

РОЗДІЛ 5. ТЕОРІЯ І МЕТОДИКА УПРАВЛІННЯ ОСВІТОЮ

IMPLEMENTATION OF THE QUALIMETRY PRINCIPLES ON THE EXAMPLE OF THE IMPLEMENTATION OF THE MANAGEMENT MODEL OF THE PROCESS OF FUTURE MANAGERS' PROFESSIONAL RESPONSIBILITY DEVELOPMENT

РЕАЛІЗАЦІЯ ПРИНЦИПІВ КВАЛІМЕТРІЇ НА ПРИКЛАДІ ВПРОВАДЖЕННЯ МОДЕЛІ УПРАВЛІННЯ ПРОЦЕСОМ ФОРМУВАННЯ ПРОФЕСІЙНОЇ ВІДПОВІДАЛЬНОСТІ МАЙБУТНІХ МЕНЕДЖЕРІВ

The article is devoted to the issue of monitoring the quality of the educational process of a modern higher educational institution, namely, the process of professional training of future managers. It is substantiated that monitoring as a quality management tool is justified and tested in the field of education, as it enables monitoring the state and ways of development of any system, including the educational one. The monitoring technology provides for the stages and means of conducting the management process, which ensures the transparency of the goal and mutual adaptation of the subjects. The article examines monitoring as a component of education quality management and the technology of higher education management.

The study highlights the peculiarities of monitoring the process of future managers' professional responsibility development with the help of a qualimetric approach. This makes it possible to observe the educational activities of students during a specific period and, using independent methods, to record quantitative indicators of qualitative changes in the object under study at all levels of the educational institution. The author describes the principles and features of educational monitoring using the qualimetry method.

The article presents a qualimetric model of managing the process of future managers' professional responsibility development. The article proves that this model reflects the continuity of monitoring actions regarding the management of this process, and has both a diagnostic and a motivational character. The structural components of the model are considered, namely, its qualitative factors and criteria; the principles of their identification and determination of their value using the expert evaluation method are given. The algorithm of mathematical processing of current and final results of the use of the model is described, which allows objective and qualitative assessment of the management of the process and the degree of formation of the specified quality.

Key words: *monitoring, qualimetry, qualimetric model, educational process management, professional responsibility, future manager.*

Стаття присвячена одній з актуальних проблем моніторингу якості освітнього процесу сучасного закладу вищої освіти, зокрема процесу професійної підготовки майбутніх менеджерів. Обґрунтовано, що моніторинг як інструмент управління якістю є обґрунтованим і апробованим в сфері освіти, оскільки дозволяє відстежувати стан і шляхи розвитку будь-якої системи, у тому числі й освітньої. Технологія моніторингу передбачає етапи та засоби реалізації процесу управління, які забезпечують наскрізність мети та взаємоадаптацію суб'єктів. У статті моніторинг розглянуто як складник управління якістю освіти й технологія діяльності менеджменту ЗВО. Наукове дослідження висвітлює особливості моніторингу управління процесом формування професійної відповідальності майбутніх менеджерів за допомогою кваліметричного підходу. Це дозволяє спостерігати за освітньою діяльністю студентів протягом певного проміжку часу і, використовуючи незалежні методи, фіксувати кількісні показники якісних змін досліджуваного об'єкта на всіх рівнях організації освіти. Автором описано принципи та особливості освітнього моніторингу за допомогою методу кваліметрії.

У статті презентовано кваліметричну модель управління процесом формування професійної відповідальності майбутніх менеджерів. У статті доведено, що дана модель віддзеркалює неперервність моніторингових дій щодо управління цим процесом, носить як діагностичний, так і мотиваційний характер. Розглянуто структурні компоненти моделі – її кваліметричні фактори та критерії, наведено принципи їх виокремлення та визначення вагомості за допомогою використання методу експертної оцінки. Описано алгоритм математичної обробки поточних та кінцевих результатів використання моделі, який дозволяє об'єктивно та якісно оцінити рівень управління процесом формування зазначеної якості та ступень її сформованості.

Ключові слова: *моніторинг, кваліметрія, кваліметрична модель, управління освітнім процесом, професійна відповідальність, майбутній менеджер.*

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Problem statement. Modern educational challenges require the management of a modern higher education institution to move from subjective characteristics of educational phenomena and processes to

more objective assessment of them. At the current stage of the development of higher education, technologization of the educational process helps make it organized and manageable with the possibility of

monitoring, assessing, and correcting educational outcomes. Feedback is essential in the management process, the purpose of which is to constantly monitor the course of the educational process for the qualitative development of specific competencies of future specialists. One of the most productive monitoring technologies in education is pedagogical qualimetry. Scholars argue that qualimetric models are one of the tools for assessing the success of competency formation [3, 4, 7, 8]. The analysis of academic research proves that the application of qualimetry in education is a progressive step towards resolving specific educational problems and, above all, increasing its quality.

