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EDUCATION QUALITY MANAGEMENT AT A MEDICAL EDUCATION ESTABLISHMENT BASED ON AN INNOVATIVE APPROACH

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The article proves the necessity of medical education reform in accordance with the government approved strategy for the development of medical education. The highlighted problems are: education quality management at a medical education establishment; the improvement of a management system based on an innovative approach; implementation of feedback through the introduction of monitoring studies. The basic concepts "quality", "quality of educational activity", "educational innovation" are analyzed and specified. The basic conceptual approaches to quality management of educational activity (situational, system, process, synergetic, practical, reflexive, innovative) are determined. The model of an innovative development of a higher medical education institution is presented, consisting of the 3 main stages conception, implementation and usage. The analysis of theoretical and practical training is made. The analysis of innovative methods (fishbone, scribing, collective-group training and situational modeling, combination of classroom and extracurricular training with professional activity, etc.) is made. It was emphasized that an important element of the implementation of the model of innovation development is to determine the level of motivation and readiness for innovations among the senior management of the institution, scientific and pedagogical staff and, especially, among future medical students. The results of the sociological survey of students' perception of the system of internal quality assurance in the educational institution, the students' perception of innovation in the educational process, and the students' perception of IT incorporation in the educational environment are presented. It is concluded that the quality management of educational activities in a medical education institution on the basis of the innovative approach contributes to the introduction of innovative technologies and the improvement of content, methods, and forms of organization of educational process. Furthermore, the innovate approach creates conditions for the renewal of educational policy and competitiveness in the educational market.

Key words: *quality of education, management, conceptual approaches, innovations, higher medical education.*

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УПРАВЛІННЯ ЯКІСТЮ ОСВІТНЬОЇ ДІЯЛЬНОСТІ МЕДИЧНОГО ЗАКЛАДУ ОСВІТИ НА ОСНОВІ ІННОВАЦІЙНОГО ПІДХОДУ

С. В. Гордійчук

У статті обґрунтовано необхідність проведення реформи медичної освіти у відповідно до ухваленої урядом Стратегії розвитку медичної освіти. Висвітлено проблеми: управління якістю освітньої діяльності у закладі вищої медичної освіти; вдосконалення системи управління на основі інноваційного підходу; здійснення зворотного зв'язку шляхом запровадження моніторингових досліджень. Проаналізовано та уточнено базові поняття "якість", "якість освітньої діяльності", "освітня інновація". Визначено основні концептуальні підходи до управління якістю освітньої діяльності (ситуаційний, системний, процесний, синергетичний, діяльнісний, рефлексивний, інноваційний). Представлено модель забезпечення інноваційного розвитку вищого медичного навчального закладу, що складається з 3-х основних етапів: проектування, реалізація та використання. Здійснено аналіз теоретичної та практичної підготовки студентів, проаналізовано інноваційні методики (прийом Фішбоум, скрайбінг, технології колективно-групового навчання та ситуативного моделювання, поєднання аудиторного та позааудиторного навчання з практичною роботою у професійній діяльності тощо). Підкреслено, що важливим елементом запровадження моделі інноваційного розвитку у діяльність закладу вищої медичної освіти є визначення рівня мотивації та готовності до інновацій серед вищого керівництва закладу, науково-педагогічних, педагогічних працівників та, особливо, серед майбутніх студентів-медиків. Наведено результати соціологічного опитування сприйняття студентами системи внутрішнього забезпечення якості освітньої діяльності у закладі освіти; сприйняття студентами інноватики у освітньому процесі; сприйняття студентами наявної у закладі освіти системи інформатизації освітнього середовища. Зроблено висновок, що управління якістю освітньої діяльності у медичному закладі освіти на основі інноваційного підходу сприяє впровадженню інноваційних технологій; вдосконаленню змісту, методів, форм організації освітнього процесу; створює умови для оновлення освітньої політики та конкурентоспроможності на ринку освітніх послуг.

