



## ПРАВО ТА ПУБЛІЧНЕ УПРАВЛІННЯ СУСПІЛЬНИМ РОЗВИТКОМ

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### ТЕОРЕТИЧНІ ОСНОВИ ФОРМУВАННЯ ТА ОЦІНКИ ЯКОСТІ ВИЩОЇ ОСВІТИ

У статті узагальнено теоретичні основи формування та оцінки якості вищої освіти. З'ясовано, що система вищої освіти України націлена на виконання ряду функцій: професійно-економічної, соціальної, культурно-гуманістичної, політико-ідеологічної. Визначено основні показники якості освіти: знання, вміння, навички; емоційну, волюву, мотиваційну сфери особистості, рівень розвиненості пізнавальних та інших інтересів і потреб, ступінь моральної, естетичної, фізичної, екологічної розвиненості, а також засвоєння змісту освітніх компонентів, ступінь абстрагування у викладі змісту матеріалу. Доведено, що на детермінацію освіти як ринкової категорії впливає ряд визначальних факторів даної сфери: наявність недержавних освітніх установ; надання комерційних послуг вищої освіти за низкою напрямів підготовки; комерціалізація освітніх послуг; розгляд освітніх послуг з нового ракурсу: не тільки як соціальне благо, але і як економічна категорія; посилення ролі держави як регулюючого органу у зв'язку з погіршенням якості даного типу послуг; виникнення необхідності досягнення балансу вимог і очікувань якості підготовки персоналу всіх зацікавлених сторін ринку та ін.

Уточнено зміст категорії «якість вищої освіти» як відповідність сукупності характеристик освітньої діяльності та науково-технологічного розвитку закладу вищої освіти стратегічним цілям розвитку системи вищої освіти держави та стратегії розвитку закладів вищої освіти.

Аналіз стану ринку послуг вищої освіти дозволив виявити сучасні вектори розвитку вітчизняної вищої освіти, сформулювати спектр проблем даної сфери, визначити ймовірні ризики системи вищої освіти для розробки ряду заходів, спрямованих на поліпшення якості послуг вищої освіти та нівелювання негативних наслідків впливу зовнішнього середовища на ринок освітніх послуг. Однак в останні роки намітилася тенденція зміщення пріоритетів у бік задоволення потреб зацікавлених сторін у рівні якості послуг вищої освіти.

**Ключові слова:** система вищої освіти, заклади вищої освіти, якість, якість освіти, показники якості освіти, якість послуг вищої освіти.

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### THEORETICAL FOUNDATIONS OF FORMING AND EVALUATING THE QUALITY OF HIGHER EDUCATION

The article summarizes the theoretical foundations of the formation and assessment of the quality of higher education. It is established that the higher education system of Ukraine is aimed at performing a number of functions: professional-economic, social, cultural-humanistic, political-ideological. The main indicators of the quality of education are determined: knowledge, skills, skills; emotional, volitional, motivational spheres of the individual, the level of development of cognitive and other interests and needs, the degree of moral, aesthetic, physical, environmental development, as well as the assimilation of the content of the subject, the degree of abstraction in the presentation of the content of the material. It is proved that the determination of education as a market category is influenced by a number of determining factors of this sphere: the presence of non-state educational institutions; the provision of commercial services of higher education in a number of areas of training; commercialization of educational services; consideration of educational services from a new perspective: not only as a social good, but also as an economic category; strengthening the role of the state as a regulatory body due to the deterioration of the quality of this type of service; the need to achieve a balance of requirements and expectations for the quality of training of personnel of all interested market parties, etc.

The content of the category "quality of Higher Education Services" is clarified as the correspondence of the set of characteristics of educational activities and scientific and technological development of higher education institutions to the strategic goals of the development of the state's higher education system and the development strategy of higher education institutions.

The analysis of the state of the higher education services market allowed us to identify modern vectors of development of domestic higher education, formulate a range of problems in this area, determine the likely risks of

the higher education system for the development of a number of measures aimed at improving the quality of higher education services and leveling the negative consequences of the external environment on the educational services market. However, in recent years, there has been a tendency to shift priorities towards meeting the needs of stakeholders in the level of quality of higher education services.

**Key words:** higher education system, institutions of higher education, quality, quality of education, indicators of quality of education, quality of higher education services.

**Problem statement.** The training of personnel in the system of higher education is a priority area in the implementation of the state educational policy of Ukraine. The development of the country's intellectual potential is directly related to the long-term planning of priority scientific, educational and scientific and technical projects, which make it possible to form competitive teams of highly qualified specialists of various professions. In this regard, the issues of improving the quality of higher education in the country are of particular importance.

