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THE INTERACTIVE METHODS OF EDUCATION IN THE PROCESS OF PROFESSIONAL PREPARATION OF FUTURE DOCTORS

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The Interactive Teaching Methods in Process of Professional Preparation of Future Doctors

The article highlights the views on the problem formulation and implementation of the unconventional forms and methods of training in the professional preparation of medical students; defined the basic methods and forms of preparation; attempted to outline the ways to optimize the process of professional development of future doctor in the context of spiritual and creative potential while studying at the university. The purpose of the article is to reveal the course of the conduct and the results of the pedagogical experiment, what was carried out during the writing of the candidate's dissertation, to consider a series of interactive methods and forms in the process of professional training of medical students. Among the means used in the process of forming the creative potential of future doctors in order to stimulate them to activity, creative autonomy, accumulation of personal experience – dialogical forms and methods (discussions, analysis of clinical situations, interactive lectures); active and heuristic methods (brainstorming, synectics, etc.); training technologies (reflexivity training, professional-behavioral training, etc.). Pedagogical observations have shown that due to the application of the portfolio method in the process of professional training of future physicians, the nature of the relationship between the teacher and students in favor of humanization and the conscious and independent achievement of educational goals has changed.

The topic we discussed in the article now is important, therefore, it is relevant and has wide prospects in terms of professional development techniques and the main issues of deontology and professional ethics of the physician.

Key words: forms and methods of training, simulation modeling, game simulation, project method, future physician, interactivity.

Formation of constructive potential of future doctors is provided by creative approach of teachers to professional preparation of students-medics, motivation to innovational pedagogical activity. Modern researches consider the concept of “novation” in the context of transformations that happen in all spheres of being and are defined as “real way of objection conservative or outmoded elements of sociocultural experience of humanity, renewal or qualitative changes of outdated tendencies, structures, positions and products of human sociocultural activity, that exhausted reserves of positive development” [1, p. 210–214].

Interactive methods became subject of scientific investigations of N. Bordovska, L. Burkova, L. Vashchenko, A. Verbytskyi, L. Danylenko, D. Dzhonson, P. Drobiazko, O. Dusavytskyi, V. Zhyvodior, O. Kozlova, M. Kriuher, V. Liventsov, E. Lozanova, A. Pidlasyi, L. Pyrozhenko, N. Pohribna, S. Podmazin, O. Pometun, O. Popova, H. Selevko, M. Skrypnyk, K. Ushakov, N. Fedorova, A. Hutorskyi, etc.

Aim of investigation – to reveal process of conduction and results of pedagogical experiment, consider number of interactive methods and forms in the process of professional preparation of medical students. Topic that we considered in the article now remains on time, that’s why it is actual and has wide prospects in the direction of methodologies of professional development and basic problems of deontology and professional ethics of a doctor.

Unconventional forms and methods evoke interest to studying and cognition in students, as due to A. Verbytskyi, the whole range of tasks can be effectively solved with the help of them, that is not always possible with traditional education, that is: to form not only cognitive, but professional motives and interests; educate systematic thinking of specialists that consists in holistic understanding of not only nature and society, but also themselves, their place in the world; to give holistic notion about professional activity and its fragments; to teach collective mental and practical works, to form skills and habits of social interaction and communication, individual and compatible acceptance of decisions; to master methods of modeling [2, p. 3].

Among means which we used in the process of formation creative potential of future doctors with the aim of their motivation to activity, creative autonomy, accumulation of personal experience – dialogical forms and methods (discussions, analysis of clinical situations, interactive lectures); active and heuristic methods (brain storm, synectic, etc.); training technologies (training of reflection, professionally-behavioral training and others). Their application promoted enrichment by experience of creativity, formation of mechanisms of self-knowledge, self-organization and self-realization of personality, formation of creative potential of future doctors.