Ключові слова: *якість освітньої діяльності, управління, концептуальні підходи, інновації, вища медична освіта.*

Introduction. Due to both the European trends in the development of medical education and the reforming of the health care system implemented today in Ukraine, the priority task of the development of medical education is to increase competitiveness, as well as its transformation, which will lead to increasing quality of medical services. In general, the Ukrainian government approved strategy for the development of medical education [10] plans the integrated approach to changes in medical education: higher medical education quality increase (creating a field qualifications system; development and system updating of training standards; periodic reviewing of

educational programs and curricula; increasing educational and scientific cooperation between educational institutions; creation of conditions for applicants practice on university clinics basis; providing medical education institutions with modern educational content; raising the requirements for students; the introduction of a unified state qualification examination; raising the level of staffing, logistics, etc.); reforming postgraduate education; effective funding; improving the quality of scientific research, etc. To implement the strategy, it is necessary to implement complex changes in the management system of a higher medical educational institution, in

particular, the management of educational quality on the basis of an innovative approach.

Literature review. The management and quality of education during the reforming process are examined in the papers of V. Bondar, S. Goncharenko, G. Yelnikova, B. Zhabrovsky, L. Kalinina, V. Lugovyi, T. Lukina, B. Maslova, V. Oliinyk, V. Pikelnaiia, S. Sysoieva, T. Sorochan, and J. Talanova. The quality of medical education is analysed by S. Gordiichuk, I. Bulach, O. Volosovets, Y. Voronenko, and V. Shatylo. Innovation processes in education and their management are analyzed in the papers of both domestic and international scientists, including I. Andrushenko, G. Balyhina, L. Vashchenko, L. Danylenko, S. Klepka and others.

Article objective. It is necessary to substantiate the basic forms, methods and means of quality management of educational activity of the medical educational institution on the basis of an innovative approach.

Results and Discussion. The problem of educational quality has become one of the main issues in the process of educational systems reforming [1]. Quality of education, according to domestic scientists, does not necessitate the identification of students' successful education in the study of subjects. Quality of education and educational activities should be linked with teaching activities and the ability to implement purposeful development of a personality, consciously choosing the necessary forms, methods and means of education and character education. Particular emphasis focused on the dependence of educational quality on the creative self-development of scientific staff [5].

By refining the basic concept of "quality of education", it should be noted that this definition is quite multi-vector and often reflects various aspects

of an educational process including philosophical, social, pedagogical, political, demographic, economic, etc. R. Kubanov notes: "... every science that focuses its attention on educational quality chooses its own view and covers various aspects through which this problem is studied ..." [7: 2].

B. Zhebrovsky analyzes various approaches to the interpretation of the concept of "quality of education" in pedagogical theory and practice, separating the viewpoints of domestic and international scholars on those which consider the concept of "quality of education" on the basis of its analysis as a process and as a result. From the standpoint of the process, "the quality of education" is regarded as a state that satisfies the needs of a person, yet also meets the interests of society and a state. From the standpoint of the result, quality is considered as the level of developed competencies reached by graduates within the context of the requirements of educational standards of training [12: 8].

I. Bulach, conducting a long-term study of the quality of medical education, notes that "... the quality of education is a combination of properties and characteristics of the educational process that give it the ability to form a level of professional competence that meets the needs of citizens, enterprises and organizations, society and state ..." [2: 27].

T. Lukina determines the quality of education as "...a balanced correspondence of a certain educational level with numerous needs, goals, conditions, approved educational norms and standards, which is established to identify the causes of violation of this correspondence and management of the process of improving the established quality ..." [9: 21].

V. Lugovyi and J. Talanova, while considering the quality of educational activities of countries belonging to the European Higher Education Area, emphasize that the main quality assurance tool for Ukrainian higher education is the implementation of internal and external quality assurance systems in accordance with the Standards and Recommendations for quality assurance in the European Higher Education Area (EHEA) [4]. This document contains a list of standards and a list of recommendations for higher educational institutions and agencies for higher education quality [8].

The effectiveness of a higher educational institution, medical in particular, depends on the principles, methods and means of organizing management, educational, scientific, practical, and educational components at all stages of the life cycle. The theory of management of a modern educational institution is based on conceptual approaches that are in line with the European model for providing and assessing the quality of educational activities. The most common among them should be considered [3]:

- system approach – is the main direction in the methodology of management, considers an object as an integral set of elements and model of the system;

- functional approach – pedagogical activity is considered as a system of functions;

- synergetic approach – provides an opportunity to study the educational process on the basis of theoretical analysis of pedagogical phenomena;

- practical approach – motivates, directs the process of management to the goal, defines the methods, means of activity of the subjects of management;

- situational approach – indicates the need for the quality management of educational activities to analyze each situation that arises in the process of

managing a higher education institution;

- reflexive approach – creates conditions for control and evaluation of the results of management activities;

- process approach – provides the opportunity to identify all processes of the life cycle of the educational institution, to plan, organize, control, and improve the management system;

- innovative approach – based on innovations for spreading and use of new tools and methods based on an organization's ability to respond quickly to changes that are caused by the influence of external and internal factors.

