

UDC 378.014.6

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COMPETENCE-BASED MEASUREMENT OF HIGHER EDUCATION QUALITY

The article studies the essence of higher education quality and the basic principles of its management system, advanced tools to estimate its level, the tasks of high school to ensure the required level of quality according to the content, conditions and learning outcomes, effectiveness of the motivation mechanism and career objectives.

Keywords: higher education quality, competence-based approach, competence, potential of competitiveness, quality standards, educational engineering, fundamentalization of higher education, professional training, learning-doing model, the national qualifications framework.

Гуляева Н. Компетентностное измерение качества высшего образования. Исследована сущность качества высшего образования и основные принципы построения системы управления ею, современные инструменты оценки ее уровня, задачи высшей школы по обеспечению необходимого уровня качества в соответствии с содержанием, условиями и результатами обучения, эффективностью мотивационного механизма и профессиональной ориентации.

Ключевые слова: качество высшего образования, компетентностный подход, компетенция, потенциал конкурентоспособности, стандарты качества, педагогическая инженерия, фундаментализация высшего образования, профессиональные квалификации, модель обучения действием, национальная рамка квалификации.

*"Knowledge is useless without reasoning,
and reasoning without knowledge is dangerous "
Confucius.*

Background. Evolution of quality theory, its interpretation in the field of higher education, establishing measurement instruments and planning, development of criteria and raising the level are the subject of modern scientific discussion and the formation of regulatory framework of administration.

Structuring the process of assessing the higher education quality, based on social and economic approach to outcome measuring, allows to determine the right direction and design of the quality management system in higher educational institutions based on accepted model of a modern specialist training.

Educational professional community of Europe prefers competence-based model which, unlike a content-based one, largely ensures completeness of parameters and assessment tools and incentives to improve the quality of training.

Different scenarios of graduates' competence of higher educational institution form the basis not only to developing modern regulations to standardize the evaluation process in all aspects, but also to determining areas of training content improvement, training and diagnosis of students' knowledge, their interaction with employers, which creates real prerequisites to consolidate competitive potential of all participants of this process.

Analysis of recent research and publications. Development of higher education, globalization of educational environment require creation of basic conditions of comparability and organic parameters of national educational structures; these are the most urgent issues that are studied intensively by domestic and foreign scholars, teachers, practitioners, professional employers environment.

A newly-formed paradigm of higher education determines the quality as the core category that is formed and evaluated according to certain criteria and approaches. This issues are considered in the works of V. Viktorov [1], S. Honcharenko [2], I. Chemeris [3], A. Lokshyna [4], A. Pospelov, S. Kalnei [5], A. Kupavtsev [6], J. Ramen [7], S. Merkulov [8], D. Dzvinchuk [9], A. Markov, A. Chuchalin et al.

This field of research is dynamic, and this feature is stipulated by the need to systematize the already found assessment tools and incentives to improve the quality of specialists with higher education training.

The aim of the article is to systematize the main approaches to assessing the higher education quality, its essential features, to reveal the contents of the competence-based approach as adopted in the European environment under the new paradigm of training professionalization, to define basic terms of balancing training cycle and the life cycle of knowledge, building competitiveness potential of higher educational institution, and its graduates.

Materials and methods. The study was conducted using the following basic methods as theoretical synthesis, system analysis, induction based on scientific materials and periodicals.

Results. Quality as a complex description of the labour product considering such a scope as higher education has a clear social component due to its focus on the needs of the whole society, certain social strata or groups [10].

In the system of assessing the competitiveness of higher educational institution the quality of education provided is central and considered in

means of society correspondence to the content, conditions and learning outcomes, effectiveness, motivation mechanism and career objectives.

On the basis of the philosophical definition, quality is a combination of properties that makes an integrated unit with the object or phenomenon, inseparable from it, and is the condition of its existence [11]. That desire to improve the quality of the object is essentially a desire to improve the object itself. It is this approach that helps to achieve a systematic theoretical understanding of the process of improving the higher education quality.

It is a mistake to direct the process of improving higher education by an economic measurement result only, i.e. from the standpoint of the consumer (employer, student, to some extent). A large social evaluation component requires graduate of a higher educational institution to achieve a certain level of spiritual development, high personal characteristics, including professional in accordance with applicable regulations, standards, and criteria of community intelligence reflection. So, projecting the following considerations regarding the improvement of the higher education quality, it is necessary to study it as a process of higher education improvement.

According to a general approach, assessment, and hence the way of improving the higher education quality, is materialized in improving system mechanism that can be structured in such conceptual blocks:

- quality of teaching resources, including didactic, logistical, organizational and information base of the educational process;
- quality of scientific and pedagogical staff;
- quality of Learning Objects (basic formation and the ability to practice, the development of personal qualities), etc. [1].

