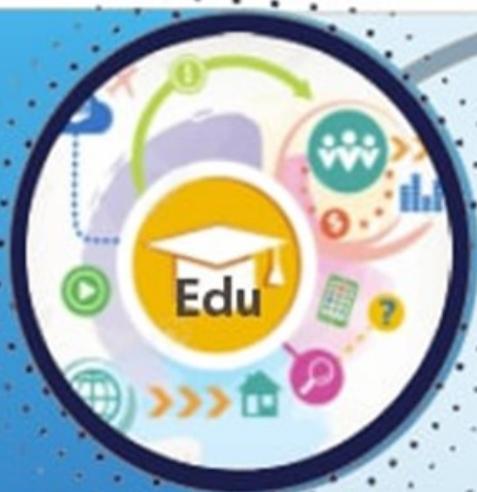




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New pedagogical technologies in teaching general surgery

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Abstract

General surgery is a clinical subject in the early stages of the educational process in medical schools. An important aspect of mastering the subject is to bring to students the necessary elements of the link between the theoretical base and practical skills in a relatively short time. An interactive approach to mastering any subject of the surgical field should be devoted not only to the development of manual skills, but also to communication and teamwork. This is what allows the graduate to develop not only a competent skill, but teamwork.

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INTRODUCTION

At present, the introduction of a new state educational standard based on a competency-based approach in medical educational institutions has led to the need for more active use of new educational technologies and interactive teaching methods in the educational process, combined with the optimization of extracurricular work.

Interactive learning is a special form of organizing cognitive activity, a way of cognition, carried out in the form of a joint activity of a teacher and students, in which all participants interact with each other, exchange information, jointly solve problems, simulate situations, evaluate the actions of others and their own behavior, immerse themselves in a real atmosphere of business cooperation to resolve the problem [1].

The purpose of using interactive forms of conducting classes is to immerse students in a real atmosphere of business cooperation in solving problems, which is optimal for developing the skills and qualities of a future specialist. Interactive forms of conducting classes can be used during lectures and practical classes, with independent work of students.

At the same time, the main difficulties in the use of interactive methods in the educational process remain:

- ignorance of the content of the method;
- inability to apply it in practice;
- misunderstanding of the place of the method in the structure of the lesson;
- lack of confidence in the effectiveness of the application of methods in the learning process [2].

The purpose of this work was to assess

the possibility of the used complex of interactive teaching methods to influence the development of educational material by a student during practical classes of the subject "General Surgery", to determine the degree of interaction between students in a group and the role of a teacher in the educational process.

MATERIALS AND METHODS

The Department of General Surgery with the course of pediatric surgery of the Tashkent Medical Academy for a long time, when teaching the course "General Surgery" for students of the medical faculty, uses interactive technologies, such as creative tasks, work in small groups, interactive presentation, methodology, "Take a position" and a number of others [3]. Their total duration in class did not exceed 10% of the total time.

Since 2019, the interactive technologies used in practical classes have been expanded. New methods have appeared in the arsenal of teachers. Together, this led to an increase in the share (up to 40% of the time) of the use of interactive technologies in a practical lesson.

A study was conducted to evaluate the effectiveness of the complex of interactive technologies used in practical classes.

The participants of the study were 3rd year students of the Faculty of Medicine, who studied with one teacher. For this purpose, two groups were formed: control (n=24; a complex of 5 methods was used, occupying 20% of the volume of the practical lesson) and the main group (n=25, a complex of interactive technologies of 10 methods was used, occupying 40% of the lesson).

The following methods were used in the complex of interactive technologies:

1. Work in small groups;
2. Creative tasks;
3. Interactive performance;
4. Educational business games;
5. Methodology "Take a position";
6. Methodology "Decision tree";
7. Technique "Brainstorming";
8. Methodology "Socratic dialogue";
9. Methodology "POPS-formula";
10. Group discussion.

In the main group, methods from 1 to 10 were used, in the control group, from 1 to 5.

Statistical processing of the obtained data was carried out using nonparametric methods. For qualitative indicators, the significance of differences was determined using Fisher's exact method.

RESULTS AND DISCUSSION

1. Work in small groups

This strategy during the practical training was implemented by the distribution of students of the course into clinical groups of 12-16 people. It gave all students the opportunity to participate in the work, practice the skills of cooperation, interpersonal communication (in particular, the ability to actively listen, develop a common opinion, and resolve disagreements). Working in a small group contributed to the implementation of a number of interactive methods: mosaics, debates, public hearings, almost all types of imitations, etc.

