

INFORMATION COMPETENCE FORMATION IN INTERNATIONAL MEDICAL STUDENTS: MOTIVATION-TARGETIVE CRITERION

The article is devoted to the problem of information competence formation in international medical students. Results of practical implementation of the didactic system is presented in the context of motivation-targetive criterion. The indicators of the level of information competence are defined which include cognitive interest in information activity, attitude to acquiring information competence; awareness of the role of information competence in the professional activity of a doctor; awareness of the need for lifelong learning; desire to perceive new information. The incoming level of information competence by motivation-targetive criteria is diagnosed. Diagnostic methods are selected which include observations, questionnaires, interviews and a number of test methods. Stimulation methods and forms of work used to motivate foreign medical students to form informational competence are presented. In particular, discussions, lectures, seminars on relevant topics were held for future medical workers. Foreign students were also encouraged to use critical thinking techniques, the effectiveness of which clearly proved the need to critically analyze any information when making subjective decisions. The training course "Introduction to the specialty" was presented as a tool for motivation improvement in the context of information competence formation. It enables the students to better understand the specifics of the future professional activity and the peculiarities of the educational process at a Ukrainian university, the role and place of informational competence in the professional competence of a doctor, and as a result – to stimulate the development of foreign students' conscious interest in the specialty based on obtaining information about the activities of a modern doctor and medical work as a specific type of professional activity, to ensure the further development of motivation for mastering information competence.

Generalized data of the experiment regarding the levels of formation of information competence of medical students according to the motivation-targetive criterion is presented. It demonstrated considerable improvement in the experimental group and very low in the control group.

Key words: *information competence, international students, medical students, motivation-targetive criterion, experimental research, data analysis.*

(статтю подано мовою оригіналу)

The problem of information competence formation turned out especially topical in medical training of international students, taking into account the necessity of orienting flexibly in the growing information streams and sustainable professional improvement while life-long education of medical workers.

The problem of information competence formation is studied by N. Balovsiak, V. Baliuk, A. Drokina, O. Padalka, R. Tarasenko, P. Khomenko etc. Such scientists as O. Adamneko, J. Goldhahn, C. Faessler, M. Kapur, I. Kritskiy, Yu. Lukatska etc. substantiated modern theoretical and practical approaches to medical training.

The purpose of the article is to present the results of experimental work for information competence formation in international medical students by motivation-targetive criterion.

The objectives of the article are: to determine the indicators of the level of motivation-targetive criteria; to describe the practical experience of motivation formation for international medical students in the educational environment of the university; to present data analysis on the incoming and output level of the information competence by motivation-targetive criteria.

Information competence formation in international medical students is a complex process that needs a development of a didactic system. The experimental work was provided to prove its effectiveness.

To diagnose the obtained results of the experimental work, defined criteria and indicators of the formation of information competence of foreign students of medical specialties were used, namely *motivation-targetive criterion* (indicators are – cognitive interest in information activity, attitude to acquiring information competence; awareness of the role of information competence in the professional activity of a doctor; awareness of the need for lifelong learning; desire to perceive new information).

Observations, questionnaires, interviews, the test "Structure of interests and inclinations" (SII), the method "Diagnostics of the direction of educational motivation" T. Dubovitska [3], questionnaire "Success motivation and fear of failure" [1], Methods for studying of learning motivation by T. Ilyina [2].

As stimulation methods and forms of work were used to motivate foreign medical students to form informational competence. In particular, discussions, lectures, seminars on relevant topics were held for future medical workers, in particular on the following topics: "Information competence as the basis of a doctor's professional activity", "Information that heals or kills", "Lifelong learning in the professional activity of a doctor", etc. Thus, at the lecture "Information competence as the basis of a doctor's professional activity", students had the opportunity to better understand the essence and role of this personal education in the work of a medical worker. During the practice-oriented seminar "Information that heals and kills", future doctors worked with the content of cases, the solution of which required the application of information in various professional situations, including medical practice.

Foreign students were also encouraged to use critical thinking techniques, the effectiveness of which clearly proved the need to critically analyze any information when making subjective decisions. For example, future specialists were encouraged to demonstrate critical thinking when solving professionally oriented tasks with a lack or, conversely, residual information.

During a conversation with foreign medical students of on the topic “Lifelong learning in the professional activity of a doctor”, the main stages of becoming a doctor as a professional were defined, the need for constant improvement and acquisition of new knowledge by foreign students in accordance with modern research and demands of the time was proven. In addition, it was emphasized that professional training skills and information competence should be actively formed in future doctors at the initial stages of professional training, and later, for the future specialist, productive work with information sources will ensure the effectiveness of his training and professional growth.

