optimizing legal and economic relations between educational institutions and medical and preventive institutions within the framework of creating unified clinical bases.

Further development of informatization of training in medical and pharmaceutical educational institutions, formation of electronic libraries, reference and information databases, introduction of information technologies and quality management system in the educational process will contribute to further development of professional medical and pharmaceutical education, as well as ensure its compliance with personnel requirements of practical healthcare. In the formation of the quality system, it is also difficult to overestimate the role of leading specialists, schools of professional skills, and teachers of medical institutions.

Improving the quality of training of nursing specialists must include the following: 1) development of standards for all educational levels in nursing; 2) training of nursing staff in the methodology of correction and prevention of deviations from standards; 3) involvement of patients and their relatives, independent experts to prevent a possible decline in the quality of nursing care; 4) creation of quality groups in departments, participation in the development of innovations in nursing and new nursing technologies.

Thus, measures, ensuring the quality of nursing care, include: 1) personnel training; 2) resource support for nurses; 3) implementation of nursing care standards; 4) use of modern nursing technologies.

3. It is necessary to bring the conditions and content of training as close as possible to the present-day realities, adopting all the best that works in practical healthcare, and carry out practical training in healthcare institutions that implement advanced technologies for organizing nursing activities and nursing care. Another step that will contribute to solving problems is the development and improvement of the continuing education system [33]. Training, retraining and advanced training of personnel should be carried out, taking into account the structural adjustment of the healthcare industry, and the needs of institutions for specific specialists should be studied. At the same time, special attention should be paid to improving professional skills and, first of all, to creating modern program training for part-time teachers from doctors and nurses with higher education, working in practical healthcare. It is also important to develop a quality control system for specialists training at all stages of continuing education

Conflicts of interest

The authors declare that they have no conflicts of interest.

Acknowledgment

I would like to express my gratitude to Yuliia Hron, candidate of Philological Sciences, Associate Professor of the Department of Applied Linguistics and Translation of CSTU. .

