



## The Educational Environment of a Medical HEI as a Factor in the Future Nurses' Professional Training

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### Abstract

The article addresses the issue of enhancing nurses' professional training by way of the formation of a developmental educational environment. The aim of the article is to analyze the perception level of educational environment by students of medical higher educational institutions in Ukraine and elaborate the features of the educational environment on the future nurses' professional development. We consider the educational environment of nurses' professional training in medical higher educational institutions to be a holistic pedagogically organized system which provides for active interaction of the learners, ensure medical staff autonomy and encourage their professional development. It is shown that the use of the innovative research tool according to the international research tool providing for the evaluation of the educational environment at medical educational institution as a groundbreaking factor in the professional development of future nurses.

It is held that an essential improvement of the educational services quality draws on consistent evaluation of the educational environment at the medical education institution, in particular elaborating the action plan aimed at strengthening competitiveness and enhancing the quality of medical education in compliance with European standards. The conclusion is made that the development of modern medical education depends on the level of professional competencies of future medical workers and, consequently, the level of medical care provision. Therefore, medical education in Ukraine should meet international requirements and continuously develop.

**Keywords:** educational environment, medical HEI, professional training, innovative technology, educational space.

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### 1. Introduction

In the context of the partnership Agreement between Ukraine and the EU regarding the scientific and technological cooperation as well as Ukraine's participation in the EU Program "Horizon Europe",

modernization of medical education in Ukraine to join the European Educational Area, academic autonomy and systems of internal quality assurance, culture of quality and human life quality (Gordiichuk, 2020), the issue of enhancing nurses' professional training through the formation of a developmental



educational environment is currently in the limelight. The processes of training and professional development of future nurses depend on the quality of educational activities, the creation of a favourable motivational and developmental educational environment and will contribute to the professional growth of individuals that are capable of self-development and self-improvement.

## 2. Literature review

Terminological and content analysis of the essence and structure of "educational environment" in pedagogical theory and practice, allows us to draw conclusions about the ambiguity of its subjective understanding by researchers, interpretation and perception of subjects, as well as the diversity of different types of environments that are distinguished by certain objective characteristics, classification bases, methods of communication, processes and space. Thus, according to Tsimbalaru (2016), the educational environment is interpreted through the "environment", others emphasize a particular subject, and the development of individual abilities is determined by belonging to a certain cultural, social, spiritual, psychological, ethnographic natural environment, i.e. factors of personality development (Mikityuk, 2012) under the influence of the relevant environment. Psychology researcher M. Heidmets (1981) defines the environment as a certain part of the world which a person directly or indirectly interacts with in open or latent form and introduces the concept of "personalization of the environment", that is the so-called "fixation" of the environment to form their "I" (Neathet al., 1981). These ideas are valuable in understanding the environment as an external reality in relation to the subject of activity, which is guided by certain life experiences in different activities and requires the definition of environmental objects that will serve as a subject for identification, resulting in subject-object and subject-subject interaction, personalization of the environment.

According to O. Yaroshynska (2015), the semantic analysis of the concept of "environment" in the

interdisciplinary aspect in a number of sciences is revealed through fundamental categories, such as "world", "space", "place", "condition". The researcher characterizes them as follows: the category of "world" gives ideas that relate to the subject, about the environment as a part of objective reality; "space" fills the environment with such features as material and procedural nature, structure and the presence of borders and a certain subject; the category "place" indicates that the environment is always specific, exists only in a certain location and at the right time; the category of "conditions" determines the interdependence of the subject and the environment, since the emerging personality is an integral condition of the existence of the environment is at the basis (Yaroshynska, 2015), and on the "condition" depends a certain element of the system of objects, "from the presence of which necessarily emerges certain phenomenon" (Bilenkyi et al., 2006).

Other researchers in the perspective of subjectivity consider it as "a concept that describes the entire variety of tasks, interactions, relationships, or in other words, these are the cultures and contexts – physical, social, pedagogical, in which learners study" (Chan et al., 2018), creating its emotional charge.

We consider the educational environment of nurses' professional training in medical HEIs to be a holistic pedagogically organized system of socio-cultural, psychological-pedagogical, organizational, informational and other specially organized conditions in the institution, which provide for active interaction of subjects of educational process within the educational space of the institution, encourage the development of efficient medical staff and ensure their readiness for professional activity.

