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## IMPLEMENTATION OF MAIN INTERACTIVE TEACHING METHODS IN TRAINING OF MEDICAL SPECIALIST

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## ВПРОВАДЖЕННЯ ОСНОВНИХ ІНТЕРАКТИВНИХ МЕТОДІВ НАВЧАННЯ В ПІДГОТОВЦІ ЛІКАРЯ-СПЕЦІАЛІСТА

**The aim of the work** – the analysis of the pedagogical effectiveness of the introduction of interactive learning technologies in the training of an internship doctor in the specialty “General Practice - Family Medicine”.

**The main body.** The article presents the main technologies of interactive learning, which are used at the Department of Family Medicine and Therapy in the training of a medical specialist: brainstorming, discussion, presentation, role play. The features of each of these methods and their advantages were given. The evaluation of the effectiveness of the used pedagogical technologies was carried out at the end of the discipline by testing and the licensed computer program “Elex” (150 questions of 2-3 levels of complexity on the corresponding specialty were offered) and by checking the acquisition of practical skills in accordance with standardized cards of practical skills and summing up the results, anonymous questionnaire.

The effectiveness of using individual interactive teaching methods in the training of a medical specialist is shown.

**Conclusions.** To achieve maximum mastering of the material, to make the classroom interesting and dynamic, it is necessary to use various interactive teaching methods, in particular: brainstorming, discussion, role play, presentation. For the effective use of one or another interactive method in the training of a specialist, it is important to be familiar with a variety of methods, to understand their features, to take into account the benefits and limitations, and to take into account the recommendations for their use, to apply interactive methods in accordance with the topic, goals and objectives of the occupation.

**Key words:** interactivity of training; clinical thinking; brainstorming; presentation; discussion.

**Мета роботи** – аналіз педагогічної ефективності впровадження інтерактивних технологій навчання в підготовці лікаря-інтерна з фаху “Загальна практика – сімейна медицина”.

**Основна частина.** У статті наведені основні технології інтерактивного навчання, які використовуються на кафедрі сімейної медицини і терапії при підготовці лікаря-спеціаліста: мозковий штурм, дискусія, презентація, рольова гра. Показано особливості кожного із цих методів, їх переваги. Оцінка ефективності використаних педагогічних технологій проводилася наприкінці циклу “Внутрішні хвороби” шляхом проведення тестування за допомогою ліцензованої комп’ютерної програми “Elex” (пропонувалося 150 питань 2-3 рівня складності з відповідного фаху) і шляхом перевірки опанування практичних навичок згідно зі стандартизованими картами практичних навичок та підведення підсумків з анонімним анкетуванням.

Показана ефективність використання окремих інтерактивних методів навчання в підготовці лікаря-спеціаліста.

**Висновки.** Щоб досягти максимального засвоєння матеріалу, зробити заняття цікавим і динамічним, необхідно використовувати різні інтерактивні методи навчання, зокрема: мозковий штурм, дискусію, рольову гру, презентацію. Для ефективного застосування того чи іншого інтерактивного методу в підготовці лікаря-спеціаліста важливо бути обізнаним із різноманітними методами, усвідомлювати їх особливості, зважати на переваги та обмеження, а також враховувати рекомендації щодо їх використання, застосовувати інтерактивні методи відповідно до теми, мети і завдання заняття.

**Ключові слова:** інтерактивність навчання; клінічне мислення; мозковий штурм; презентація; дискусія.

**Introduction.** Modern world standards in the field of education include the training of highly skilled specialists capable of integrating theoretical knowledge and practical skills into an entire system, mastering new technologies, etc. Transformation of education

requires, first of all, the solution of such urgent issues as orientation towards a person, fundamental values, and a decisive democratization of education. The educational process needs to be continuously improved, as there is a change in priorities in science and in social values. Therefore, the current situation in the training of

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specialists requires radical changes in the strategy and tactics of training in higher educational institutions [1, 2]. One of the important tasks of modern medical education is the formation and development of clinical thinking in the future doctor, which will allow him to take an active cognitive position, generate ideas and make decisions. Formation of clinical thinking in students and later in internship doctors of medical university is a complex, multifactorial process [2, 8].

