

INTEGRATION ASPECTS OF PROFESSIONAL TRAINING OF MASTERS OF PHARMACY IN UNIVERSITY EDUCATION OF THE COUNTRIES OF EU AND UKRAINE

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Abstract. The aim of the study was to substantiate the trends in promoting the development of higher pharmaceutical education and the formation of professional competence of future masters of pharmacy in Ukraine in the context of European integration of educational processes.

In the course of research, the following methods were used:

- theoretical: theoretical analysis of scientific sources, design, modeling to design the educational process and the development and implementation of the methodological and organizational unit of the block of the model of integrated educational process of training masters of pharmacy in universities of EU and Ukraine;

- empirical: study, analysis and generalization of pedagogical experience, pedagogical observation, questionnaires, interviews, testing of knowledge and special skills, rating assessment, forecasting.

The introduction of advanced educational technologies presupposes the application of an integrated combination of methodological basis

and advanced educational experience in the organization of the process of formation of professional competence of future masters of pharmacy.

The design of the methodological and organizational unit of the model of the integrated educational process of training masters of pharmacy in the universities of Central and Eastern Europe and in Ukraine.

According to the results of the study, the tendencies of promoting the development of higher pharmaceutical education and the formation of professional competence of future masters of pharmacy in Ukraine in the context of European integration of educational processes.

The methodological and organizational basis of the model of the integrated educational process of training future masters of pharmacy in the universities has been designed.

Keywords: masters of pharmacy, European integration processes, professional training, development tendencies, methodological basis, system of university education.

Introduction. The development of higher pharmaceutical education in Ukraine takes place in the context of European integration of educational processes, with the

assistance and cooperation of EU universities, which is the key to implementing the best educational experience of European universities. Modern changes in the European labor market, the progress of the world pharmaceutical and medical science, changes in the social, economic, legal and educational space affect the training of pharmaceutical professionals aimed at personal and professional self-development, able to provide appropriate pharmaceutical services to various populations and improve quality health care.

The normative and legal basis is the documents that regulate the educational process of medical and pharmaceutical institutions of higher education, namely: the laws of Ukraine "On Education" (2017), "On Higher Education" (2014), "Fundamentals of Ukrainian legislation on health care" (2018), as well as in the Concept of development of the pharmaceutical sector of healthcare in Ukraine for 2010-2020, in the Code of Ethics of Pharmaceutical Workers of Ukraine (2010), in international standards, guidelines, pharmaceutical practices of the World Health Organization and the International Pharmaceutical federation.

The introduction of advanced educational experience on the basis of a personality-oriented approach in the system of professional training of masters of pharmacy is based on respect for democratic freedoms of citizens, first of all, the right to free choice of education; long experience of functioning of education in market conditions, which led to its complete reorientation to meet the needs of citizens; spreading the idea of humanization of education, when a person is determined by the highest value; providing a real opportunity to fully meet the needs of each person in accordance with his intentions, goals, life strategy [1].

The practical implementation of personality-oriented learning is possible when creating the conditions for such a developmental environment (content, organizational forms, methods, tools, subject-subject nature of pedagogical interaction), in which the learner acquires the status of the highest value of the educational process and which would promote the development of intellectual, creative and spiritual potential, its individuality, emotional and volitional qualities, creative abilities, thinking and general culture, the formation of the ability to

independent, active, professional self-determination, skills of interaction with the modern dynamic labor market. The transition to personality-oriented learning depends on the teacher: his desire, general and pedagogical culture, personal qualities. The teacher must meet the following requirements: value attitude to culture, creativity; humane pedagogical position; creation and constant enrichment of cultural-emotional and subject-developmental educational environment; ability to work with the content of education; mastery of various pedagogical technologies, the ability to give them a developmental focus [2].

An important role in personality-oriented learning is played by the individual approach, because it is one of the principles of pedagogy, which is based on knowledge of the personal traits of the learner. Knowing the interests and inclinations of the individual, the teacher creates the conditions and encourages gifted students in full accordance with their capabilities, influences less gifted students in learning and helps those who have a low level of training. An individual approach is a necessary component of a successful pedagogical process [3].