The purpose of the article. The purpose of the paper is to analyse the qualitative approach to the qualitative assessment of phenomena in education using the qualimetric approach to the implementation of the management model of the process of future managers' professional responsibility development.

Analysis of recent research and publications. Monitoring as a management tool in education allows tracking the state and ways of development of any system, including the educational one [6]. One of the types of monitoring in education is the monitoring of learning results using a qualimetric approach. This approach allows us to observe the educational activity of students over a certain period and, using independent methods, to record quantitative indicators of qualitative changes in the studied object at all levels of the educational institution [2, 4, 7].

Global interest in educational monitoring appeared in the 30s of the 20th century. However, in Ukraine, the systematic implementation of monitoring studies using quality metrics began in the early 2000s. Theoretical, methodological, and organizational aspects of monitoring the educational process were studied by Ukrainian scientists T. Borova, G. Dmytrenko, G. Yelnikova, G. Kravchenko, V. Lunyachek, Z. Riabova, and others.

Monitoring in education was recognized by the Council of Europe as the main task preceding the creation of a single European educational space. Monitoring plays a crucial role in increasing the effectiveness of the management system in education [6]. According to N. Mulina, the systematic collection of the necessary information during monitoring is a significant tool for rapid response to changes in both the internal and external educational environment [3].

It was established that to organize the effective management of the process of specific quality formation, certain parameters should be included in the monitoring model, according to which it is possible to monitor the progress of its development. In the process of using monitoring technology, it is essential to use convenient measuring instruments, namely, qualitative ones [1, 4]. Qualimetric models can be such a toolkit, since most of the methods used

in pedagogical research are aimed at identifying the qualitative characteristics of pedagogical phenomena, but do not allow assessing the intensity of their detection in quantitative terms. As Z. Riabova notes, the advantage of the qualimetric approach to the analysis of the results of pedagogical research lies in the ability to single out specific factor-criterion indicators of qualitative phenomena and present them in the quantitative form [4].

G. Dmytrenko made a significant contribution to the study of qualimetry by formulating the principles of qualimetric measurement: it is possible to represent any qualitative phenomenon in the form of a collection of certain of its properties; in a qualimetric model, any components can be represented in the form of a hierarchical structure; a quality standard must be identified; the obtained absolute indicators should be transformed into qualitative assessments (absolute and reference indicators (the quality standard)). When designing a qualimetric model, the value of each factor in the model is determined from the point of view of its priority. The unit represents the quality as a whole, and the complex quantitative assessment of the quality can be presented as a function of relative indicators and value coefficients [1].

According to H. Yelnikova, pedagogical expertise is a crucial part of pedagogical qualimetry. This step entails a set of procedures necessary for obtaining a collective (objective) opinion in the form of an expert judgment about a pedagogical object [8].

Luniachek et.al argue that an important aspect of a comprehensive solution to the issue of introducing a qualimetric approach in the education system is the introduction of relevant academic disciplines into the curricula for training specialists in higher education institutions of a pedagogical direction [2, pp.111-112].

Presentation of the main material. To implement the management model of the process of future managers' professional responsibility development, we created a qualimetric model aimed at enhancement of the process of professional responsibility development. At each stage of model implementation, monitoring or self-monitoring actions take place to adjust current results aimed at the final result.

In the model, complex quality is decomposed into main components – factors that have a quantitative value. Each factor has its value, expressed in parts of the unit. The total of these parts is equal to this whole. The whole is regarded as a single unit, and the factors are presented in fractions of the unit. Each factor is a complex phenomenon and is decomposed into its components – content criteria expressed in unit fractions. The factor criteria are the set values, and their total equals one.

All calculations are made according to the rules of qualimetry within the unit range. This fact makes it possible to compare all measurements with each other.