References

1. Artyomenko, V. V., Semchenko, S. S., Yehorenko, O. S., Novikov, D. A., Karakonstantin, D. F., Berlinska, L. S. (2015). Simulation medical education: international and national experience. *Odeskij medicnij zurnal*, 6 (152), 67–74. Available at: <http://journal.odmu.edu.ua/?p=3844>
2. Kasianova, O. M., Bodnia, K. I. (2017). Symuliatsiine navchannia v pisliadyplomnii medychnii osviti: teoretychnyi i praktychnyi aspekty. *Problemy bezpererвної medychnoi osvity ta nauky*, 1, 10–15.
3. Kriuchko, T. O., Kushnereva, T. V., Kharshman, V. P. (2018). Metodolohiia symuliatsiinoho navchannia. Aktualni pytannia kontroliu yakosti osvity u vyshchyykh medychnyykh navchalnykh zakladakh. *Poltava: Ukrainka medychna stomatolohichna akademiia*, 136–137.
4. Starets, O., Kotova, N., Loseva, K., Fedorenko, O. (2018). Experience of the implementation of simulation learning and a universal approach to assessing, recognizing and stabilizing life-threatening conditions in children. *Clinical Anesthesiology and Intensive Care*, 1 (11), 93–102. doi: <http://doi.org/10.31379/2411.2616.11.1.7>
5. Ilashchuk, T. O., Mikulets, L. V. (2017). Simulation learning technologies during study propaedeutic of internal diseases. *Medical Education*, 2, 9–11. doi: <http://doi.org/10.11603/me.2414-5998.2017.2.7882>
6. Zhukova, T. O., Vasko, L. M., Pochernyaeva, V. F., Marchenko, V. Y., Udaltsova-Grodzinska, K. O. (2020). Simulation training as a basic platform of modern education. *Bulletin of Problems Biology and Medicine*, 4 (158), 222–224. doi: <http://doi.org/10.29254/2077-4214-2020-4-158-222-224>
7. Korda, M. M., Shulhai, A. H., Zaporozhan, S. Y., Kritsak, M. Y. (2017). Simulating learning in medicine part in the preparation of a specialist. *Medical Education*, 4, 17–20. doi: <http://doi.org/10.11603/me.2414-5998.2016.4.7302>
8. Onello, R., Regan, M. (2013). Challenges in High Fidelity Simulation: Risk Sensitization and Outcome Measurement. *OJIN: The Online Journal of Issues in Nursing*, 18 (3). doi: <http://doi.org/10.3912/ojin.vol18no03ppt01>
9. Hegland, P. A., Aarlie, H., Strømme, H., Jamtvedt, G. (2017). Simulation-based training for nurses: Systematic review and meta-analysis. *Nurse Education Today*, 54, 6–20. doi: <http://doi.org/10.1016/j.nedt.2017.04.004>
10. Chua, W. L. (2017). Simulation training appears to improve nurses ability to recognise and manage clinical deterioration. *Evidence Based Nursing*, 20 (4), 122–123. doi: <http://doi.org/10.1136/eb-2017-102742>
11. Kim, J., Park, J.-H., Shin, S. (2016). Effectiveness of simulation-based nursing education depending on fidelity: a meta-analysis. *BMC Medical Education*, 16. doi: <http://doi.org/10.1186/s12909-016-0672-7>
12. Escudero, E., Silva, M., Corvetto, M., Durmuş, S. Ç. (Ed.) (2019). *A Training Resource for Quality Care and Improving Patient Safety. Nursing – New Perspectives*. doi: <http://doi.org/10.5772/intechopen.88918>
13. Mohamed, S. A., Fashafsheh, I. H. (2019). The Effect of Simulation-Based Training on Nursing Students' Communication Skill, Self-Efficacy and Clinical Competence for Nursing Practice. *Open Journal of Nursing*, 9 (8), 855–869. doi: <http://doi.org/10.4236/ojn.2019.98064>
14. Aebersold, M. (2018). Simulation-Based Learning: No Longer a Novelty in Undergraduate Education. *OJIN: The Online Journal of Issues in Nursing*, 23 (2). doi: <http://doi.org/10.3912/ojin.vol23no02ppt39>