Personality-oriented learning is aimed at the development of personality and has its basis, aimed at finding and identifying the characteristics of the student as a subject. The formation of personality as a future specialist, his interests and needs are taken into account. Personality-oriented learning is characterized by humanistic and psychological orientation. This technology involves not only the accumulation of knowledge, skills, competencies, but also the formation of the principles of self-development and self-realization of the future specialist, the development of his cognitive abilities.

As we can see from the above, the introduction of personality-oriented learning involves changes in forms of communication in the educational process, techniques and means of communicative activities aimed at forming future professionals' professional and communicative competencies [3].

Introduction of elements of dual education in the process of master's training, extensive use of distance learning and exchange of educational experience using

remote access to electronic resources, combination of information technologies optimizes the educational process in European integration [4-6].

The purpose of the work was to substantiate the trends in promoting the development of higher pharmaceutical education and the formation of professional competence of future masters of pharmacy in Ukraine in the context of European integration of educational processes.

Materials and methods. Data Sources Overview. In the course of research methods were used:

- theoretical: theoretical analysis of scientific sources, design, modeling to design the educational process and the development and implementation of the methodological and organizational unit of the block of the model of integrated educational process of training future masters of pharmacy in universities of Central and Eastern Europe and Ukraine; systematic and statistical analysis of the methodological basis and best educational experience of universities in Central and Eastern Europe and Ukraine, scientific sources and information resources, electronic resources of science metric databases for the preparation of masters of pharmacy in the European Union;

- empirical: study, analysis and generalization of pedagogical experience, pedagogical observation, questionnaires, interviews, testing of knowledge and special skills, rating assessment, forecasting.

System analysis, design, pedagogical experiment, mathematical and statistical methods were used to process the results of the experimental study of implementation in the educational process at the Bogomolets National Medical University.

According to the purpose the tasks of research are defined:

1) to carry out a systematic analysis of the development of higher pharmaceutical education in Ukraine in the context of European integration of educational processes;

2) to substantiate the tendencies of promoting the development of higher pharmaceutical education and the formation of professional competence of future

masters of pharmacy in Ukraine in the conditions of European integration of educational processes;

3) to design the methodological and organizational unit of the model of the integrated educational process of training future masters of pharmacy in the universities of Central and Eastern Europe and in Ukraine.

Results and discussion. According to the results of systematic analysis of publications of modern scientists and researchers of higher pharmaceutical education in Ukraine it is necessary to generalize that professional pharmaceutical training of future specialists in free economic education requires careful analysis of domestic and foreign experience in training and identifying promising areas for modernization in accordance with domestic and international standards [7].

One of the main issues of today's higher pharmaceutical education is its compliance with the requirements of manufacturers for the training of specialists in the following specialties: industrial pharmacy, retail pharmacy, clinical research and more. Improving the high quality of modern professionals is based on maintaining the traditional education. The transition of traditional education to a qualitatively new level of training of pharmacists at the educational and qualification level "Master" is possible only if students are included in the active and educational process of knowledge, skills and creative experience, which will turn a student from a subject into a subject activity. According to educational standards, the methodological basis is the competence approach, according to which subject disciplines should be focused not only on the development of subject competencies, but also on the development of masters of pharmacy [8].

Modern harmonized requirements for the quality of pharmaceutical products and pharmaceutical services in regulated markets [9; 10] determine the construction of quality educational process of training masters of pharmacy in EU universities and in system of higher pharmaceutical education of Ukraine.

According to the results of theoretical analysis of scientific sources and science metric databases of professional training of masters of pharmacy of universities of Central and Eastern Europe, systematic analysis of the development of higher

pharmaceutical education in Ukraine in the European integration of educational processes in the conditions of European integration of educational processes, namely: development of the mobile educational environment in the conditions of European integration; harmonization of the regulatory framework in the field of production and circulation of medicines; application of a set of good pharmaceutical practices in the industry and in the system of industry education; introduction of educational and branch innovations in the process of formation of professional competence of future pharmacists.

