



## **THE ROLE OF DIGITAL TECHNOLOGIES IN TEACHING ONCOLOGY**

Kobilov O. R.

Scientific Head of TSMU, (PhD)

qobilov.odiljon.87@mail.ru

Dekhkambaeva Z. A.

Teacher at TSMU

zulfiyahon769@gmail.com

Dursunov S. A.

Teacher at TSMU

Abdurakhimova D. D.

Master of TSMU

ddildoraabd@mail.ru

### **Abstract**

The problem of modern oncology is the discrepancy between the achievements of medical science and technology and the understanding of general practitioners to conduct examinations and the ability to apply them and detect cancer at a stage when the cure rate can be 80-100%. It is necessary to train doctors who are not so much knowledgeable as able to determine the optimal diagnostic tactics. The interactive system allows solving tactical problems, conducting classes more vividly with visual perception and implementing an immediate objective and transparent knowledge control for participants, presenting them in the form of graphs and time spent on answers. Preliminary experience of combining traditional forms of training and modern digital technologies indicates the effectiveness of increasing oncological literacy and alertness of students and general practitioners.

**Keywords:** Oncological, discrepancy, medical science, clinical, digital technology.



## **Introduction**

At the current stage of development of society, based on the program for ensuring the availability and improving the quality of medical care in Uzbekistan, all structural, personnel, educational and other transformations should be subordinated to a single goal - increasing the availability and quality of medical care, i.e. achieving a result expressed in population health indicators. Improving the quality of medical care is also ensured by innovations in the educational system. The quality, profile and number of specialists must meet the needs of the industry. This task can be accomplished by updating the quality standards of medical education and bringing programs, curricula, textbooks and requirements for teachers in line with these standards. It is necessary to introduce automation and information technology (electronic medical records with support for clinical decision-making, electronic prescriptions of drugs, etc.) to achieve the quality, safety of medical care and increase its cost-effectiveness. It is necessary to create an effective system of continuous medical education.

However, it should be noted that the World Federation for Medical Education has quite logically replaced the term "continuous medical education" with a new one "continuous professional development". Continuous professional development of doctors in accordance with the definition of the "International Standards of the World Federation for Medical Education" implies "the period of education and training of doctors, beginning after the completion of basic medical education and postgraduate training, and continuing thereafter throughout the professional life of each doctor." Continuous professional development is considered as a professional obligation of each physician and as education that is carried out continuously in the form of independent training, and not under someone's supervision. If basic medical education and systematic postgraduate training of physicians are appropriately regulated and formalized, then each physician bears personal responsibility for continuous professional development. In light of the changing needs of patients in a developing society with the invasion of information technology into everyday life, increased patient awareness and literacy, as well as a constant flow of new medical information, a physician has no moral right to work in accordance with the rules adopted in the Soviet health care of the 80s - that is, training at a medical university, then internship, clinical residency and systematic improvements once every 5 years. At the current stage of society's development, knowledge inevitably becomes outdated, principles and



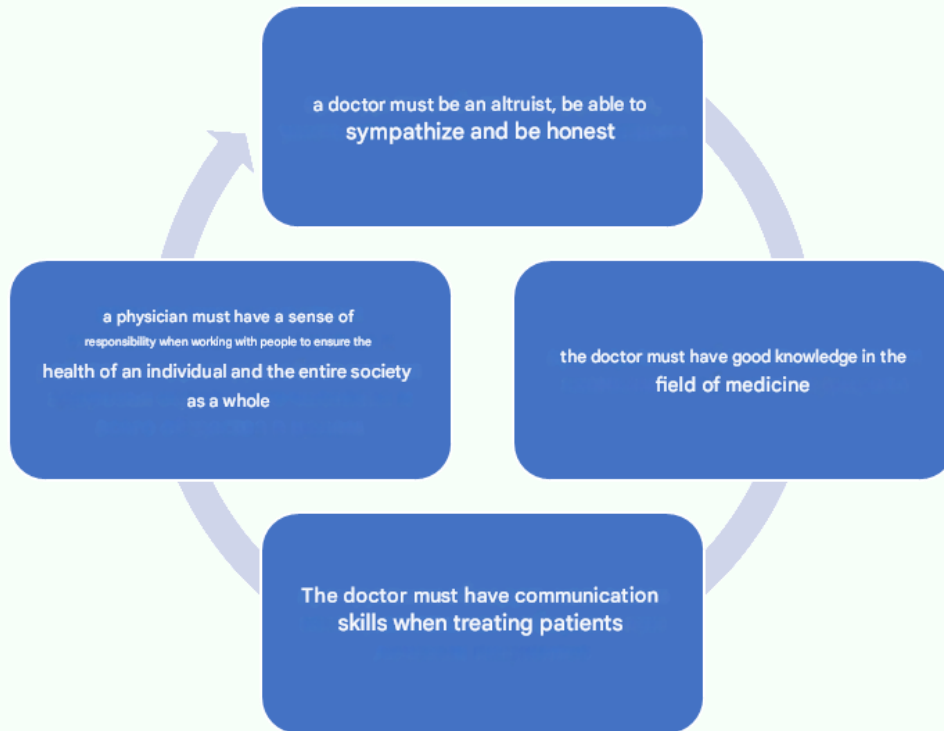
approaches to treatment in any branch of medicine, and especially in oncology, change hourly. In order to maintain a professional reputation, taking into account personal responsibility to each patient, the physician's motivated desire for continuous medical development must be supported by appropriate resources.