An interesting and useful event for foreign students from a motivational point of view was also meetings-conversations of education seekers with representatives of practical medicine of various specializations “Medicine without decorations”, during which representatives of this professional field frankly talked about the everyday medical activities, what students have to do to face in practice and what competencies should be formed during the training process to ensure effective professional activity in the future. At the same time, doctors emphasized the priority of students of medical specialties acquiring skills to work with information at all stages of practical activity, which involves lifelong learning. Conducting this event contributed to a deeper awareness by students of the need to acquire informational competence for their own development as a specialist in the field of medicine.

In order to develop the motivation of foreign medical students to acquire informational competence, other events were held for them, which convinced them of the importance of the emergence of informational competence as a doctor. For example, they took part in: quizzes, contests, smart games (“Connoisseur of medical terminology”, “Competition of professional skills”, “Laughter through tears”, etc.) etc. Increasing motivation among students of medical specialties to improve information competence was a necessary prerequisite for increasing the level of its formation.

In order to activate the development of educational and professional motivation in students of medical specialties, to ensure the conscious professional growth of future doctors after entering the university, students of medical specialties were taught according to the educational program developed by the author, the training course “Introduction to the specialty”, which enables the students of education to better understand the specifics of the future professional activity and the peculiarities of the educational process at a Ukrainian university, the role and place of informational competence in the professional competence of a doctor, and as a result – to stimulate the development of foreign students' conscious interest in the specialty based on obtaining information about the activities of a modern doctor and medical work as a specific type of professional activity, to ensure the further development of motivation for mastering information competence. Let us clarify that in the process of teaching the specified academic discipline, the general principles of a doctor's work were explained to future doctors from all three created experimental groups, they were introduced to the history of medicine, its current state and prospects for development, the basic requirements for specialists in the medical field and the competencies that students must master were determined while studying at the university, informed them about the list of academic disciplines that will be taught in the future, as well as about the main ways and methods of mastering information competence.

During the classes of the “Introduction to the specialty” course, foreign students of medical specialties also found out the modern theoretical foundations of a doctor's professional activity, there are basic medical values of a universal level and the importance of observing them in practice, defined the main concepts in the field of medicine, formed students' ideas about the role, functions and tasks of the professional activity of medical workers, about professional information systems and databases, the role and importance of information in the learning process, as well as about the principles of goal setting in the learning process and working with information in global information networks and local databases. It is also important to note that in the process of studying the above academic discipline, foreign medical students mastered various professionally important skills, in particular the following: the use of various methods, forms, means of realizing their own professional and personal development, formulating the goals of various types of educational, quasi-professional and professional activities based on the selection, analysis, generalization and correct application of the necessary information, to reflect on the acquired knowledge, competences, and professional values.

The course “Introduction to the specialty” provided for lectures, seminars, practical classes and the organization of extracurricular educational and cognitive activities of future doctors. Thus, at the introductory lesson, they were introduced to the specifics of the chosen profession by conducting a lecture-conversation, as well as using such methods and forms as: discussions, brainstorming to determine the general professional competencies and values necessary for a medical worker, writing an essay on the topic “Professional profile of a modern doctor”. The students were also familiarized with the content of the educational program of the course, discussed with them its purpose, tasks, program learning outcomes that are planned to be achieved upon completion of this course, the place of each educational component in ensuring comprehensive awareness of the system of professional training of doctors by future specialists and the role of information competence in this process. In addition, teachers recorded individual wishes and suggestions of students regarding the organization and content of both the specified course and other educational disciplines of professional training. In the following classes of the “Introduction to the specialty”

course, the developed curriculum was consistently implemented, and special attention was paid to the discussion of the role of scientific and research activities in medicine through the implementation of innovative achievements that contribute to the sustainable development of society.

The experience of the Institute of Translational Medicine of ETH Zürich was used in the experimental work. The study of the “Introduction to the specialty” course by students included not only classroom classes, but also visits to clinical bases, namely, multidisciplinary medical institutions. The students got acquainted with the organization of the clinic, with the specifics of the activity of its structural divisions, departments of various specializations.

In addition, the immersion of future doctors in practical professional activities was ensured by familiarizing them in practice with the integral process of implementation of medical services in clinics, starting from the provision of first aid to the rehabilitation course. In particular considerable attention in medical institutions was paid to ensuring that students understand the main advantages and disadvantages of emergency diagnostics, as well as to their study of the basics of providing first aid. Students were also introduced to basic medical terminology and basic imaging techniques, in particular ultrasound, as well as the concept of clinical thinking and its role in the professional activity of a doctor.

After foreign students have completed the “Introduction to specialty” course, experimental universities hold a special event – the “White Coat Ceremony”. During it future doctors were given white medical coats as a symbol of involvement in the medical community.

In general, it can be concluded that teaching the course “Introduction to the specialty” to foreign students at the initial stage of education contributed to the development of their motivation to study at a medical university and obtain the profession of a doctor, increase interest in information as a phenomenon and master information competence, familiarization with basic professional terminology, basic principles and stages of medical activity, to ensure immersion in educational and professional activities through awareness of the role and place of each educational component in general and professional competencies, the complex assimilation of which ensures the formation of a doctor's professional competence and, in particular, informational competence as a component of this competence, and also provides training to the study of other educational disciplines of the curriculum.