According to the results of a systematic analysis of the experience of organizing the educational process at the universities of Central and Eastern Europe and Ukraine, it is established that reasonable trends contribute to the development of higher pharmaceutical education and professional competence of future masters of pharmacy in Ukraine in European integration.

The design of the methodological foundations of the study was carried out with an integrated combination of methodological approaches: humanistic, systemic, activity, competence, personality-oriented, integrated, health care in the education system.

The humanistic approach is universal and thoroughly relevant in the system of formation of professional competence of future masters of pharmacy in Ukraine in the context of European integration of educational processes.

The systematic approach makes it possible to consider the training of future masters as a step-by-step process of training, starting with defining for future professional competencies, knowledge, skills, abilities and qualities, development and implementation of necessary training, selection, implementation of modern effective forms and methods of training and control, etc.

The system approach is a methodological basis for the modernization of pharmaceutical education and provides opportunities for the formation of professional orientation and on its basis of competence and professionally important qualities of the future masters of pharmacy. In the educational process, a systematic approach makes it possible to consider the professional training of future masters in

pharmacy of free economic education as a unified system with many internal and external links.

Professional training, formation and development of future pharmaceutical specialists, formation of competencies, professionally important and social-personal qualities take place in the educational process in the system of university education of Central and Eastern Europe and Ukraine and in further professional activity in the performance of professional duties for the period internship.

On the example of a specialist of a modern pharmacy it is possible to identify what types of activities he carries out: activities related to educational work among the population on healthy lifestyles and disease prevention; activities related to the supply, use of medicines and medical devices. It should be noted that such activities can be carried out both in pharmacies and medical institutions; activities related to self-medication, including advice on the rational use of drugs; activities related to the impact on the rational prescription and use of medicines.

From the above we can conclude that the training of future pharmaceutical professionals will be more effective if it is based on activities aimed at becoming a future specialist in free economic education in the European integration process using the best practices of EU universities. In this regard, the activity approach involves the reorientation of the educational process from the acquisition of knowledge to the formation of competencies and qualities, taking into account the needs, motives, abilities of future masters of the pharmaceutical industry.

The introduction of advanced educational technologies presupposes the application of an integrated combination of methodological basis and advanced educational experience in the organization of the process of formation of professional competence of future masters of pharmacy in Ukraine in the conditions of European integration of educational processes.

The design of the methodological and organizational unit of the model of the integrated educational process of training future masters of pharmacy in the universities of Central and Eastern Europe is carried out according to the scheme on Fig. 1.