Clinical thinking is formed as the ability of the doctor to distinguish the essentials, to generalize, to identify the differences, to synthesize the information that he received on his own, to conduct a patient's examination and design an additional examination, to analyse the results for the purpose of quick and accurate diagnosis and to prescribe an appropriate treatment that would correspond to the system form adopted in Europe [3].

The choice of using different educational technologies in medical education is influenced by the peculiarities of the medical specialty, in which, of course, both theoretical and practical components are clearly expressed. Among the most frequent objections to the practicability of using different educational technologies in medical education, it is necessary to emphasize the thesis that it is impossible to determine if the doctor has the necessary knowledge, skills and abilities unless he is at the patient's bed. However, not always, and not every example can be considered directly "on the patient". In particular, this may be due to the lack of thematic patients while studying a particular topic, but at the same time, there are active technologies and training methods that allow students to be effectively trained [3, 4, 8].

New, in particular, interactive methods of teaching come to help classical technologies. Most of the new educational formats are based on the principles of active learning and interaction between students and teachers. According to the data of American scientists, only 5 % of the material is learnt during the lecture, 10 % – while reading, 20 % – while working with video-audio materials, 30 % – during the demonstration, 50 % – during the discussion, 75 % – during the practice, and 90 % when you teach others or when knowledge is applied immediately. These data demonstrate the usefulness of using active teaching methods. This concerns the readiness of a modern teacher to innovation activities which include:

- the ability to master new technologies in their professional field, a significant increase in the level of independence and decision-making;
- mobility of the received education, adaptation to new requirements of the labour market;

– mastering and use of information and communication technologies in professional activity [5, 6].

The term "interactivity" came from the English language from the word "interact". Thus, interactivity is the ability to interact. Interactive learning is mostly seen as learning based on the interaction of the learner with the learning environment, which is based on the psychology of human relationships and interactions and the essence of which is the organization of a common process of perception, when knowledge is acquired in a joint activity through a dialogue between participants and a teacher [5, 6]. Due to the variety of interactive techniques, the teacher often faces the question of choosing the methods that will be most effective and will help to better illuminate the material, achieve the goal and objectives during the lecture, practical and seminar classes.

During interactive training all students learn to interact, exchange information, solve problems collaboratively, imitate the situation, and evaluate the actions of colleagues and their own behavior, simulate real-life atmosphere of business cooperation for solving problems in accordance with their interests, needs and requests. However, the change of types of class activities are arisen constantly [6, 7].

The positive effect of the application of interactive approach for teaching people has been proven long ago and does not cause doubt.

However, these methods are believed to be effective, it is necessary to use them selectively.

**The aim of the work** – the analysis of the pedagogical effectiveness of the introduction of interactive learning technologies in the training of an internship doctor in the specialty "General Practice – Family Medicine".

**The main body.** Evaluation of the effectiveness of usage of interactive learning methods, especially brainstorming, discussion, case studies, presentation, was carried out by conducting computer test and oral interviewing internship doctors with teachers of the department of family medicine and therapy during the discipline of "Internal Diseases". The evaluation of the effectiveness of the used pedagogical technologies was carried out at the end of the discipline by testing and the licensed computer program "Elex" (150 questions of 2-3 levels of complexity on the corresponding specialty were offered) and by checking the acquisition of practical skills in accordance with standardized cards of practical skills and summing up the results. anonymous questionnaire.

When conducting discipline of "Internal diseases" for internship doctors in specialty "General practice-

Family medicine”, we use the following basic methods of interactive learning.

The brainstorming method is the most frequently used method by teachers of the department. This method is kind of a more free form of discussion. Its function is to generate numerous ideas and the brainstorm has the function of stimulating discussion and engaging people; detection new and unusual ideas [6].

The brainstorming allows us to “activate” the learning process; after all, this dynamic method of working engages intelligence, creativity, if it is applied correctly.

The first principle is to promote the synergy in the group that provides group (joint) production of ideas of higher quality than during individual work of the same participants. The second principle involves that if a group is generating ideas, creative thinking cannot be interrupted subjective assessment.

The brainstorming has distinct stages, the sequence of which cannot be changed. First stage: the teacher clearly enunciates the task, the answer is necessary to find by the participants. The participants express all that came to mind. It is important to stick to one of the main rules of the brainstorming – comments during the collection of ideas, even if they look ridiculous, irrelevant, because any comment can stop the process of production of ideas [4].