In the process of ensuring the services quality, higher education of Ukraine is faced with a number of social and economic challenges: population processes of strengthening of the nation aging; transformation of the industrial relations system in the light of the economic challenges of the development of the digital economy; increasing of international competition in the market of educational services; an unprecedented rise of the scope of scientific and technological information, that leads to the development of new methods for evaluating the quality of higher education; the growth of the qualification requirements for the graduates of institutions of higher education, talented young professionals.

These challenges represent a complex of problems, threats and opportunities to ensure the quality of higher education services in Ukraine. Under current conditions, processes of improving the quality of higher education services in the direction of ensuring the growth of the human capital of the state is objective necessity.

**Analysis of recent research and publications.** A significant contribution to solving the problems of improving the quality of services in higher education was made by such scientists as Londar S. [1], Klimova H. [2], Korsak K. [3], Krystopchuk T. [4], Vorobiova O. [5], Debych M. [5], Lugovyi V. [5], Kremen V. [6], Sidak V. [7], Denysenko M. [7], L.M. Petrenko [8], N.V. Zhytnik [8], Khoruzhyi G. [9] and others. A critical analysis of the views of national and foreign scientists on the study of the problem of ensuring the quality of higher education made it possible to identify systemic patterns regarding the importance of appliance of an optimal system for avaluation of the activities of higher education, taking into account the development trends of higher education. In this regard, the need to conduct a study of the theoretical foundations for the formation and evaluation of the quality of higher education seems to be highly relevant and timely.

**The goal of the article** is to summarize the theoretical foundations for the formation and evaluation of the quality of higher education and to provide suggestions for their improvement.

**Main body.** In modern conditions of socio-economic development of Ukraine in the direction of European integration, ensuring the quality of training of

higher education graduates is becoming a strategic priority for the development of the state. The higher education system of Ukraine is aimed at performing a number of functions: vocational and economic (training the workforce of different qualifications, retraining personnel and improving their skills, increasing the productivity of employees of various organizations through the assimilation of modern technologies), social (measures aimed to formation of the personal qualities of individuals, the transformation of social the status of individuals), cultural and humanistic (training representatives of a new generation of knowledge, skills and traditions accumulated by previous generations, the formation of new moral and spiritual values, encouraging a person to use the achievements of culture to form his own creative activity), political and ideological (state regulation of the activities results of institutions of higher education to achieve the goals of society and the country, etc.) [1, p. 98]. The performance of all the above functions by the higher education system is also aimed at promoting the scientific and technological development of Ukraine, the purpose of which is to ensure the independence and competitiveness of the country by creating an effective system for building up and more complete applying of the intellectual potential of the nation.

Achieving the country's independence at the international level and increasing its competitiveness in many areas of activity is hindered by the so-called "grand challenges", which are understood as a set of problems, threats and opportunities that objectively requires a response from the state [3, p. 56].

The formation of grand challenges implies increasing of the requirements for the qualifications of researchers, representatives of engineering areas training, technology and entrepreneurship. It is the sphere of higher education that should provide the country's economy with highly qualified personnel, whose activities will be aimed at overcoming grand challenges, timely detection of new grand challenges and effective response to them. Ensuring the quality of higher education in the current context of the country's development is especially important in connection with cardinal qualitative technological changes.

Ukraine's development priorities are aimed at creating and implementing solutions that most effectively respond to grand challenges through the creation and application of modern technologies and the provision of highly qualified personnel, financial information and other resources. The necessity to ensure the country's readiness for the emergence of grand challenges has already been identified, that is, it is necessary to forecast the coming of probabilistic events. It is important to evaluate timely the damage of potential risks that may be caused by scientific and technological development. In this case, this function should be transferred to

fundamental science and the higher education system in the country. The higher education system must respond flexibly to the needs of the country in achieving scientific and technological development and on a global scale.

The sphere of higher education should be involved in achieving the main goal of the scientific and technological development of Ukraine by creating an opportunity to identify talented youth and assist in building a successful career in science, technology and innovation, thereby ensuring the intellectual potential of the country [2, p. 28]. In addition, higher education should facilitate in increasing the receptibility of the economy and society to innovation, creating conditions for the development of knowledge-intensive business. All of the above will become achievable with a guarantee of a high level of quality of services provided by educational institutions of higher education.