15. Gutierrez, F. (2020). The World Needs More Practice-Ready Health Professionals: Here's How Higher Ed Can Help. Impakter. Available at: <https://impakter.com/more-practice-ready-health-professionals-heres-how>
16. Merga, M. (2016). Gaps in work readiness of graduate health professionals and impact on early practice: Possibilities for future interprofessional learning. Focus on Health Professional Education: A Multi-Professional Journal, 17 (3), 14–29. doi: <http://doi.org/10.11157/fohpe.v17i3.174>
17. Pate, K. A., Pate, A. N., Sampognaro, L. A., Brady, J. H., Caldwell, D. J. (2017). Design, implementation, and evaluation of an online elective course on current topics in pharmacy. Currents in Pharmacy Teaching and Learning, 9 (4), 528–536. doi: <http://doi.org/10.1016/j.cptl.2017.03.008>
18. Nataliia, L., Liudmyla, I., Mykhailivna, D. N., Ivanna, V., Olha, Y., Ivanivna, B. S. (2021). Moodle Innovation Learning Technology for Medical Education: From Theory to Practice. Journal of Pharmaceutical Research International, 33, 245–260. doi: <http://doi.org/10.9734/jpri/2021/v33i59a34269>
19. Sapelnikova, N. L., Reshetova, G. I. (2018). Vocational education and career guidance as a tool for forecasting and regulating the labor market. Economy and Society, 19, 919–926. doi: <http://doi.org/10.32782/2524-0072/2018-19-138>
20. Hur, Y., Cho, A. R., Song, E. J., Kim, S. (2018). Evaluation of a systematic career coaching program for medical students in Korea using the Career Readiness Inventory. Journal of Educational Evaluation for Health Professions, 15. doi: <http://doi.org/10.3352/jeehp.2018.15.10>
21. Bartosiewicz, A., Luszczki, E., Różański, A., Nagórska, M. (2019). Analysis of Determinants of Readiness for Professional Development Among Polish Nurses. International Journal of Environmental Research and Public Health, 16 (10), 1800. doi: <http://doi.org/10.3390/ijerph16101800>
22. Dronenko, V. V. (2018). Investigation of the process of forming the communicative competence of the future physicians. Medical Education, 4, 41–47.
23. Mikhailiuk, Iu. V., Khriptovich, V. A., Manulik, V. A. (2015). Formirovanie komunikativnoi kompetentnosti u studentov meditsinskogo vuza (teoreti-cheskie i prakticheskie aspekty). Minsk: BGMU, 68.
24. Uvarkina, O. V. (2003). Komunikativna kultura yak faktor formuvannia osobystosti studenta-medyka. Informerhetyka III tysiacholittia: sotsiolo-ho-synerhetychnyi ta medyko-ekolohichnyi pidkholdy. Kyiv: Kryvyi Rih, 2, 156–157.
25. Exploring the ACGME Core Competencies. (2016). NEJM Knowledge+ web-site. Available at: <https://knowledgeplus.nejm.org/blog/exploring-acgme-core-competencies>
26. Ramirez, A., Graham, J., Richards, M., Gregory, W., Cull, A. (1996). Mental health of hospital consultants: the effects of stress and satisfaction at work. The Lancet, 347 (9003), 724–728. doi: [http://doi.org/10.1016/s0140-6736\(96\)90077-x](http://doi.org/10.1016/s0140-6736(96)90077-x)
27. Rozhko, M. M., Ersteniuk, H. M., Kapechuk, V. V., Ivantsiv, M. O., Senchii, V. M. (2016). Competence approach in training of medical students. Medychna osvita, 2, 102–106. doi: <http://doi.org/10.11603/me.v0i2.6226>
28. Perera, H. J. M. (2015). Effective Communication Skills for Medical Practice. Journal of the Postgraduate Institute of Medicine, 2. doi: <http://doi.org/10.4038/jpgim.8082>
29. Ferreira-Padilla, G., Ferrández-Antón, T., Baleriola-Júlvez, J., Braš, M., Đorđević, V. (2015). Communication skills in medicine: where do we come from and where are we going? Croatian Medical Journal, 56 (3), 311–314. doi: <http://doi.org/10.3325/cmj.2015.56.311>
30. Warnecke, E. (2014) The art of communication. Australian Family Physician, 43 (3), 156–158. Available at: <https://www.racgp.org.au/afp/2014/march/art-of-communication>
31. Madalieva, S. Kh., Ernazarova, S. T., Kudaibergenova, A. Zh. (2016). K voprosu ob organizatsii razvitiia komunikativnoi kompetentnosti u studentov-medikov. International Journal of Experimental Education, 2, 334–337.
32. Shevchenko, A. M. (2016). Metodychne zabezpechennia vidboru uchnivskoi molodi do vyshchlykh navchalnykh zakladiv pedahohichnoho profiliiu. Kyiv: Instytut pedahohichnoi osvity i osvity doroslykh imeni Ivana Ziaziuna.
33. Polozhennia pro systemu bezperervnogo profesiinoho rozvytku fakhivtsiv v systemi okhoronyz dorov'ia (2018). Postanova Kabinetu Ministriv Ukrainy No. 302. 28.03.2018. Available at: <https://zakon.rada.gov.ua/laws/show/302-2018-%D0%BF#Text>

Received date 08.02.2022

Accepted date 22.03.2022

Published date 31.03.2022

Iryna Radzievska, PhD, Department of Fundamental Disciplines, Cherkasy Medical Academy, Khreshchatyk str., 215, Cherkasy, Ukraine, 18001
E-mail: raisin0303@gmail.com