Given the current state of medical education and the possibility of forming in each educational institution a statutory academic, organizational and personnel autonomy, the educational environment is formed by both the academic community and degree-seeking applicants, taking into account the relevant learning requirements, atmosphere of respect for the student during their training, the formation of students' clinical skills, clearly defined goals, objectives, methods, content of the



educational program, etc. (Hutchinson, 2003; Pales et al., 2015).

In scientific discourse, there are three main groups of factors influencing the process of the educational environment formation and its development, because these processes occur simultaneously. These factors are intellectual, physical, and social, which determine the positive motivation for quality knowledge, mastery of program learning outcomes and the formation of students' general and special competencies (Kohoula et al., 2017), including medical ones. Therefore, these require consideration of the triad "*environment – learner – conditions*", which is determined by the interdependence of the subject and the environment in space and time.

It should also be noted that the psycho-emotional perception of the educational environment is based on the reaction of the individual to the situation, as a product of the development of interaction of the individual with his or her environment. The interactive value of the educational environment should be the student's perception of the educational space of the medical education institution as "their own". A monotonous environment that is unable to meet the need for diversity will be the most unfavorable (Taraduda, 2019). On the other hand, if the educational institution has a favorable educational environment for students, they are more motivated to successfully achieve the goals of the educational program (Farooq et al., 2018; Imanipour et al., 2015; Sarwar & Tarique, 2016). As a result, after graduation they are more competitive on the labor market of health care. In addition, the educational environment created in the institution needs continuous monitoring and evaluation, especially by studying the views of students on the factors affecting the educational process and components of educational programs (Shah et al., 2019).

Thus, the results of scientific research have shown the researchers' consideration of various aspects of the issue under analysis and consequently pending the need for experimental substantiation of the perception results of human, technological and humanistic functions and the development of medical education. With that in mind, the relevance

of the study is due to the controversies: 1) between the objective needs of the creation and perception of the educational environment of the medical institution as a socio-cultural institution and a factor in the professional development of future nurses; 2) between the requirements for modern medical education for the implementation of the tasks of personality-oriented development of future nurses and the available means of its formation; 3) between the growing demands of pedagogical theory and practice for the design and evaluation of the educational environment of medical education and the lack of theoretical and methodological developments for their holistic implementation.

The purpose of the article is to perform the measurements, analyze the results of the level of perception of the educational environment by students of medical HEI students and explore the features of the educational environment on the future nurses' professional development.

### 3. Methodology

Strategies for the development of higher medical education in Ukraine, taking into account global and European trends in the transformation of context, technologies and results, implement strategies and techniques aimed at achieving its quality, serve as a basis for healthy nation building, personal development, professional development, growth and are the best safeguard from unemployment and poverty.

When it comes to the research concept, it should be noted that in Ukraine the state guarantees the constitutional right to quality medical care to all citizens of Ukraine precisely through the development of a network of medical HEIs, the creation of an external quality assurance system for future healthcare professionals and the quality management system of educational activities therein, and should take into account the relationship between the national higher education system, medical education, quality medical training and competitiveness of the economy in the country. The educational activities management in a medical education institution is considered as a system-integration formation, the result of subject-subject



and subject-object interaction and interactions aimed at achieving the mission and system of goals. The quality management system (QMS) of educational activities in medical education and the system of internal quality assurance of medical education as its component produce a predicted result – quality training of competitive health workers who will focus their efforts, energy, competencies on healthy nation development and economic prosperity of Ukraine. If the society, community and medical education seekers are not satisfied with the results produced by the educational system, it is necessary to change the system, its conceptual, ideological and cognitive-content principles, technical-technological, information-methodical and general resource provision and form motivationally appealing educational environment.

Measurement of the level of perception of the educational environment by students of medical education of Zhytomyr Medical Institute was carried out in the 2019-2020 academic year according to the DREEM method (Roff et al., 1997) within the framework of medical education Ukrainian-Swiss project "Development of Medical Education" (Stepurko et al., 2019). The DREEM methodology is a comprehensive tool, it determines the features of medical education at the level of the country and each medical educational institution in which it is used. The questionnaire used consisted of 50 questions from five key clusters:

- 1) perception of the educational process (student orientation, participation of applicants in improvement, level of development of general and special competencies, level of students' awareness of the purpose and goals of the educational program);
- 2) perception of teachers (the level of pedagogical skills of teachers, the availability of feedback from teachers, teaching styles, the interaction of teachers and students of medical education);
- 3) perception of academic success (the level of readiness of medical education seekers for professional activities, students' perception of teaching methods and the level of their effectiveness, determination of medical education

students' own level of formation of general and special competencies);

4) perception of the atmosphere (study of students' opinions on satisfaction with learning, the presence or absence of a favorable and comfortable atmosphere for learning, the level of formation of interpersonal communication skills);

5) perception of the social component (determination of living conditions, the level of social and psychological support of students available in the institution, the level of emotional state of medical education students during training).