For quite a long time, the concept of "quality" was identified with the technical level, which is actually one of the signs of quality and characterizes the technical perfection of products. As T. Krystopchuk notes, the increase of the technical level leads to the increase in the products quality of in the limit when the increase of the cost for raising the technical level is lower than the savings in the products operation [4, p. 100]. Equally important, especially today, it is the consideration of quality as a social category that characterizes the attitude of all members of society to the results of their work and the extent to which needs are met.

One of the founders of the TQM concept, E. Deming, who formulated fourteen quality management principles, often emphasized the content of quality in his works: we all do one thing together [10, p. 86]. The most valuable achievements of E. Deming include the theory of in-depth knowledge, including theories of: systems, variability (changability), psychology and cognition. Quality has two aspects: objective physical characteristics, a subjective side: how "good" the thing is [10, p. 88].

The evolution of approaches to the definition of the quality category points to the fact that quality is a rather diverse concept, covering philosophical, scientific, technical, merchandising, economic and social aspects. According to the international quality standards ISO 9000:2005, quality assurance is a part of quality management aimed at forming confidence that quality requirements will be met [5, p. 20]. Thus, quality is the main indicator for measuring the same consumer values in the market. The quality of organization's products and services is determined by its ability to satisfy customers and its intentional or unintentional influence on interested parties. The quality of products and services includes not only the performance of functions in accordance with the purpose and their characteristics, but also the perceived value and benefit to the consumer.

Modern approaches to the interpretation of the quality category allow us to state that quality, as the most important socio-economic category, is a set of characteristics of an object related to its ability to satisfy the established and envisaged needs of the consumer.

The term "quality" is inextricably linked with the concept of "quality of education" as process and result of the acquiring by applicants for higher education of

knowledge, skills, abilities, preparation for life and work in the new economic conditions. At the same time, the quality of education is understood as the achievement by applicants of higher education of a given (normative) level of training (preparedness).

Some authors define the quality of education as properties that determine the ability to fulfill the tasks put forward by society of the formation and development of a personality in terms of its training, upbringing, and the severity of social, psychological and physical properties [7, p. 98].

Many researchers believe that the quality of education is the degree to which the needs of many consumer groups (applicants, students, teachers, enterprises, society, state) are satisfied, the suitability degree of graduates of higher educational institutions for effective work. A number of researchers are trying to determine indicators (elements) of the quality of education. These indicators include knowledge, skills, abilities; emotional, volitional, motivational spheres of the personality, the level of development of cognitive and other interests and needs, the degree of moral, aesthetic, physical, environmental development, as well as the acquiring of the subject content, the degree of abstraction in the presentation of the content of the material. But these works do not reveal the scope and content of the terms "level", "degree" of acquiring the educational material. In a number of works, an attempt is made to determine the criterial characteristics of the quality of education on the basis of constructing a model of a graduate of an educational institution; definition of principles for identifying the quality of education. But the selected principles do not affect the content aspect of the quality of education, that has holistic character.

Today, competition in the intellectual labor market is intensifying along with the growing requirements for the quality of education. In the XXI century issues related to the achievement of "highest quality indicators" in education are becoming especially acuity. The cardinal changes in the economy, public and individual consciousness, affecting the foundations of education and upbringing, preparation for the life of the younger generation in the new market conditions, are occurring. In the current conditions, there is increase in the educational system of integrative processes in the European Union.

However, there is still no consensus among theorists and practitioners about the advantage of one or another approach to building a quality management system in higher education. It has been established that many quality management methods successfully used in production do not fit into the educational process.

The term "quality management" is closely related to such concepts as the resources of the quality management system, the infrastructure that provides quality management, the quality of training, education and other resources of the quality management system, including human resources, that is, personnel directly performing work in the organization. In order for this work to meet the quality requirements, it is necessary that the personnel performing it should be competent, have appropriate training, work experience.

Recently, there has been discusses about a competency-based approach to education. At the same

time, the content of the term "competence" includes the readiness of the individual to use the acquired knowledge in practice, knowledge of the procedural components of general scientific and specific skills.

Therefore quality is what makes an object what it is in action. At the same time, the quality also expresses that which is common to one or another class of objects. In its ascent, the concept of "quality" correlated with such terms as essential, having basic properties; systemic, characterized by systemically important connections and relationships; functional, expressed in the interpretation of quality through the system of functions of the whole and its parts; integral, synthesizing information from different areas of knowledge to reveal its essence and features.

The problem of achieving the quality of education in the history of the development of higher education and pedagogical thought has always existed. It was solved in different ways in different periods of the development of human society. But only in the last decade there has been a systematic (comprehensive) approach to its solution. The Total Quality Management (TQM) model consists of five basic elements that underlie quality management: management responsibility, involvement of everyone in quality assurance activities, customer orientation, continuous quality improvement. At the same time, quality should unite the interests of producers and consumers [10, p. 87].