The discussion is a group discussion of important issue to find ways to resolve it.

The purpose of the discussion as a method is to obtain arguing viewpoints or positions on a given subject or problem [2, 6].

As a first step the teacher clearly enunciates the problem which will be discussed. At the later stage it is agreed how will the discussion be held, what rules will be used. Usually, the teacher emphasizes that it is necessary to speak briefly and on topic, do not interrupt the other participants, to be tolerant, avoid repeating yourself and be argumentative. At the conclusion of the discussion, it is necessary to summarize. They can also be written on a sheet of paper. The learning technology in the discussion is an important means of cognitive activity of internship doctors in the learning process as discussion – public discussion of controversial question. Experience of the realization of discussion in learning gives us the opportunity to formulate some of the main organizational-pedagogical bases that are common to all types of discussion:

We start the carrying of the discussion with the extension of specific debating point (i.e. do not have clear answer and suggests various solutions, including those opposite, for example “What is the leading

syndrome in the patient?”, “What is the route of this patient”, etc.);

There has to be the probable course of the discussion in the spotlight (What becomes possible in view of one or another set of circumstances? What could happen if...? Were there other possibilities, options, actions?) all phrases from the internship doctors must concern the topic being discussed;

The teacher has to correct mistakes and inexactness made by internship doctors and to provoke them to make the same;

All statements made by internship doctors must be accompanied by arguments, groundings, to make it possible for educator to ask questions such as: ‘What facts endorse your opinion?’

The discussion can be solved by consensus (acceptance of agreed decision), or by preserving the existing differences among the participants;

The discussion contributes to the development of critical thinking, allows to determine the grounding of oneself, forms skills to defend own opinion, deepens the knowledge on the problem [6, 7].

The discussion is conducted in such forms:

‘Round table’ is a conversation, when small group of participants takes part equally (up to 5 persons), most often used to conduct clinical analysis of patients at the practical classes. In the run of the discussion the exchange of ideas takes place among the internship doctors.

‘Debate’ is an official discussion, based on the speech of participants. We use such form during clinical trials and at the conferences. After the patient being demonstrated, the official discussion of the clinical case begins, every physician supports own hypothesis.

*The presentation* is the form of representation the information by the meaning of different technical devices. The educational presentation is made to help the teacher to give theoretical and practical material easy and graphically. Very often, during the practical classes, internship doctors speak on the presentations made by their own.

As a rule, the presentation lasts up to 30 minutes. If it takes more, we combine it with other active learning methods as ‘brainstorming’, discussion etc. It is very important to get in contact with audience during the presentation. It can be accomplished by using the interesting examples, questions to the audience on the topic, aimed to involve the audience in and to improve the ability to remember the subject being discussed. It favors if the presentation contains not only the text but also visual objects as pictures, photos, graphics images etc. It makes the process of perception of the information much easier.

The role play is a game with set of rules, collected to achieve previously determined outcome. Game situations model or represent real or typical work situations when several people play definite roles according to the scenario on the previously chosen educational topic (examination, consulting the patient having bad habits etc.). Playing roles and discussing results of the role play allows the attendee to comprehend possible actions of both sides better, reveals common errors, done in the process of interaction, helps to grasp the importance of constructive and non-constructive models of behavior and to learn new strategies of actions. The role play allows us to make up the new safe surrounding, where the participants are able to determine and examine alternative approaches to solve the situation.

Final stage envisages evaluation of the work of the internship doctors on such criteria as academic training

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course, practical skills, clinical thinking, discussion participation, interaction in group, ability to make correct decision in the definite situation.

**Conclusions.** In order to accomplish the top level of information adoption and to make the class interesting and dynamic we should use different interactive methods of education, as: ‘brainstorming’, discussion, case-method, role play, presentation.

To use one or another interactive method for physician training effectively, it is important to be well-informed in different methods, realize its peculiarities, notice advantages and limitations, also consider recommendations to its practice, use interactive methods according to the topic, purpose and the task of an assignment.

Outlooks on further researches: further we plan to study the effectiveness of the introduction of other forms of interactive learning (study of the ‘case-method’).

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