### **Research Methodology**

The methodology in this scientific study is represented by a set of general and specific methods, including methods of analysis and synthesis, which are used to conduct a preliminary analysis of the problem, determine the goal, and identify the positions of scientists.

### **Analysis and Discussion**

The priority tasks of professional education at the present stage are: training a qualified worker of the appropriate level and profile, competitive in the labor market, competent, responsible, fluent in his profession and oriented in related fields of activity, capable of effective work in the specialty at the level of world standards, ready for continuous professional growth, social and professional mobility. At the stage of basic training, it is necessary to revise some traditional ideas about the educational process and technologies of teaching clinical disciplines. The advanced nature of medical professional education requires the formation of graduate readiness to work in the conditions of technologies of "tomorrow". The resulting product of high-quality training of a specialist in the system of professional education is competence (competence) - a potential action actualized in a certain professional situation. A competency-based approach to training a specialist in the system of higher professional education allows for the formation of key (basic, universal) and professional competencies, i.e. the readiness of graduates to use the fundamental knowledge, skills and abilities acquired in pre-graduate education, as well as methods of activity to solve practical and theoretical problems that arise in the course of their professional activity. The concept of competence for medical education and practice, formulated by the Association of American Medical Schools, includes 4 competencies based on the general opinion about what a good doctor should be:



Pedagogical technology provides a description, a project of the process of forming the student's personality and should include diagnostic goals and content of training, didactic processes and organizational forms of training. The components of the didactic process are: motivation as the creation of the student's interest in educational activities and the transformation of external goals into internal needs; cognitive activity of the student, as a result of which knowledge is acquired; its management by the teacher, the methods of which depend on the goal of training. The method of management is also called the technology of training, only in a broader aspect. Reproductive technology includes lectures, work with a textbook, performing practical tasks according to the instructions, that is, when the goals of training do not exceed the level of assimilation. Reproductive-algorithmic technology aims at assimilation of activity algorithms, note-taking and reforming educational material, solving typical problems. If the goal is didactic processes focused on problem-based learning, real design, solving non-standard situational problems, didactic games, then it is necessary to use search-heuristic technology. In cases where the goal of training is aimed at reproducing scientific personnel, the technology includes discussions, conducting research, analyzing results and is creative.

The goal of training technologies in oncology is to update the content and methods of training through the active use of scientific research technologies in



the educational process, mastering manual skills, increasing the effectiveness of independent work of students, introducing high intellectual technologies into the educational process.

The modern, most recent formulation in the literature of "pedagogical technology" is given as follows: pedagogical technology is a strictly scientific design and accurate reproduction of pedagogical actions that guarantee success. It (technology) can be considered as a set of external and internal actions aimed at the consistent implementation of these principles in their objective relationship, where the personality of the teacher is fully manifested. This is a systematic and consistent implementation in practice of a pre-designed pedagogical process.

The system of actions of the teacher is aimed at solving pedagogical problems. All this implies the possibility of free choice of pedagogical technologies in accordance with the goals, possibilities and conditions of the interconnected activities of the teacher and the student, the possibility of developing various pedagogical technologies by specialists with a high level of theoretical training and extensive practical experience. This is the difference between pedagogical technology and the methodology of teaching and educational work.

The essence of pedagogical technology in oncology is revealed through a system of necessary and sufficient elements that are interconnected and have internal logic. The main elements of pedagogical technology are pedagogical communication, assessment, requirement, informative impact.

Pedagogical communication at the university performs three important, in our opinion, functions: 1) "opening" the student to communication, for which it is necessary to create comfortable conditions for him in the classroom, in the group to reveal him as a person; 2) "participation" of the student in pedagogical communication, which can be achieved as a result of analyzing the interaction of the teacher and the student; 3) "elevation" of the student in pedagogical communication, which is a stimulant, and not some kind of overestimation. Pedagogical assessment, as a stimulation of student activity and correction of deviations, involves the assessment of the demonstrated quality, but not the student's personality as a whole. What does it mean to assess? It means to establish the degree, level, quality of something. If a teacher knows how to use pedagogical assessment correctly, then he can form and subsequently correct students' value relationships. Based on the fact that each person is an individual, it is necessary to take into account the importance of pedagogical assessment for

each student. A pedagogical requirement is a presentation to a student in the process of training and education of a socio-cultural norm of attitude and behavior. The effectiveness of a pedagogical requirement increases if the teacher emphasizes his respect for students. The forms of address and behavior of a teacher must correspond to ethical standards that allow him to remain at a high level of culture in any situation.

### **Conclusions and recommendations**

In conclusion, it can be said that the use of innovative teaching methods in medical education can improve the quality of student training and provide them with the necessary knowledge and skills. These methods stimulate the activity and independence of students, develop critical thinking, communication skills and contribute to the formation of professional competencies. The introduction of innovative teaching methods requires appropriate funding and technical equipment, as well as training of teachers and revision of curricula. However, these efforts will pay off in the future by improving the quality of education of doctors and improving the results of medical practice.

To ensure effective teaching of oncology at the university, it is necessary to realize the priority of teaching the discipline in the system of higher professional medical education. We see the key to solving this problem in the implementation of a number of organizational, tactical and strategic issues.

Innovative teaching methods in medical education have a number of advantages. They contribute to the activation of students' cognitive activity, the formation of critical thinking, the development of skills for independent information search and its application in practice. In addition, innovative teaching methods allow students to develop communication skills, study in a group, develop teamwork skills, and learn to make decisions in difficult situations.

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