According to Article 1 of the Law of Ukraine "On Innovation Activity" [11], "innovation in the field of education or educational innovations" are "... newly created (applied) and (or) advanced innovative products, technologies, products or services, as well as organizational and technical solutions of industrial, administrative, commercial or other kind, which significantly improve the quality, efficiency and effectiveness of an educational process...". In addition, according to Article 4, entities and objects of innovation activity may be persons with a certain innovative idea (the core of innovation) who conduct an innovative experiment (source of innovation), educational apprentices (students, interns), as well as institutions that provide innovation in an educational process (educational institutions).

Important elements of the theoretical and methodological foundations of the innovative development of a higher medical school may be listed as the following: management decisions based on development, implementation and evaluation of alternative solutions; determination of criteria for choosing the optimal solution; the process of choosing and making management decisions.

The innovative development of a higher medical educational institution should be divided into 3 main stages: conception, implementation and use. The first stage of the innovative development of a higher medical educational institution is conception. Conception includes adaptation of innovations to the conditions and needs of a particular higher medical school. The second stage is the implementation of the innovation development of a higher medical school through changes in its activities. These changes are characterized by improving the structure of educational, practical, scientific and organizational components that are carried out by a higher medical educational institution, as well as resource strengthening (staff, logistical, financial, etc.). The third stage involves the use, characterized by the improvement of the innovative environment of a higher medical school.

Conception is realized through the following: the formation of the goals of innovative development of a higher medical educational institution; study and arrangement of educational and methodological material for the implementation of educational innovations; the analysis of innovations practicability in accordance with the activities of a higher medical educational institution and the project conception of technologies for the implementation of innovations in medical education system of a higher medical educational institution.

Implementation is accomplished through the following: optimizing the necessary equipment for introducing innovations into educational process; facilities and equipment for educational process; application of new management models for the coordination of innovations; definition of the list of necessary educational and reference literature, which should become the basis for introducing innovations into educational process;

selection and training of staff and development of methods student engagement and determining the effectiveness of innovations.

Use is realized through the following: analysis of the introduction of innovations; selection of the most effective technologies for implementation of innovations; improvement of the innovation model in accordance with the development and requirements of a higher medical educational institution; realization and forecasting of further development of a higher medical educational institution.

On the basis of MHEI, student training programmes (nurses, midwives, paramedics, dental technicians, dental hygienists, etc.) at Zhytomyr Medical Institute of Zhytomyr Regional Council were analysed. It was found that at the present stage of development, teaching staff widely uses innovative methods of teaching and education that promote the quality of the innovative development of the institute. For example, the following methods of subject presentation are widely used in humanitarian classes: *fishbone* (allows to determine cause-and-effect relationship; to deepen the students' knowledge about the essence of concepts, facts, arguments; to teach medical students to analyze and interpret information obtained during the training); *scribing* (innovative presentation technique, where subject material is displayed in the form of drawings, diagrams, graphs on a white sheet of paper or on a white board with a black marker; the technique allows to visualize educational material); *chain* (the purpose of this exercise is to develop observation, creative thinking and creative imagination); *tag cloud* (the method allows to visualize the list of categories, which facilitates the rapid assimilation of terms); *aquarium* (it helps to improve the skills of working in small groups). The technologies of collective-group training and situational

modeling are used in science classes: *unfinished sentence* (it gives the opportunity to express one's opinion more freely on a given problem); *microphone* (the ability to quickly and clearly express one's opinion on a problem / situation); *imitation* (it develops imagination and critical thinking and the ability to solve problems); *studying while teaching* (the method makes it possible to distinguish the general picture of the concepts and facts that are to be studied at the lesson, as well as can raise students' questions and motivate their interest in learning), etc. *Discussion* is one of the popular methods of students' cognitive activity. The following methods are used during a discussion: *presser* (giving students the opportunity to learn to express their opinion on a topic with argumentation, clearly and in a concise form); *a talk show* (it allows to control the course of a discussion, to evaluate active participation of each student); *a continuous scale of thoughts* (the purpose of a method is to develop medical students' skills to make their own decisions and to improve the ability to argue their opinion), etc.