**The qualimetric model of managing the process
of future managers' professional responsibility development**

Factor F_i	Factor Value f_i	Factor Criterion	Criterion Value m_i	Correlation Coefficient k_i	Criterion Assessment	Factor Assessment
1. Planning and forecasting activities regarding the organization of the process of future managers' professional responsibility development.	0,10	1. Professional responsibility development level among students	0,30	0.75	0,225	$F_1 = 0.0625$
		2. The level of educators' readiness to manage the process of professional responsibility development	0,20	0.75	0,15	
		3. Independence level in performing tasks	0,30	0.5	0,15	
		4. Goal setting	0,20	0.5	0,1	
2. Organizational and methodological support of the process of professional responsibility development.	0,20	5. Value orientation of the context of educational disciplines	0,25	0.75	0,1875	$F_2 = 0.15$
		6. Availability of seminars, training sessions	0,20	0.5	0,1	
		7. Availability of appropriate educational materials	0,10	0.75	0,075	
		8. Organization of educational materials provision	0,15	0.75	0,1125	
		9. Educators' training to perform the task of future managers' professional responsibility development	0,10	0.75	0,075	
		10. Organization of an interactive educational environment (use of cases, Moodle tools, Google services, and other educational platforms)	0,20	1	0,2	
3. The content of responsibility development	0,30	11. Motivational component	0,25	0.5	0.125	$F_3 = 0.15$
		12. Value component	0,25	0.5	0.125	
		13. Activity component	0,25	0.5	0.125	
		14. Personal component	0,25	0.5	0.125	
4. <i>Managing the process of future managers' professional responsibility development</i>	0,20	15. Dialogic interaction	0,15	0.5	0.075	$F_4 = 0.10$
		16. Individual educational trajectory	0,15	0.5	0.075	
		17. Institutions of responsibility	0,15	0.5	0.075	
		18. Determination of the degree of responsibility	0,15	0.5	0.075	
		19. Organization of students' independent work	0,15	0.5	0.075	
		20. Moral encouragement	0,15	0.5	0.075	
5. Efficiency	0,20	21. Microclimate	0,10	0.5	0.05	$F_5 = 0.15$
		22. Mastering the methodology of responsibility development	0,20	0.5	0.1	
		23. Level of academic performance of students	0,20	0.5	0.1	
		24. Level of <i>future managers' professional responsibility development in accordance with the established factors and criteria</i>	0,20	0.5	0.1	
		25. Self-reflection degree	0,20	0.5	0.1	
		26. Self-educational activity	0,20	0.5	0.1	
Total within the unit range	1,00					$r = 0.6160$

The basis for the factor determination was the stages, aspects, and components of the management process according to M. Meskon's management basics [5]. Let us consider the content of the qualimetric model in more detail (Table 1).

In the given paper, the role of the object of assessment is a qualitative phenomenon – effective management of future managers' responsibility development. Accordingly, from the whole combination of factors that characterize the process management of the specified quality development, it is necessary to determine the main ones that have the most significant impact on the management quality. In the presented qualitative model, the absolute indicator (P) reflects the general level of management of the process of future managers' responsibility development. It is assigned the status of a holistic phenomenon of a unit (1.0). This parameter consists of the total of factors and can be calculated by the formula $P = F_1 + \dots + F_n$. The model contains five factors, the presence of which ensures management of the process of future managers' professional responsibility development. The value of factors was established with the assistance of a group of experts. Eight experienced educators of Simon Kuznets KhNEU were chosen to act as experts, and conditions for their individual survey were created.

Subsequently, each of the five factors contains clearly stated criteria, each of which has its own value. It can be measured by applying a specific procedure (interviewing the appraised themselves using tests, questionnaires, interviews, expert evaluation, etc.). This significance can range from 0 to 1. The unit corresponds to a benchmark or standard. In our case, the presented qualitative model is both diagnostic and motivational in nature and can be used by educators and students. The results of multiple experiments confirm the hypothesis about the reliability and validity of a collective expert assessment compared to a subjective one.

Conclusions. Monitoring the management of the process of future managers' professional responsibility development with the help of a qualimetric model facilitates the work of all subjects of the educational process – managers, educators, and students. Due to the qualimetry and involving experts, the effectiveness of the implemented management model of future managers' professional responsibility development is substantiated transparently and objectively. The dynamics of the development of the professional responsibility components can be monitored according to a combination of the specified criteria.

The designed qualimetric model allows us to determine the level of development of the components of the management model of future managers' professional responsibility development. Mathematical indicators of the model provide information on the effectiveness of the implemented model. Moreover, the application of the qualimetric model contributes to the systematic, more rapid, and high-quality development of future managers' professional responsibility since it provides step-by-step regulation of the process of the specified quality enhancement, and contains procedures for reflection and correction.

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