2. Creative tasks

The creative task found its realization at each thematic lesson. It was determined by the teacher, corresponded to the topic being studied, required a creative approach from the student and must meet the following criteria:

- do not have an unambiguous and monosyllabic answer or solution;
- be practical and useful to the student;
- be connected with the student's life;
- arouse the interest of the student;
- to serve the purposes of learning as much as possible.

The most popular form of implementing this interactive technique was the creation by a student of a multimedia presentation, album or stand on a given educational topic.

3. Interactive performance

Interactive performance during the practical lesson was carried out by both the teacher and the student. In relation to the student, the most frequent variant of his interactive presentation was the presentation of a creative task.

An interactive presentation involved maintaining a constant dialogue with the audience: asking questions and receiving answers from the audience; conducting an educational business game during the performance; invitation of a specialist for a brief comment on the topic under discussion; use of visual aids (diagrams, tables, diagrams, drawings, multimedia presentations, video recordings, etc.), etc. The use of interactive elements made it possible to enhance the effectiveness of speeches that are part of the professional activity of a medical specialist. At the end of the student's presentation with a creative task and receiving answers to questions, the students and the teacher discussed the report, after which the teacher commented and evaluated the performance.

4. Educational business games

The use of educational business games contributed to the development of critical thinking skills, communication skills, problem-solving skills, and the development of various options

for bringing in problem situations. During the practical lesson, educational business games were used:

- training of a separate skill (for example, putting on a sterile gown, styling a bix, etc.);
- training a set of skills (for example, conducting cardiopulmonary resuscitation on a simulator);
- demonstration of skill;
- demonstration of typical mistakes, etc.

5. Methodology "Take a position"

The use of such a technique made it possible to quickly identify different opinions, supporters and opponents of a particular position in a group of students, to begin a reasoned discussion of the issue. The discussion began with a debatable question that suggested opposite, mutually exclusive answers (for example, "Are you for or against surgical treatment of a closed displaced hip fracture?"). All participants, after thinking about the question, raised one of four plates of different colors with signatures:

1. "Absolutely for";
2. "Absolutely against";
3. "Rather for";
4. "Rather against."

Having taken a position, the participants exchanged views on the debatable problem and gave arguments in support of their position. Any participant was free to change position under the influence of persuasive arguments.

6. Decision tree technique

The use of the "Decision Tree" technique allowed students to master the skills of choosing the optimal solution and action. Building a Decision Tree is a practical way to evaluate the advantages and disadvantages of different options. This technique became the most effective when discussing the choice of options for anesthesia, diagnosis and treatment. At the stages of suggesting options and their evaluation, it is possible to use the Brainstorming technique.

7. Technique "Brainstorming"

This technique contributed to the stimulation of the rapid generation of more options for answering the question. At the first stage, the teacher offered a specific problem for discussion ("research methods for diagnosing a disease?", "what are the consequences of ...?", etc.); all participants made suggestions, the facilitator wrote down all the suggestions (on a blackboard, poster) without criticizing their practical applicability. At the second stage, the proposals made were discussed. It was necessary to find the possibility of applying any of

the proposals made or to outline a way to improve it. At this stage it was possible to use various forms of discussion. At the third stage of the brainstorming, the group presented the results according to a predetermined principle: the most optimal solution; some of the most successful proposals; the most unusual solution, etc.

For brainstorming, in some cases the participants were divided into several groups: idea generators who make various proposals aimed at solving the problem; critics who try to find the negative in the proposed ideas; analysts who will link the developed proposals to specific real conditions, taking into account critical comments, etc.

8. Methodology "Socratic dialogue"

The use of the Socratic Dialogue technique allows trainees to master the skills of formulating a question. It involves the development of a chain of questions leading the respondent to a conclusion. To do this, one student only asks questions, the other answers them.

In accordance with the objectives of the lesson, different types of questions could be asked:

Do you think it is necessary to agree with ...?

Why do you think so? (introductory questions);

What did you mean?

How can you formulate your position differently? (clarifying questions);

What gave you reason to draw such a conclusion?

What arguments can you give to support your position? (questions revealing the argumentation) etc.