The dual nature of assessing the higher education quality – correspondence to education standards of society and the requirements of customers – is the basis of principles (guidelines) on quality assurance in the European Higher Education Area (EHEA), adopted at a conference in the city of Bergen (September 2005), where components of the education quality include:

- quality of values, norms and objectives required by various consumer groups (students, employers, workers of high school, the economy as a whole);
- quality of conditions characterizing the logistical and information training base, the quality of educational and vocational programs, the initial training of graduates and students;
- the quality of the process that emphasizes the learning content quality (quality of educational and vocational programs, disciplines and their methodological support) and quality of education technologies (availability of innovative components);
- quality of results, measured through the level of graduates training, their perception of the labor market [12].

Creating a quality management system based on the criteria of international quality standards ISO 9000: 2001 in a higher educational institution is a sign of the existing system of management potential and competi-

tiveness. Moreover, such a system should include a monitoring process of all the objects of quality management education, both of the educational process itself and resource provision, and of the result quality from the prospective of consumers and the state estimation.

Construction of the Quality Management System of Higher Education is derived from the process of developing the model of modern specialist training. The appropriate model of such a system should meet the dynamic model of economic development and predict qualitative changes not only of learners (subjects of the educational process), but of the curriculum (the domain objects). Modern teaching engineering offers several models of modern specialist training – content-, structure-, competence-based, which are aimed at developing functional and content components of mental activity of higher educational institutions graduate (HEIs).

The basic model of training in EHEA field is a competence-based model that provides the greatest completeness of criteria, requirements and tools for assessing the quality of higher education and incentives to improve it.

On the basis of the fact that the education quality is determined by the consumer through a graduate degree of adaptation to external demands it is necessary to find such an assessment component which may reflect the willingness and ability of trained professionals to self-analysis, self-improvement and self-development in the professional field and provide a qualitative description of the training results.

The descriptors of the European Qualifications give the following instruments measuring the quality of education as competence (people's ability to use various elements of knowledge and skills in a particular context) and professional competence (professional and statutory opportunities to implement public, social and personal responsibilities in professional activities). In such a case professional competence is seen as a personal professional ability to constructive work within the professional competence.

That is, according to the higher education new paradigm the main task of higher educational institutions is to ensure readiness (competence) and ability (professional integrity) of specialists to realize their professional credentials in practice using the chosen model of training, as opposed to the qualification approach when the formation of a body of knowledge, skills, practical skills of reproductive nature is considered to be a sufficient outcome of studies.

This is a competence-based approach that forms a methodological framework to develop the individual learning trajectories, to implement the principle of the Bologna movement – learning through the whole life (*life long learning (LLL)*), to reconstruct the training content, organization of educational process and its technological support, transformation methods block moving upward from a previous educational qualification (educational and professional) level to the next one.

High dynamics of contemporary processes, rather short lifetime of intellectual products, and a high proportion of its innovative acceleration – all these features of modern human existence are usually comparable to the training cycle.

This competence-based approach based on the fundamentalization of higher education allows to create a sustainable professional viability of a graduate. One of the priorities of the Bologna higher education movement is its fundamental character.

Formation of general and professional competence of a future specialist on the basis of a fundamental level, in contrast to the empirical training is provided as a result of:

- mastery of his fundamental methodological, natural science and cultural knowledge, the ability to the value-semantic self-determination in the current social and cultural, information and professional environment;
- a developed theoretical way of thinking – integrity, consistency, problemativeness, logicity, dialectics, interactivity, predictability, reflexivity of professional thinking, etc. [2; 13].

Formed fundamental worldview attitude of a specialist should ensure the development of his/her intellectual potential to evaluate real economic situations and practical training component – the ability to adapt to specific practical realities as quickly as possible.

Refusal from the knowledge-based paradigm of education changes the system of its goals and objectives. That means the main thing is not the student's knowledge but his/her formed integral experience to solve the vital problems, to perform the professional functions, his/her capacity to social interaction.

There is a definition that professional qualifications is a specialist's potential ability to perform professional activities and competence forms his/her real ability [3]. In such terms, conditions for achieving professional qualifications based on competence are implemented through professional integrity and acquire high social value to the community is a major challenge of modern higher vocational education [4; 14].

Considering the educational process in the competence-based format, the famous British economist and consultant R. Revans (1970) offered the so-called learning-doing model. R. Revans identified the faster learning to be a basic principle of his model, when the rate of competencies acquisition, including those acquired at heuristic component, will exceed the rate of change in the environment, including a professional one [15].