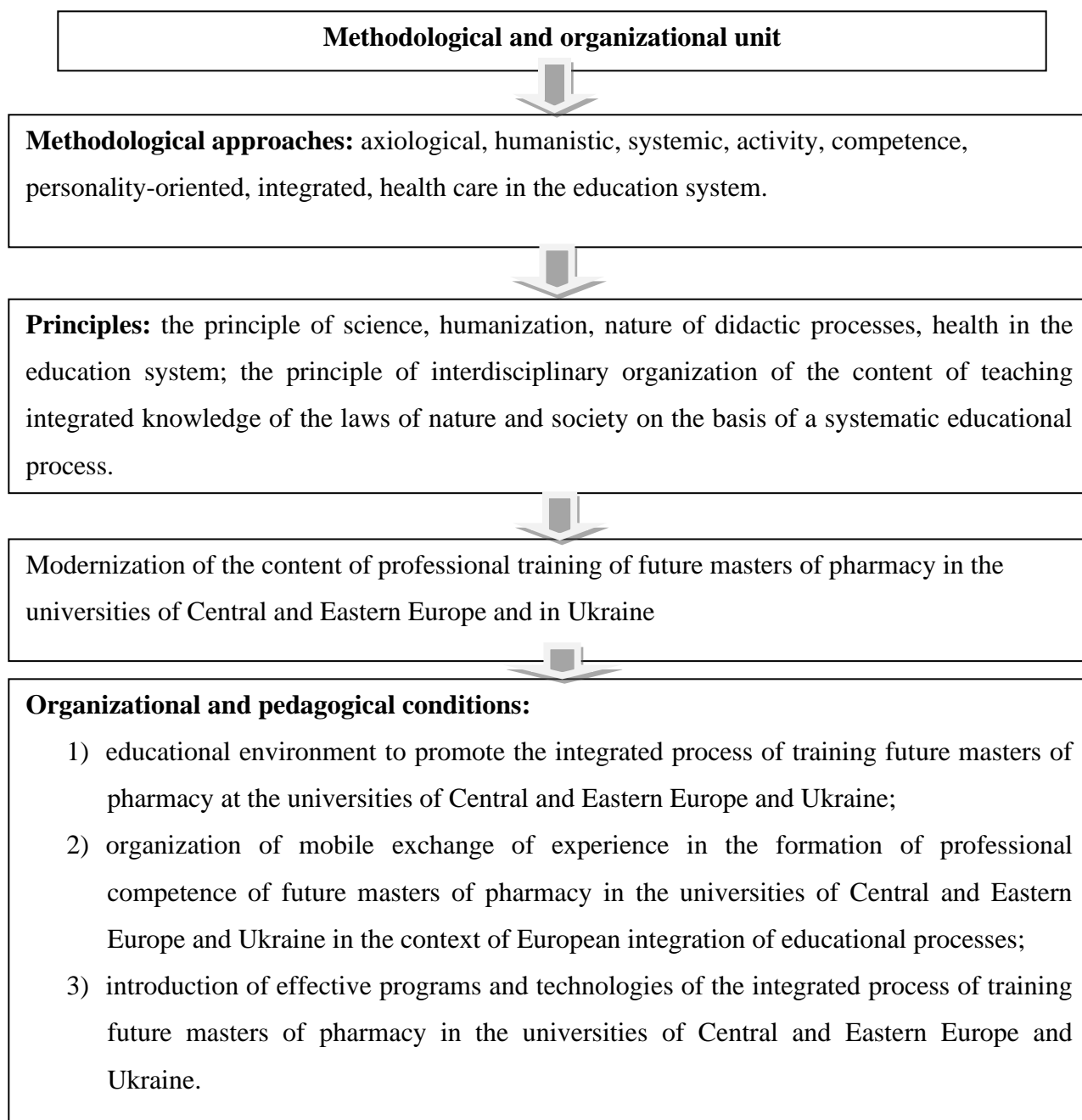


Fig. 1. Scheme of designing the methodological and organizational unit of the model of the integrated educational process of training future masters of pharmacy in the universities of Central and Eastern Europe.

According to the results of theoretical analysis of scientific sources and scientometric databases of professional training of masters of pharmacy of universities of Central and Eastern Europe, systematic analysis of professional training of masters of pharmacy in higher pharmaceutical education in Ukraine from the point of view of European integration of educational processes. namely:

development of the mobile educational environment in the context of European integration; harmonization of the regulatory framework in the field of production and circulation of medicines; application of a set of good pharmaceutical practices in the industry and in the system of industry education; introduction of educational and branch innovations in the process of formation of professional competence of future masters of pharmacy [4-6].

Also, based on the results of a systematic analysis of the experience of organizing the educational process in the universities of Central and Eastern Europe and Ukraine, it is established that reasonable trends in sectoral innovations contribute to the development of higher pharmaceutical education and professional competence of future masters of pharmacy in Ukraine. The development of methodological bases of the research was carried out with an integrated combination of methodological approaches: axiological, humanistic, systemic, activity, competence, personality-oriented, integrated, health care in the education system [1-3].

The results of the step-by-step monitoring of the differential assessment of the levels of professional competence of future masters of pharmacy in the experimental group of students using five cases of readiness for the implementation of professional competencies.

To determine the effectiveness of the organization of experimental training conducted on-line, the analysis of the effectiveness of solving cases of model professional situations, test control of student achievement and qualimetric questionnaires. The use of qualimetric questionnaires provided an opportunity to feedback with respondents and compare test results with the results of self-assessment of student achievement.