The diagnostics of the information competence level by a motivation-targetive criteria was conducted at the ascertaining and control stages in experimental (EG) and control groups (CG). Generalized data of the experiment is presented in table 1.

Table 1

Generalized data of the experiment regarding the levels of formation of information competence of medical students according to the motivation-targetive criterion (%)

Levels	EG		CG	
	Ascertaining. Stage	Control. stage	Ascertaining stage	Control. Stage
<i>Cognitive interest in information activities</i>				
The interest is striking	16,7	29,1	24,2	34,1
Interest is moderately expressed	79,8	70,9	69,5	61,6
Interest is absent or expressed very weak	3,5	0	6,3	4,3
<i>Attitude towards the acquisition of IC</i>				
Resistant	14,4	26,3	15,3	23,7
Situational	82,4	73,7	80,6	72,8
Passive	3,2	0	4,1	3,5
<i>Awareness of the role of IC in the professional activity of a doctor</i>				
Resistant	33,3	44,2	27,3	30,2
Situational	49,3	48,0	53,4	55,3
Passive	17,4	7,8	19,3	14,5

As for determining the nature of awareness of the need for lifelong learning, according to Rean's questionnaire “Motivation of success and fear of failure”, positive dynamics were observed in an experimental group. So, at the level of “motivation for success” +15.4% EG. No significant changes were found in CG.

To diagnose the desire of education seekers to perceive new information at the control stage, the technique “Self-assessment of individual characteristics” – SIO (L. Kabardova) [4, p. 391] was applied. The obtained data indicate positive changes in all experimental groups: +14.2% EG. No significant changes were found in CG. The increase in the confidence index of the experimental group test takers testifies to the effectiveness of the used means of correlating oneself with the profession. When processing according to the first scale (“evaluation of qualities”), a generalized indicator is obtained, which informs which of the professional spheres corresponds to a given moment to the characteristics of a person to a greater extent. Thus, students' self-esteem indicators give an idea of “Self-image” (assessment of individual qualities), “Self-image in the profession” (total indicator for each field) and about their dynamics in the process of education and practice. The reliability of the obtained results depended on a number

of factors, among which the most significant are the ability to make an adequate self-assessment and the degree of self-confidence.

Conclusions. Data analysis on information competence formation by motivation-targetive criteria proved the efficiency of the developed and substantiated didactic system.

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Давидова Ж. В. Формування інформаційної компетентності іноземних студентів-медиків: мотиваційно-цільовий критерій

Стаття присвячена проблемі формування інформаційної компетентності у іноземних студентів-медиків. Результати практичного впровадження дидактичної системи представлено в розрізі мотиваційно-цільових критеріїв. Визначено показники рівня інформаційної компетентності, які включають пізнавальний інтерес до інформаційної діяльності, ставлення до набуття інформаційної компетентності; усвідомлення ролі інформаційної компетентності у професійній діяльності лікаря; усвідомлення необхідності навчання впродовж життя; бажання сприймати нову інформацію. Діагностовано вхідний рівень інформаційної компетентності за мотиваційно-цільовим критерієм. Вибрані діагностичні методи, які включають спостереження, анкетування, інтерв'ювання та ряд тестових методів. Представлено методи стимулювання та форми роботи, які використовуються для мотивації іноземних студентів-медиків до формування інформаційної компетентності. Зокрема, для майбутніх медичних працівників були проведені дискусії, лекції, семінари на відповідну тематику. Іноземних студентів також заохочували до використання технік критичного мислення, ефективність яких наочно довела необхідність критично аналізувати будь-яку інформацію під час прийняття суб'єктивних рішень. Як засіб підвищення мотивації в контексті формування інформаційної компетентності було представлено навчальний курс "Вступ до спеціальності". Він дає змогу студентам краще зрозуміти специфіку майбутньої професійної діяльності та особливості навчального процесу в українському ЗВО, роль і місце інформаційної компетентності у професійній компетентності лікаря, і як наслідок – стимулювати розвиток формування свідомого інтересу іноземних студентів до спеціальності на основі отримання інформації про діяльність сучасного лікаря та лікувальну справу як специфічний вид професійної діяльності, забезпечити подальший розвиток мотивації до оволодіння інформаційною компетентністю. Наведено узагальнені дані експерименту щодо рівнів сформованості інформаційної компетентності студентів-медиків за мотиваційно-цільовим критерієм. Він продемонстрував значне покращення в експериментальній групі та дуже низьке у контрольній групі.

Ключові слова: інформаційна компетентність, іноземні студенти, студенти-медики, мотиваційно-цільовий критерій, експериментальне дослідження, аналіз даних.