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INTERACTIVE FORM OF LEARNING IN THE DEVELOPMENT OF MEDICAL EDUCATION: THE IMPORTANCE OF COMPUTER SIMULATION

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Abstarct

The use of interactive forms of training in the educational process helps to form professional and general cultural competences in students. The educational process, based on the use of interactive methods in the teaching process, is organized on the basis of involving all students of the group in mastering the educational material. Joint activity means that during this activity, each student shares his knowledge, methods of activity, makes his individual contribution to solving the situation. Teaching is organized individually, in pairs and in groups, is carried out through role-playing games, project works, documents and working with various databases. Interactive methods are based on mutual joint action, student activity, group work experience, concrete, re-connection, in which the communication environment of education is formed, that is, it is characterized by openness, mutual integrity of participants, their equality, mutual summation of knowledge, possibility of assessment and control.

Computer simulation is a type of interactive form of teaching.

Simulation is involving students in a "fictitious, real" situation for learning or assessment, rather this teaching method means that the process is in action or ongoing.

Educational simulation is a completely redesigned system of rules, tasks and strategies, a scenario structure created for a specific purpose, for the formation of special competence, that is, for direct application to real life.

The trend of modern development of medical education requires the use of simulation techniques that allow to achieve maximum realism in the simulation of various clinical scenarios. It also allows you to master some diagnostic and treatment manipulative technical skills.

At the first stage of the training - the situation is assessed, the existing equipment, the object and the goal are determined, instruction is given in the form of a small lecture.

The second stage is a simulation training process, in which team members perform direct patient care and perform the necessary resuscitation actions. Required: all members of the team should feel the reality of the situation as much as possible.

The third stage is conclusion, analysis of results. In this case, it is important to remember that the simulation only reflects real life and does not contain individual errors, but general errors of the team.

At the end of the practical session, the teacher and students discuss the results of the practice, students' level of knowledge is assessed, and the success of the session is recorded.

Computer simulation means modeling the learning process and step-by-step implementation of its solution on a computer.

Simulation reflects some parts of the environment, which are used in cases where it is possible to study the existence in other ways: from the point of view of ethics, from the point of view of security, material and technical. Simulation helps visualize abstract concepts. Students understand the purpose of the studied situation, its parameters with the help of manipulation possibilities.

Computer simulation is an interactive form of teaching and has a wide range of possibilities:

- creates a realistic attribute image of the activity;
- virtual analogue appears as real;
- creates an environment to exchange social or professional skills for real performance;
- is a form of control of the effect of professional education;

The following main components are distinguished in computer simulation:

- a working model or organizational-structure diagram of the professional environment, i.e., some aspects of human interaction and behavior are reflected;
- scenario (plot) of the simulation process, aimed at application of knowledge, development of intuition, search for alternative non-standard ways of solving problems;

One of the strong advantages of computer simulations is that they can accurately estimate the concrete behavior of the hitters.

Computer modeling in medical education is divided into the following criteria:

- computer text simulators;
- simulators with computer graphics;
- simulators using mannequins;
- virtual reality simulators.

Let's look at each category separately:

- Text simulators explain the situation in words, that is, the user chooses the correct one from pre-prepared answers. Depending on the answer, the computer will display the next situation. Taking information about the student's actions, the program creates the next page with more options to choose from.

Graphical simulators represent the situation on the screen, and are often used to explain the processes related to pharmacokinetics and pharmacodynamics when taking drugs. Such a simulation helps to understand and master the learning material, but does not develop practical skills in the student. Such simulators are suitable for modeling physiological and pharmacological processes.

Simulators with the use of mannequins vary in their level of perfection and realism, which is mainly what makes simulators expensive. Modern options for automatic generation of mannequins' responses use a perfect computer model of human physiology and pharmacology. As opposed to text-based and graphical simulations, mannequin simulators help students develop practical skills that can be applied later in the clinic.

Virtual reality simulators have been widely used recently.

It should be noted that in order to improve the quality of teaching, time for students is strictly limited in computer simulation. When students were given unlimited time, it was found that the rate of learning material was lower.

Computer simulation is increasingly used in pharmacology, for example, through this simulation it is possible to theoretically evaluate and quantitatively measure the toxic effects of drugs on organs and tissues. Computer modeling allows to directly calculate the physiological parameters of the effect of the drug. In some cases, a computer experiment based on real data can predict future side effects of a drug.

Nevertheless, the situation is virtual, the training is carried out on the basis of real experience, approaching the maximum practice in dynamics. The same teaching is maximally effective.

The advantages of simulation in the organization of the experiment are as follows:

1. The best teaching results can be achieved when it is based on a suitable scenario. But it is impossible to achieve the expected goal by waiting for the life situation. Simulation quickly solves this problem.

2. Another advantage of simulation lies in the psychological state. During the simulation, the student feels twofold. On the one hand, it is safe, because the virtual character does not consider himself guilty of mistakes. On the other hand, he accepts all the achievements as his own.

This feature of simulation differs from role-playing, a common method of teaching. Some students prefer simulated learning rather than role-playing, but both teaching methods have the same learning objective. A virtual simulation is a conditional environment. In this environment, the student's self-confidence increases, he considers himself freer than in the real situation.

The widespread popularity of simulation is associated with the rapid development of modern computer technologies. In addition, the graphics in HD mode create excellent special effects and the display of various colorful motions on the monitor screen gives the user aesthetic pleasure.

Practice has shown that the simulation makes it easier for students to master the assigned competencies and then apply them to real life.

In conclusion, it should be noted that for the development of simulation medical education, it is necessary to widely introduce simulation training in the continuous medical education system.

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