The combination of classroom and extracurricular training with professional activity is widely used in clinical specialties classes. This form of work provides an opportunity to raise the level of motivation to master a discipline and a chosen specialty, establishes the creative interaction between a teacher and a student, and activates students' work in a practical lesson. When teaching professional subjects, teachers use a *problem-oriented learning* technology. Students analyze a clinical and situational problem and a teacher who faces students as an expert controls conclusions. The implementation of this method in educational process increases the level of adaptation of future nurses to real working environment in in-patient departments.

Equally popular methods in professional teaching are: *structural-logical schemes* (a method of visual representation of information in structured, systematized, encoded with the help of sign-signals form); *training* (the planned process of changing attitude, knowledge or behavioral skills of a learner through the acquisition of educational experience); *case technology classes* (training material, structured in a special format); *workshop* is an educational event (equally to seminars, courses, workshops), where participants receive knowledge independently), etc.

An important element of the introduction of the model of innovation development into the activity of the institution of higher medical education is to determine the level of motivation and readiness for innovation among the senior management of the institution, scientific and pedagogical staff and, especially, among future medical students [6]. For this purpose we have conducted a questionnaire for students of College at MHEI "Zhytomyr Medical Institute" at the educational qualification level of an undergraduate, specialty 223 "Nursing" (100 respondents) and bachelor and master degree students of MHEI "Zhytomyr Medical Institute", specialty 223 "Nursing" (98 respondents). The questionnaire consisted of 30 questions, which were divided into 3 clusters: students perceiving the system of internal quality assurance in the educational institution, students perceiving educational process innovation, and the students perceiving the IT penetration of educational system.

According to the survey results of the first cluster, it was found that students rated the quality of education as such: 56 % during the training of general and special competencies; 24 % teaching skills of scientific and teaching staff; 10 % accessibility to patients during

practical classes; 10 % the level of facilities and resources. 95 % of respondents indicated that they were satisfied with the level of educational services provided at the medical institute. The following suggestions for improving the quality of educational activities were stated by respondents: the need for periodic overview of educational training programs (64 %); free choice disciplines increase (12 %); hours for practical training increase (10 %); strengthening the facilities and resources (8 %); improvement of the social environment of the institution (6 %).

Analyzing the 2nd cluster of student responses, the following has been noted: 58 % of students state that the main form of innovation is the incorporation of IT resources into the educational environment; 15 % of students state that distance learning and audiovisual courses should be introduced; 13 % of students state that application of teaching innovations should be made; 10 % of students state that use of Internet resources during classes should be introduced; 4 % of students state that an internal informational system should be created. Regarding areas for teaching innovation: 45 % of students state that this is the responsibility of the teacher; 22 % of students state professional self-improvement; 14 % of students state the development and testing of innovative techniques; 10 % of students state the possibility of creative approach to the organization of educational process; 9 % of students state the implementation of pedagogical experiment and examination.

In the MHEI "Zhytomyr Medical Institute" ZhRC an integrated information system has been created, which includes the following: an official website of the educational institution; institute WEB-system; the informational and analytical system "Dean's Office" (to plan the educational

load of scientific and pedagogical staff, to plan and organize educational process, to form a schedule of training sessions and to publish it in an online format on the institution site, to enter and analyze indicators of students' educational activity, etc.); the only state educational electronic database (SEED); collaboration with the Ukrainian Center for the Evaluation of the Quality of Education through the e-cabinet of the head of the institution; medical information system "Doctor Alex"; information system of electronic document circulation; e-learning information system; Colloquium testing information system (database of test data for the licensed integrated exam "Krok"); electronic grade book of an academic group's success; internal information system Intranet (contains educational material for lectures, practical classes, seminars, students' individual work, etc.).

The 3rd cluster answers provided an opportunity to determine the need for further development of the informational educational environment. 97 % of respondents indicated that daily use of electronic programs of this system, in their opinion, is the key to improving the quality of the organization of educational process in a medical educational institution.

Conclusions. Innovative development of a modern higher medical educational institution is a purposeful, precise and unchanging process that ensures the transition of a higher educational institution to a new qualitative state. At the same time, the management of educational quality based on an innovative approach promotes the introduction of innovative technologies, the improvement of content, methods, and forms of organization of educational process, creates conditions for the renewal of educational policy and competitiveness in the market of educational services, ensures the formation of a medical

specialist with a high level of professional competencies, and on the contrary, it will lead to an increase in the quality of provision of medical services to the population of the state.

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