Each question-statement students had to evaluate on a 5-point system from 0 (strongly disagree/disagree), 1 (disagree/disagree), 2 (disagree/disagree), 3 (agree/disagree) to 4 (completely agree /agree). The results of the component scales were evaluated for each question, the maximum score was 200, the distribution was as follows:

- "perception of the educational process" 0-1.9 is very bad, 2-2.5 teaching is perceived negatively, 2.6-3.0 more positive perception, 3.1-4.0 – teaching is carried out at a high level;

- "perception of teachers" 0-1.9 is very bad, 2-2.5 teachers need retraining; 2.6-3.0 teaching activity is carried out in the right direction, 3.1-4.0 - teacher - an example to follow;

- "perception of academic performance" 0-1.9 students feel complete failure, 2-2.5 many negative aspects, 2.6-3.0 more positive feelings, 3.1-4.0 – a sense of confidence;

- "perception of the atmosphere" 0-1.9 terrible atmosphere in the educational institution, 2-2.5 many processes need change, 2.6-3.0 more positive attitude to the atmosphere created in the educational institution, 3.1-4.0 – good perception in general;

- "perception of the socializing component" 0-1.9 – unattractive, inconspicuous in outlook, 2-2.5 unpleasant place, 2.6-3.0 – not so bad, 3.1-4.0 – very good in socializing.

The sample of the study were students of medical education in the second, third and fourth years of study, who were enrolled in the educational program "Nursing". The total number of respondents was 507 people. General distribution of



respondents by age: 21 years and older (n = 298); 20 years and younger (n = 209).

Analyzing the results of the study on the perception of the educational process at the Zhytomyr Medical Institute of Zhytomyr Regional Council (Ukraine), it was found that the organization of the educational process in the institution is estimated by 29 medical students out of 48 students available. Thus, positive perceptions of students are caused by understanding the goals of the educational program in which they study, and each discipline included in the curriculum (2.9 points). According to them, the educational process in accordance with the programs is systematic and logical, provides a consistent study of disciplines and contributes, as noted by students, to the formation of long-term learning (2.7 points). Medical education students claim that the teaching skills of the faculty can motivate and encourage students to actively interact during training (2.8 points). During the laboratory and practical classes, teachers use the most rational study time to practice hands on skills (2.7 points). The teaching system at the institute is quite focused on the formation of general and special (professional) competencies at a qualitatively high level (2.6 points). At the same time, part of the answers of medical students gave an affirmative answer about the negative perception of teaching and, as a consequence, a negative perception of the educational process, as the analysis of answers to questions-statements were presented in the range from 2 to 2.5 points. Such answers include statements about the focus of teaching (2.4 points), practical orientation and student-centered educational environment created in the medical institution (2.4 points), the focus of teaching on the development of the student's own confidence in the level of his professional competencies (2, 2 points), a significant focus of the teaching process on the personality of the teacher (2.0 points). In addition, an indicator of the excessive attention of teachers to the acquisition of factual knowledge by future nurses is critical (1.7).

Respondents identified a positive attitude to the perception of the general atmosphere created at the institute. The total number of points scored in this cluster is 29 out of 48 possible. Thus, high scores

were received regarding the development of students' interpersonal skills and social skills (soft skills) (2.9 points). The future nurses noted that they feel comfortable in the academic group when it comes to the socializing (2.8 points). They also emphasized that the favorable educational environment is ensured by the fact that they are free to ask questions about the problems that concern them to any structural unit of the educational institution and receive a timely professional feedback (2.7 points). Respondents noted that they are well-concentrated, their own experience of studying at the institute meets expectations (2.6 points) and they enjoy studying the nursing (2.6 points). At the same time, the future nurses determined that the general atmosphere in the institution needs to be improved in terms of ease during lectures, seminars, practical classes (2.4 points); strengthening the motivation to study (2.3 points) and noted the need for changes in the organizational structure in the formation of classes for teachers and students, and as a consequence of the organization of the educational process.