While using *interactive methods*, educational process of future doctors was built on principles of creative interaction and pedagogical cooperation of teacher and students, where all members of educational process became subjects of professional preparation. Organization of interactive education provided: using didactic and role games, modeling of professional tasks, creation, solution and analysis of problematic situations, writing clinical scenarios, using clinical cases, etc. Main principle of interaction was maintained in the process of investigation – constant interaction of students between each other, their cooperation, communication, teacher only organized and coordinated interactive cooperation in this situation (it was made in unnoticed and unobtrusive way, as main attention was paid on creative self-realization of future doctors).

In the process of pedagogical experiment, it was clarified that efficiency of pedagogical interaction was depended on right determination of targets of common activity, conformity of pedagogical tactic of concrete task of this interaction, activity of medical students themselves. Necessity of solution of tasks of personal development and education of students was peculiarity of pedagogical interaction in the process of formation creative potential of future doctors at medical institute of higher education under conditions of reforming of medical branch in Ukraine and modernization of higher education system in the context of Euro integration.

In the course of investigation, it was established that optimal choice of educational methods (traditional and nonstandard) promoted increasing of

optimization of educational process (problematic, interactive lectures, dialogue, discussions, prognostication and analysis of pedagogical situations, round tables, master-classes, conferences, role and business games, video-method, presentations, protection of students projects, multimedia, etc.)

The task of teacher was: to help future doctors in their becoming as object of educationally professional activity under conditions of pedagogical interaction; to form readiness for creative self-development and continuous professional self-improvement in future doctors. Teachers faced the task not only to outline but also to provide concrete conditions for formation of creative potential of future doctors (especially disciplines of cycle of humanitarian preparation).

Lecture-dialogue was the most optimal variant of lecture at the beginning of learning disciplines and humanitarian cycle as well as professionally oriented disciplines. During acquaintance with new educational material such lecture promoted activation of students' activity: communication on equal dialogical principles activated mental activity of future doctors, influenced on increasing of efficiency of collective work in groups. It is known, that studying in dialogues forms socially-psychological readiness to work in team, especially in situations of searching efficient ways of solving problems [3].

Problematic lectures induced students to demonstrate individuality during analysis of task's conditions, to apply knowledge from contiguity disciplines; during educational activity future doctors performed certain searching actions, developing in this way their researching abilities, capacity to generation of new ideas and originality in solving tasks, that activated ability to individually find ways of solving problems.

Clear structuring of content of educational course, consideration of lecture's topic in aspect of problem, creative approach for searching ways of its solution, creativity in learning new knowledge were specificity of working with preparing *problematic lecture*. As practice proved of application of problematic lectures, their benefits consisted in: cooperative and spiritual interactions during communication of teacher with audience (on the basis of equal constructive dialogue); activation of

mental activity and creative abilities of future doctors by selection of adequate questions; more effective use of educational time during learning of professional knowledge due to proactive tasks, doing of which was predicted before beginning of the lecture (it means that future doctors have already oriented in essence of the problem, proposed proper vision of ways and means how to solve it). Considerable benefit is that future doctors actively and positively learned new material under control of their teacher in the process of problematic lectures, that promoted development of active clinical, ability to self-regulating and self-arrangement of medical students.

Applying of *lecture-consultation* promoted activation of creative potential of future doctors, as it was being passed in the form of questions discussion, which were formulated at the beginning of the lesson and which related to lection's topic. Herewith, presentation of material was presented in form of connected revealing of the topic and answers to questions were formulated in the process of lecture. Future doctors were demanded to be able to literately formulate their thoughts, clearly voice them, correctly and appropriately arrange accents and then attentively listen to the teacher during the lecture and find the question to the answer. Problematic questions and variants of answers were vivid displays of creative thinking.

Discussion is effective form of conduction of practical lessons (from Latin discussion – consideration, investigation), that is explained as way of organization common activity, that promotes developing of general solution of the problem; method of studying that increases efficiency of educational process by inclusion of students in collective search of truth [4, p. 193].

Application of *method of projects* in the course of pedagogical experiment, that is one of methodological innovations at higher school; it enhanced social importance of their profession, emphasized the feeling of practical significance of medical education, promoted formation of skills and habits of medical students of application and improvement of professional knowledge, as well as their creative self-expression and professional self-realization as representatives of the most humanitarian profession of doctor.