Comprehensive diagnosis of the level of professional competence of students, readiness to implement professional competencies based on the results of the formative experiment is based on test control, qualimetric questionnaires, as well as the results of assessing the quality of individual case tasks as an indicator of quality professional characteristics in experimental groups of students' distance learning.

According to the results of step-by-step monitoring of differential assessment of levels in the process of pedagogical experiment in the experimental group of students established a positive dynamic of professional competence of future masters of pharmacy: reproductive level – the number of respondents decreased by 28%; functional level – increased by 10%; productive level – increased by 10%; creative level – 8%.

Conclusion. According to the results of the study, the tendencies of promoting the development of higher pharmaceutical education and the formation of professional competence of future masters of pharmacy in Ukraine in the context of European integration of educational processes are substantiated: development of mobile educational environment in the context of European integration; harmonization of the regulatory framework in the field of production and circulation of medicines; application of a set of good pharmaceutical practices in the industry and in the system of industry education; introduction of educational and branch innovations in the process of formation of professional competence of future masters of pharmacy.

The methodological and organizational basis of the model of the integrated educational process of training future masters of pharmacy in the universities of Central and Eastern Europe and in Ukraine has been designed.

Ethical approval. Ethical clearance was obtained from the administration of Bogomolets National Medical University. A permission statement for conducting the experiments was received from the administration of Bogomolets National Medical University. Before any data collection, the main purpose of the study was clearly explained to each department (concerned personnel).

Conflict of interests. Authors state that they have no conflict of interests and/or competing interests.

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References.

1. Podlasy I.P. Pedagogy: A new course. M.: *Nauka*. 1999. Kn. P. 445
2. Bondarevskaya E.V. Value bases of personality-oriented education. *Pedagogy*. 2007. N. 8. P. 44–53.
3. Kaidalova L.G. Professional training of future pharmaceutical professionals in higher education. Kharkiv: NUPh. 2010. 411 p.
4. Voskoboinikova G., Dovzhuk V., Dovzhuk N. et al. Dual education: international experience and prospects of implementing the system of master training in higher education in Ukraine. *Modern science and education: new realities and scientific solutions: 13th International Scientific Conference on the topic. «Modern Science. Business and Education» ISSN 2367-7368*. Warna: UME. 2017. X. P. 136–142.
5. Voskoboynikova G.L., Dovzhuk V.V., Dovzhuk N.S. et al. Modern problems and challenges of innovative development of the pharmaceutical industry and pharmaceutical education in Ukraine. *Proceedings of the V scientific-practical conference with international participation "Actual problems of development of branch economy and logistics"*. Kharkiv: NFAU. 2017. P. 226–228.
6. Voskoboinicova G., Voskoboinicov S., Dovzhuk V. et al. Organization of distance education based on pedagogical innovation and technologization of educational processes in the master training system in the conditions of university education. *Modern Science. Business and Education*. Warna: UME. 2018. XI. P. 72 – 77.
7. Tkachenko N.O. Gromovik B.P. Study of factors influencing the quality of training of pharmaceutical specialists. *ScienceRise*. 2016. Vol. 2. N. 2. P. 36–42.
8. Tsehmister Ya.V. Problems of formation of spiritual values of future doctors: new approaches. *Socialization of personality: a collection of scientific works of the National Pedagogical University named after M.P. Dragomanov*. Vol. II. K.: NPU. 1999. P. 50–58.
9. L. X. Yu, G. Amidon, M. A. Khan et al. Understanding Pharmaceutical Quality by Design. *The AAPS Journal*. 2014. N.16. P. 771–783.

10. Koeberle M., Schiemenz W. QbD: Improving Pharmaceutical Development and Manufacturing Workflows to Deliver Better Patient Outcomes. *Pharmaceutical Technology APIs, Excipients, & Manufacturing 2017*. Supplement (September 2017). URL: <http://www.pharmtech.com/qbd-improving-pharmaceutical-development-and-manufacturing-workflows-deliver-better-patient-outcomes>.