The use of the "Socratic dialogue" technique taught to correctly ask questions, as well as to plan the course of the dialogue, to compose its algorithm (to assume possible answers and prepare in advance options for subsequent chains of questions).

This technique is especially actively used in practical classes in substantiating methods for diagnosing and treating purulent diseases of soft tissues, wounds, and oncological diseases.

9. Methodology "POPS-formula"

The use of the "POPS-formula" technique made it possible to help students argue their position in the discussion. A short presentation in accordance with the POPS formula consisted of four elements:

P - position (what is the point of view) I believe that ...

O - justification (argument in support of the

position) because ...

P - example (facts illustrating the argument) ..., for example, ...

C - consequence (conclusion)

An example is the following student presentation:

"I believe that the primary suture after the primary surgical treatment (PST) of the wound can be applied only when there is a low concentration of microbial bodies in it and there is no risk of necrosis. This is due to the fact that the presence of a large number of microbes and the area of necrosis (infection habitat) will lead to the development of severe purulent complications. For example, the imposition of a primary suture after the primary surgical treatment (PST) of a wound a day after the injury or the imposition of a primary suture on a bitten wound, even in the first hours after the injury, will lead to the development of phlegmon. Conclusions: the imposition of the primary suture after PST of the wound is performed in the first 6-8 hours after the injury, before the development of infection in the wound, provided that the areas of tissue necrosis are completely removed. It is impossible to impose a primary suture on bitten and bruised wounds, because with their PST it is impossible to guarantee the removal of the entire volume of damaged tissues.

10. Group discussion

Group discussion of any issue was aimed at finding the truth or achieving a better mutual understanding. Group discussions contributed to a better assimilation of the studied material.

At the first stage of the group discussion, a problem was posed to the students and a certain amount of time was allocated to prepare a reasoned detailed answer. At the same time, the teacher established the rules for conducting a group discussion (set the scope of the discussion, determined the discussion algorithm, appointed the leader of the discussion). At the second stage of the group discussion, a group decision was developed together with the teacher.

A kind of group discussion was a round table, which is held in order to share problems, one's own vision of the issue, to get acquainted with the experience and achievements of modern medicine.

When analyzing the results of training in the main and control groups, a significant increase in academic performance by 38.5% was revealed, an increase in the number of prizes that students took at the Olympiad in the subject of "general surgery". Questioning data of students

showed that in the main group of students, in terms of the degree of satisfaction with the results of practical classes, it is 43.9% more than in the control group.

Thus, the increase in the total volume of use of interactive technologies in practical classes has a positive effect on the development of educational material by the student, allows creative and effective use of the knowledge gained at the Olympiads.

From the foregoing, it becomes obvious that when using interactive methods, the role of the teacher changes significantly, ceases to be central, he only regulates the process and deals with its general organization, prepares the necessary tasks in advance, formulates questions or topics for discussion in groups, gives advice, controls time and order. implementation of the planned plan. All this requires a creative approach from the teacher to the organization and conduct of the lesson.

Thus, the use of interactive forms and teaching methods in the process of practical training in general surgery allows:

1. The student to gain experience in actively mastering the content of future professional activity in conjunction with practice;
2. The study group to get the skill of communication and interaction in a small group, the formation of a value-oriented unity of the group;
3. In the teacher-group system, acquire a non-standard attitude to the organization of the educational process, form a motivated readiness for interpersonal interaction not only in educational, but also in professional groups.

The presence of positive factors from interactive teaching methods allows them to be recommended for widespread use in conducting practical classes on the subject of "general surgery".

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REFERENCES:

1. Okhunov A.O., Tuychiev L.N., Pulatov U.I. Possibilities of using webinar technologies in cooperating the educational process of branches of the Tashkent Medical Academy // *The role of innovative technologies in the development of science and technology* - 2019. -P.35-36
2. Tuychiev L.N., Okhunov A.O. Innovations in cooperating the educational process of the branches of the Tashkent Medical Academy // *Proceedings of the 2nd International Educational Conference "Modern State, Problems and Prospects of Medical Education"* -2019-P.261-262
3. Tuychiev L.N., Okhunov A.O. New approaches to the organization of the educational process at the departments of the surgical profile // *Proceedings of the 2nd international educational conference "Current state, problems and prospects of medical education"* -2019-p.184-190