During conduction of training, acquirement and learning of new knowledge, skills, habits and qualities occurred in borders of zone of the closest development of participants in the result of common activity. Herewith, training appeared as instrumental actions, helped to receive new possibilities of learning set of lingual-cultural means of for learning of professional culture of doctor.

As D. Li notices, training will be the most useful for its participants if the program is structured so that maximum simplify the process of education not for harm on its efficiency [5]. In the process of trainings, future doctors had possibility to realize their own role in reflective environment, design self-organization and further self-development. training exercises in communication helped participant to avoid a lot of mistakes and reduce sharpness of emotional stress, that occurred when there were communicative difficulties. They were used for “teaching students effective behavior in different communicative situations and develop their appropriate skills” [6, p. 7].

Training exercises, directed into formation of dialogue culture, helped future doctors avoid a lot of mistakes and reduce sharpness of emotional stress, that occurred when there were communicate difficulties. They were used for teaching students the effective behavior in different communicative situations and develop their appropriate skills [7, p. 7].

Future doctors studied how to master skills of hearing and understanding each other and express their opinion and wishes so that transfer actions of companion and make them their partner, that appeared to be so-called preparation for them to communicate with future patients.

Application of *method of dialogue* promoted activation of mental activity of future doctors, as being based on questions-answers of teacher and students, dialogue provided involvement of future doctors into professional activity, directed their activity into application and reproduction of acquired professional knowledge. We found out, that the result of dialogue directly depended on dialogical skill of teachers, their culture of communication.

As K. Rodgers emphasized, while using method of dialogue, it is necessary to remember about: 1) full adoption or absolutely positive attitude to personality; 2) adequate understanding of companion; 3) congruence, that is ability to stay yourself (granting freedom) [8]. For this aim, we organized mentally-lingual activity of future doctors in small groups, in the work of which we had opportunity to widely open their communicational abilities and realize as complete companion.

For example, we indulged to pedagogical *improvisation* during studying the topic “Peculiarities of communication of doctor with patient” from the course “Psychology of communication”, that demanded operational orientation in emergency situation from teacher and future doctors, which was created by medical students themselves, imitating patients with not clearly outlined complaint on ailment, this induced participant of improvisation who had the role of a doctor to skillfully and quickly find out necessary information about patient for figuring out anamnesis of disease. Attention was especially paid on emotive function of speaking of future doctor during improvisation.

Working with topic “Communication as interaction”, future doctors were proposed such form of work as *medical consultation*, where searching of right ways of solving the problem took place, with setting the diagnosis and developing scheme of treatment of imaginary patient, about whom necessary information was given about development of his/her disease in the history of illness. In such situation future doctors found “common language”, proved, argued their opinion, studied how to hear other people by following rules of medical ethics and norms of culture of communication.

As results of investigation testified, application of *method of analysis* of situations promoted increasing of cognitive interest of future doctors to educational disciplines, developed creative abilities of students. Essence of this method consists in developing of model of certain situation in future professional activity and hospital practice, solution of which demanded professional knowledge and practical skills. Teacher-presenter wasn't just passive viewer, but appeared as mediator in the process

of creative cooperation and spiritual interaction of medical students, generated questions, fixed answers of future doctors, maintained their discussion.

During playing of role situations, future doctors had possibility to see their groupmates not only in interpersonal relations but in the process of implementation of a certain professional role, in which student will be realized in the future as doctor-professional. Using this method gives possibility to predict how they will try to find optimal solution of situation in the process of professional preparing of future doctors; teacher always had possibility to find out what problems arise in future doctors during professionally oriented interaction.

Application of *method “on the basis of clinical cases”* turned to be effective, that means use of clinical cases in educational process and provides availability of so-called “bank” of untypical clinical cases concerning different course of the same disease, different aspects of its studying and investigation. Scientific articles of medical direction were brought by future doctors to “bank” of clinical cases; they are about methods of treatment and clinical state, excerpts from the history of illness of patients, results of diagnostic investigation (laboratory, radiological, ultrasound, etc.), videos of patient’s examination.