Let us consider the content of the category "quality of higher education services". L. Sushentseva, L. Petrenko, N. Zhytnyk interpret education as a capital investment that allows for higher productivity in the national economy, as well as the growth of cultural and socio-economic well-being of both society as a whole and an individual [8, p. 182].

The determination of education as a market category is influenced by a number of determining factors in this area:

- availability of non-state educational institutions;
- provision of commercial services of higher education in a number of areas of training;
- commercialization of educational services;
- consideration of educational services from a new angle: not only as a social benefit, but also as an economic category;
- strengthening the role of the state as a regulatory body in connection with the deterioration of the quality of this type of service;
- the occurrence of the need to achieve balance of requirements and expectations of the quality of training of personnel of all interested parties in the market, etc.

Despite certain differences in the views of scientists and specialists in the field of studying the quality of education, in fact, the concept of "quality of higher education" is not sufficiently disclosed. It is possible to clarify the content of the category "quality of higher education" as the correspondence of the totality of characteristics of educational activities and the scientific and technological development of higher education to the strategic goals of the development of the higher education system and the strategy for the development of higher education.

The system of higher education in Ukraine and other countries is a specific field of activity. Higher

education services have their own distinctive features, which does not allow evaluating their quality on a par with other types and kinds of services. The present and future state of the country's economy depends on the effective operation of the higher education system, which reveals the need to evaluate and control the quality of services in this area.

An analysis of international and national experience on the issue of evaluation the quality of higher education has shown that at the moment there is no single methodology for assessing the quality of services in this area. It is customary in the world community to determine the rating of higher education institutions, which is an indicator of the quality of services provided. The most well-known quality rating systems are the system of Shanghai University and the university rating system of the British organization «TSL Education LTD», however, despite the popularity of these rating systems, they have a number of weaknesses, including the subjectivity of the evaluation, limitation of participants in the study and the use of different methodologies within institutions of higher education.

In Ukraine, a rating system is also used in evaluation of the quality of higher education, which is carried out both by authorities (monitoring the effectiveness of higher education organizations), and professional associations, and the media. Rating of higher education helps the stakeholders of the educational process to receive interesting information about the activities of higher education, and educational institutions to adjust their competitive position in the market of higher education services. The methodology for determining the rating, used by the Ministry of Education and Science of Ukraine, includes a number of indicators for evaluation: higher-education teaching personnel, results and volume of research work, financial activities, social conditions, etc.; however, this methodology does not take into account the expert opinions of stakeholders on the quality of higher education.

In connection with the change in the education system in Ukraine, namely with the entry into the Bologna process, it is advisable to consider the main systems for evaluation the quality of higher education.

In the European Community, it is customary to single out the following main models for ensuring the quality of education [9, p. 36]:

1. Education quality evaluation system (Spain, the Netherlands, Portugal, France, Finland, Sweden, etc.). Features of the model: an alternative system in relation to the state inspection; the initiators of its presentation are members of associations of higher education institutions or the state; involvement in the process of evaluation the quality of education of qualified specialists; evaluation reports include: identified shortcomings, recommendations for improving the performance of higher education, intended for the government and the public. Objects of evaluation: the quality of knowledge in a particular discipline; the quality of a separate educational program; the effectiveness of the educational institution; evaluation of individual areas of activity of an educational institution, for example, social support for students, etc.

2. Accreditation system (Germany, Austria, Denmark, Norway, Sweden, etc.). Features of the model: availability of accreditation criteria; application of technology for comparing indicators of higher education according to accreditation criteria; the presence of a collegial body to make a decision on accreditation. Objects of evaluation: training resources, finances, targets; evaluation of the effectiveness of the educational process with certain frequency in 5-6 years

3. Education quality audit system (Great Britain, Ireland, etc.). Features of the model: the quality audit procedure is carried out at the institutional level; the audit is considered as an intra-organizational method for evaluation the strengths and weaknesses of the mechanism for provision the quality assurance of educational services of higher education for consumers. Objects of evaluation: effectiveness of the internal quality assurance system; strategy and policy in the field of quality evaluation of higher education; ways to provide the quality assurance of higher education services.

According to H. Khorunzhyi, all presented models of quality assurance systems have a number of similarities, in particular, the presence of autonomous quality assurance bodies; the initiators of their creation and application are the state and professional associations; sources of funding for evaluation procedures - the state and (or) a higher education institution; a unified system of principles for creating and applying models of quality assurance systems: reporting relationships, comparability of indicators, etc. [9, p. 12]. In this case, the evaluation of the quality level of higher education involves an assessment procedure both from the point of view of the product and from the point of view of the service.