The next cluster analyzed the perception of academic performance by medical students. The total number of points scored in this cluster was 21 out of 32 possible. The highest indicators were stated that the level of acquired knowledge and skills will allow students to successfully pass the certification and master the educational program of the relevant course (3.2 points). Future nurses are confident that the acquired general and special competencies are relevant to their professional activities (2.9 points). It is also emphasized that the organization of the educational process in the institution is at a high level (2.8 points); students learned a lot about empathy in the nursing profession (2.7 points) and they believe that due to the organization of the educational process, the development of their own problem-solving skills is at the proper level (2.6 points). Respondents approved further implementation of the strategy of student-centered education and professional training of medical education students using simulation training technology in the study of clinical disciplines.





Analyzing students' perception of the socializing component, it was found that the total number of points scored in this cluster is 18 out of a maximum of 28. The highest scores were given to the presence of friends among the participants in the educational process (3.6 points); availability of developed socializing infrastructure (campus) for students (3.0 points). Students who participated in the survey are satisfied with their social life (2.9 points), they rarely feel lonely (2.6 points) and due to the systematic work with the socio-pedagogical center, which is in operation at the institute, students feel adequate support in case the emergence of stressful situations. They also noted that studying in an institution is interesting and they hardly ever feel bored while studying certain disciplines of the educational program. Among the statements that indicate the need for change in the educational institution is the overload of the educational process with the content of certain disciplines, increasing the number of practical components and reducing the number of classes for the theoretical component of education.

The key indicators of the perception of the educational environment in accordance with the DREEM methodology are the perception of medical and pedagogical workers who provide the implementation of educational and professional training programs in the field of health care. Respondents rated the activity of teachers at 27 points out of 44 possible. The highest number of points was given to statements about giving clear examples during training sessions (3.1 points); teachers are well prepared for classes (3.0 points); they are competent (2.8 points); teachers demonstrate appropriate communication skills towards patients (2.8 points); teachers are patient with patients (2.6 points). Also indicative were the statements about the proper feedback between teachers and students (2.6 points) and the possibility of expressing constructive criticism by teachers (2.5 points). According to the results of the study, a negative attitude towards teachers was revealed, which was formed on the basis of allegations that students irritate the teacher (2.0 points); teachers get angry during classes (1.9 points), can ridicule students and be authoritarian.

#### 4. Discussion

According to the results of the survey, the educational environment of the medical education institution has a 5-component structure, which includes motivational-target, subject-activity, organizational, socio-psychological and cultural components. Motivational-target component determines the creation of a motivational environment in the educational process of the institution and the conditions for self-motivation of medical education.

The subject-activity component defines the subjects of the educational environment, which include research and teaching staff, medical education seekers and the conditions for their professional and communication interaction in the process of training and professional development. According to the DREEM methodology, as a tool for assessing the perception of the educational environment, the subject-activity component can be assessed by measuring student satisfaction with the level of quality of educational services provided by the teaching staff of medical education –the cluster "teacher perception". The organizational component of the educational environment includes educational, hands-on, developmental, research and methodological activities of the subjects, as well as the level of facilitatory, technical, educational and methodological support of the academic process. The organizational component of the educational environment can be assessed by determining student satisfaction with the level of student orientation, development of professional competencies, understanding of educational goals, educational activity of medical students – the cluster "perception of the educational process", as well as determining how students have mastered sufficient skills, whether all teaching methods are effective for students, the level of readiness of students for future professional activities – a cluster of "perception of academic performance". The socio-psychological component of the educational environment is the social, psychological, cultural activities pertinent to the formation of rounded personality. To assess the socio-psychological



component of the educational environment is possible by determining the favorable and relaxed atmosphere created in the institution, how well students can concentrate, whether they are satisfied with learning –the cluster "perception of the atmosphere" and analyzing students' views on living conditions, the availability of student support, emotional state of students – the cluster of "perception of the social component".

According to the results of the study, we identified a fairly positive perception of the educational environment created in the medical institute, but there are indicators that were perceived by medical students a bit more positively. However, there are those that caused a rather negative reaction. Thus, when assessing students' perception of the educational process, 9% of respondents believe that teaching in the institution is carried out at a high level, 68% have a more positive perception, 23% perceive teaching negatively. However, none of the respondents believes that the educational process is unsatisfactory.