Imitational and actable modeling was applied with the aim of solving the problem of formation creative potential of future doctors, developing of their clinical, creative thinking, that consisted in determination of “conditional patients”, in writing anamnesis (Greek *anamnesko* – remember) – complex of information about patient and development of disease, that is received during interrogation of a patients themselves and people who are close to them. Application of this method promotes studying of future doctors not only to collect anamnesis, but to communicate with patient in tolerant, polite and attentive way, to use certain technologies with which students had acquainted during lectures.

Modeling of professional activity under conditions of organizationally-communicative games was applied in order to form mentally-lingual component of creative potential of future doctors (playing professional situations by roles, where some students act as doctors (at clinic, specialized departments of hospitals, etc.) and

the other students were patients). Such types of communicative games were used: by character of methodological process: educational, training, generalizing, controlling; by actable methodology: objective, scene, role, business-like, imitative, dramatic; by actable environment: with (without) subjects; by specificity of actable participation: collective, group, interpersonal; by technique of procedure: games-trainings, game-self-analysis, game-reflection.

Organization of individual situation of success promoted formation of *creative potential* of future doctors, that according to A. Belkina is purposeful, organized combination of conditions, with the help of which ability to achieve considerable results is created inactivity of separate personality as well as group in general [9]. In the course of situation of success orientation into individually creative development of personality took place, that provided choice of tasks and methods of activity depending on abilities and possibilities of a student. This promoted provision of qualitatively new level of professional preparation, stimulated development of individual abilities and creative potential. Using of innovational technologies turned to be especially effective, in particular, technologies of individually-creative education, that provided studying of individual professionally significant abilities of future doctors, and their further creative development in the process of education.

Presentation became one of effective form of conduction of practical lessons. Using presentation interested future doctors, was especially expedient during consideration of large, complicated topic. Medical students practiced to collectively cooperate in professional group, thoroughly studying material by one of questions from the topic, where it is necessary not only to hear, but understand the other, be able to explain their opinion, express own vision of the problem and ways of its solving, show ability to generating ideas, to prognostication of possible results. Work was conducted in subgroups, which were formed with the help of teachers and were equivalent by composition, clearly realized essence of the task, in what way and with the help of what means it is possible to solve it, relying on available sources. Form of presentation was individually chosen by participants; work was tried to be organized

so that content of represented material would completely reveal proposed problem for consideration.

Portfolio (from performance portfolio, portfolio – briefcase) became one of effective method in process of formation of potential in future doctors, that in process of professional preparation in borders of realization of competent approach is effective for estimation and self-estimation of educational achievements of subjects of educational environment, that in some countries (the USA, Great Britain, Germany, etc.) is understood as component of so-called “authentic estimation” in borders of personally oriented approach to education with the aim of clarification level of formation in personality certain qualities in conditions that are maximum close to professional activity.

Portfolio of future doctor – it is so-called report about what students have learnt in the process of studying certain discipline, how they think, analyze, synthesize. This is way of authentic estimation in studying, oriented into result, that considers achievement of future doctors during determined interval of time. Pedagogical observations have proved, that due to application of portfolio method in the process of professional preparation of future doctors, character of relations changed between teachers and students in benefit of humanization and realized and individual achieving of goals of education. Therefore, in the process of professional preparation of future doctors, portfolio became active way of self-organization, self-estimation and self-presentation of medical student at educational institution and in future professional activity. It was possible to track progress of all students with the help of portfolio, comparatively with their achievements in educational discipline.

We are persuaded in this way, that using interactive methods in the process of professional preparation of future doctors is also effective in the context of development of creative potential of students: they were actively and interestedly working on creation of presentation, looked for necessary material, worked with original sources, applied gained knowledge on the practice, implemented their original ideas, creative plans, etc. Creativity of future doctors was increasing in the process of such knowledge. Preparing for practical lessons, medical students were

writing clinical scenarios, created original presentations. Of course, such approach demanded special preparation at forming stage of pedagogical experiment, but later it had high results: creative activity was increased in future doctors, spiritual interaction of teacher and future doctor, knowledge was better assimilated which was gained during lectures, responsibility for each result has increased as well as for achievement of the whole group. In our opinion, presentation of future doctors promotes enjoyment of their future needs – enrichment by necessary knowledge and skills and experience of creative self-realization, as it cannot possible to do without it during implementation of professional duties in future hospital activity.