Based on the data presented and the analysis of world experience in the field of evaluation the quality of higher education, we will divide the conditionally listed models into two groups: models of accreditation of educational institutions, used on a mandatory basis, and models for evaluation the quality of education, used on a voluntary basis. The model of accreditation of educational institutions, carried out obligatory, is dictated by higher authorities, that is, the state as a whole, and the voluntary model is implemented in the course of the emergence of an internal need for higher education.

In world practice, this type of accreditation is known as institutional accreditation, which implies a complete analysis of the institution as a whole. A type of specialized accreditation is also used, which analyzes only educational programs. In this paper, we are interested in the possibility of studying the factors affecting the quality of higher education in order to analyze the quality of higher education in the country, identify problems that worsen its quality, on the basis of which it will be possible to suggest ways to improve the situation.

**Conclusions.** Currently, Ukraine has accumulated positive experience in evaluation the quality of higher education. An analysis of the market state for higher education services made it possible to identify modern vectors for the development of national higher education, to formulate a range of problems in this area, and to

determine the possible risks of the higher education system. However, in recent years there has been a tendency to shift priorities towards meeting the needs of stakeholders at the level of quality of higher education.

Conducting procedures for evaluation the quality of higher education directly depends on the goals of the educational system itself. The institution of education (in this case we are talking about higher education) aims for satisfying the interests of society and the direct consumers of higher education services. The importance of taking into account the interests of society is determined by the strategic nature of higher education services in the country.

Based on the foregoing, we conclude that it is advisable to use a combined toolkit for evaluation the quality of higher education, including both objective (statistical) evaluation methods and subjective (expert) methods for evaluation the quality of higher education. In this regard, it is important to study the types of factors influencing the improvement of the quality of higher education services under increasing scientific and technological challenges.

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**V.O. SHVEDUN, P.I. ALIEVA, V. ZUBAR**

**СУЧАСНІ МОДЕЛІ СИСТЕМ КОНСОЛІДАЦІЇ ІНФОРМАЦІЇ В ПУБЛІЧНОМУ УПРАВЛІННІ**

Стаття присвячена аналізу сучасних моделей систем консолідації інформації в публічному управлінні. Розподілені системи і, зокрема, бази даних, як правило, пропонують певну модель узгодженості. Ці моделі гарантують, що, якщо певні умови будуть виконані, то можна очікувати що система буде мати певні властивості (тобто узгодженість або доступність або стійкість до розривів мережі). У цьому контексті розглядається популярний набір ACID-властивостей, який гарантує, що транзакції бази даних обробляються надійно, в порівнянні з протилежною моделлю BASE, яка є похідною з теореми CAP, але прагне забезпечити набір властивостей, що відрізняється від ACID.

Якщо здійснити аналіз існуючих нині моделей систем консолідації інформації, то є можливість отримати декілька їх градацій: системи консолідації фінансової інформації; в залежності від архітектури збереження інформації, що використовується в системі; в залежності від моделі об'єднання інформації; в залежності від способу обробки запитів користувачів; системи консолідації інформації про клієнтів; системи консолідації інформації про зовнішнє середовище компанії; в залежності від методу аналізу інформації.

Зокрема, якщо більш докладно розглянути системи консолідації фінансової інформації, то доцільно відмітити, що сьогодні на ринку вони представлені у вигляді пакетних програм, систем планування ресурсів компанії та стандартних інструментів ETL.

У свою чергу, що стосується пакетних програм, то вони займають переважну частку ринку та можуть бути представлені в якості аналітичних систем класу CPM та спеціалізованих систем фінансової консолідації.

**Ключові слова:** публічне управління, системи консолідації інформації, аналітичні системи, лінійна модель, транзакційна модель, секторна модель.

**V.O. SHVEDUN, P.I. ALIEVA, V. ZUBAR**

**MODERN MODELS OF INFORMATION CONSOLIDATION SYSTEMS IN PUBLIC ADMINISTRATION**

The article is devoted to the analysis of modern models of information consolidation systems in public administration. Distributed systems, and databases in particular, tend to offer a specific consistency model. These models ensure that if certain conditions are met, then the system can be expected to have certain properties (i.e. consistency or availability or network break resistance). In this context, a popular set of ACID properties is considered, which ensures that database transactions are processed reliably, compared to the opposite BASE model, which is derived from the CAP theorem, but seeks to provide a set of properties that differs from ACID.