While analyzing students' perceptions of teachers, we found that 13% of students believe that teachers who provide teaching in educational programs are an example to follow, 69% say that teachers can move in the right direction, 18% believe that teachers need retraining and no persons who would assess the activities of teachers as inconsistent with educational standards and very low. Students' perceptions of academic achievement made it possible to determine that 22% of students emphasized that they had confidence, 62% had more positive feelings, 16% noted that their own academic success had many negative aspects, but there were no students who felt complete failure. In addition, 11% of students were well aware of the general atmosphere created in the institution, 69% have a more positive attitude, 20% believed that the institution needs to make significant changes to improve the overall atmosphere. The study also found that 19% of students are very receptive to the social component of the educational environment, 73% said that the educational environment is "not so bad" in social terms, but there are 8% of students who consider the social component of the institution unacceptable for them.

In addition, the study found that the perception of the educational environment depends on the age of students and the course in which they study. Junior students who took part in the survey are more positive about the general atmosphere and socializing component – 75 %, while senior students feel more confident when assessing the organization of the educational process, perception of academic success and the level of pedagogical skills of teachers.

## 5. Conclusion

The educational environment in which the educational activity of professional training of future nurses is carried out, as a set of teaching resources, communication, physical, cognitive, intellectual factors, should become a priority topic of professional discourse of management and educational process, other stakeholders seeking to improve quality of educational activities in medical HEIs and to ensure a high level of overall medical education in the country.

The design of the educational environment in the institution of higher medical learning should become favorable, be used during research and discussion aimed at enhancing the quality of educational process and results of training the competitive nursing staff.

The use of the research tool according to the DREEM method provides an opportunity to evaluate the educational environment of the medical education institution as a basic factor in the professional development of future nurses. In addition, the implementation of the DREEM method, as an international research tool, contributes to a substantive discussion of the state of medical education in Ukraine and a specific medical education institution with representatives of other countries, international organizations and associations to enter the European educational space and address common values.

An essential improvement of the quality of educational services is that the results of measuring the educational environment in each medical education institution has the opportunity to develop its own action plan for its development and



improvement, which will strengthen competitiveness and improve the quality of medical education. Thus, based on the results of assessing the educational environment at the Zhytomyr Medical Institute, an action plan to improve it was developed. Among the priority tasks of the plan are: the need to enhance the practical orientation of the educational process using simulation technology in the study of clinical disciplines and student-centered educational environment, ensuring the focus of teaching on the development of students' self-confidence in the level of their professional competencies; conducting training sessions with teachers to create a favorable atmosphere for students during lectures, seminars, practical classes and strengthening their motivation to learn; upgrading the organizational activities of the teaching staff in terms of annual review of educational programs, addressing relevant student workload to prevent overloading the educational process with the content of certain disciplines, increasing the number of practical components and reducing the number of theoretical studies, as well as forming a schedule optimally comfortable for teachers and students; proceeding with the cooperation with European institutions in order to enhance the educational, training and methodological, resource provision of professional training of nurses in compliance with European standards.

In addition, to measure the level of students' satisfaction with the quality of educational services at the institute, as well as students' perception of the educational environment, the Medical Institute established a Center for examination and monitoring of educational quality, which included representatives of teaching, scientific, practical and educational structures of medical HEI. The key tasks of the Center are: development of regulatory and legal support of the quality assurance system of educational activities in the medical HEI; examination and monitoring of determining the factors and indicators of quality assurance of educational activities; analysis of the structure and content of curricula, educational programs and characteristics for their compliance with educational standards; organizing and conducting a survey of

students and teachers on the quality of educational activities and perception of the educational environment; development and testing of the innovative technology system of complex rating of teachers of the institute; development of methods of self-evaluation of students' success (based on the results of testing, certification, implementation of an individual study program, classes in a particular discipline, independent work, etc.); drafting an annual report on the results of the Center's activity; study and consolidation of the best practices of other educational institutions on the activities of expert services and monitoring research; interaction and cooperation with leading educational institutions; elaboration of an innovative ICT system that comprehensively characterizes the activities of the medical institute in general and its departments and teachers in particular; obtaining common comprehensive criteria for evaluating and monitoring the key performance indicators of departments and teachers; improvement of activity and development of institute through the critical analysis of results; stimulating activities that help increase the ranking of the medical institute in general.

Summarizing the above, it should be noted that the development of modern medical education depends on the level of professional competencies of future medical workers and, consequently, the level of medical care provision. Therefore, medical education in Ukraine should meet international requirements and continuously develop.

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