We perceive further investigation in searching of effective ways of development such types of work that should be intensified by consistency of their application, accounting the topic, posed tasks, level and amount of members in the group, available material and means, etc.

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Слухенська Р. В., Єрохова А. А., Пасько Т. В.

Інтерактивні методи навчання у процесі професійної підготовки майбутніх лікарів

У статті висвітлено погляди на проблему формування та втілення у життя нетрадиційних форм та методів навчання у процесі професійної підготовки студентів-медиків; визначено та розглянуто основні методи та форми професійної підготовки; здійснено спробу окреслити шляхи оптимізації процесу професійного росту майбутнього лікаря в контексті формування його духовно-творчого потенціалу під час навчання у вузі. Мета розвідки – розкрити хід проведення та результати педагогічного експерименту, що був проведений в ході написання кандидатської дисертації, розглянути низку інтерактивних методів та форм у процесі професійної підготовки студентів-медиків. Серед засобів, які використовуються нами у процесі формування творчого потенціалу майбутніх лікарів з метою спонукання їх до активності, творчої самостійності, накопичення особистісного досвіду – діалогічні форми й методи (дискусії, аналіз клінічних ситуацій, інтерактивні лекції); активні та евристичні методи (мозковий штурм, синектика та ін.); тренінгові технології (тренінг рефлексивності, професійно-поведінковий тренінг та ін.). Педагогічні спостереження засвідчили, що завдяки застосуванню методу портфоліо в процесі професійної підготовки майбутніх лікарів змінювався характер взаємин між викладачем і студентами на користь гуманізації й усвідомленому та самостійному досягненню цілей освіти.

Тема, яку ми розглянули у статті, зараз перебуває на часі, тому є актуальною та має широкі перспективи у руслі методик професійного розвитку й основних проблематик деонтології та професійної етики лікаря.

Ключові слова: форми та методів навчання, імітаційне моделювання, ігрове моделювання, метод проектів, майбутній лікар, інтерактивність.

Слухенская Р. В., Ерохов А. А., Пасько Т. В.

Интерактивные методы обучения в процессе профессиональной подготовки будущих врачей

В статье освещены взгляды на проблему формирования и воплощения в жизнь нетрадиционных форм и методов обучения в процессе профессиональной подготовки студентов-медиков; определены и рассмотрены основные методы и формы профессиональной подготовки; предпринята попытка наметить пути оптимизации процесса профессионального роста будущего врача в контексте формирования его духовно-творческого потенциала во время обучения в вузе. Цель статьи – раскрыть ход проведения и результаты педагогического эксперимента, проведенного в ходе написания кандидатской диссертации, рассмотреть ряд интерактивных методов и форм в процессе профессиональной подготовки студентов-медиков. Среди средств, которые используются нами в процессе формирования творческого потенциала будущих врачей с целью побуждения их к активности, творческой самостоятельности, накопление личностного опыта – диалогические формы и методы (дискуссии, анализ клинических ситуаций, интерактивные лекции); активные и эвристические методы (мозговой штурм, синектика и др.) тренинговые технологии (тренинг рефлексивности, профессионально-поведенческий тренинг и др.). Педагогические наблюдения показали, что благодаря применению метода портфолио в процессе профессиональной подготовки будущих врачей менялся характер взаимоотношений между преподавателем и студентами в пользу гуманизации и осознанном самостоятельном достижению целей образования.

Тема, которую мы рассмотрели в статье, сейчас прерогативная, поэтому актуальна и имеет широкие перспективы в русле методик профессионального развития и основных проблематик деонтологии и профессиональной этики врача.

Ключевые слова: формы и методы обучения, имитационное моделирование, игровое моделирование, метод проектов, будущий врач, интерактивность.

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