Implementation of this model allows to balance the training cycle and the life cycle of knowledge, to strengthen the specialist competitiveness potential on the basis of fundamentalized contents of existing professional competencies [14].

Recognition of the competence-based approach to be the leading one in the organization of the educational process actualizes the problem of results evaluation, including quality of training.

Thus, according to this approach, the quality of training is considered to be the extent of compliance of the existing system of graduate competencies with a set standard – an adopted competence-based model [16].

Capacity (knowledge and skills) and readiness (experience) in today's activity models are defined to be the main components of competence, structured according to the overall approach as described below in *figure 1*.

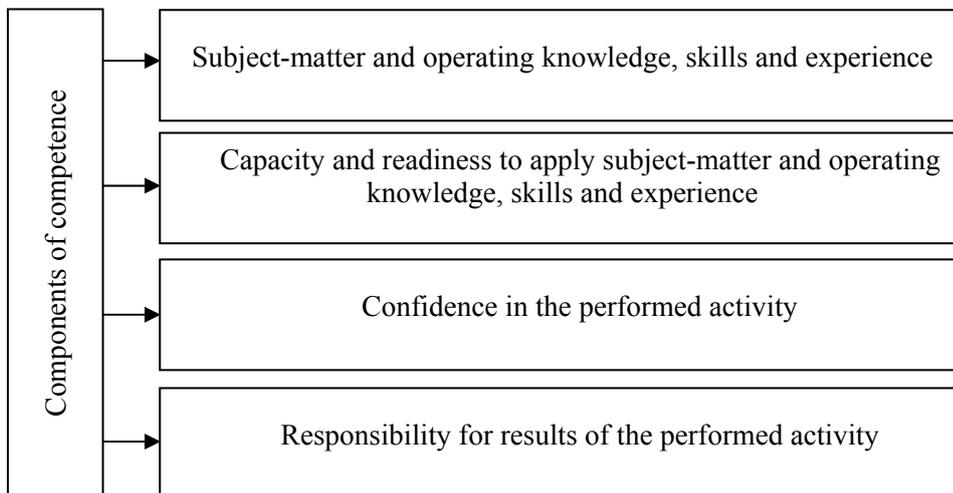


Figure 1. Structuring of specialist competencies according to the activity approach

Source: compiled from [17].

Current approaches to improving the education system is based largely on the so-called three-dimensional competence-based models that are built, for example, according to certain types of competencies (*figure 2*):

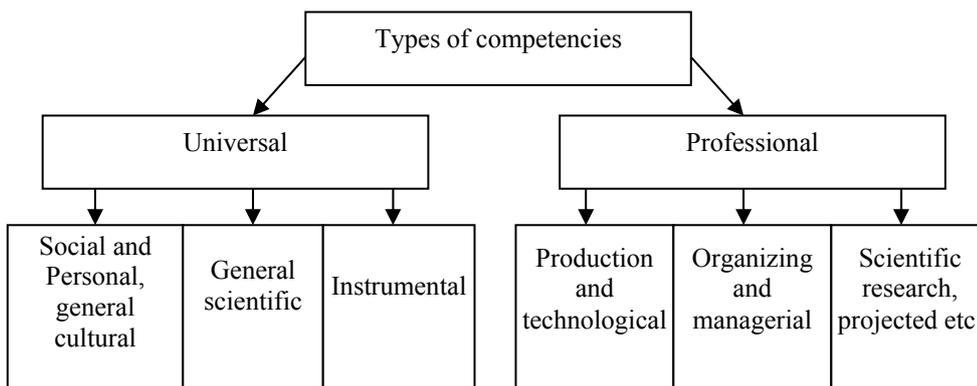


Figure 2. A competence-based model by V. Baydenko, Ju. Tatur and S. Korshunov [18]

Current industry-specific standards of higher education in Ukraine (EQC of Master's and Bachelor's degree) are developed according to a similar approach. It is not annulled even by the Law of Ukraine "On Higher Education" introduced in September 2014.

Structuring professional competencies, some authors suggest the following triad: key, basic and special competencies. The key competencies are treated as general ones necessary for social and productive activities, basic – as competencies in specific areas of professional activities and special – as necessary to solve a specific professional problem [17; 19].

It is widely used a structural composition of professional competencies according to professional field – methodology, pedagogy, research, calculation, communication, experience (cognition), information, etc. [8; 17].

To evaluate the outcome of a specialist training in the coordinates "competencies – qualification" it's necessary to develop an appropriate system of criteria, quantitative characteristics, benchmark levels. Is this procedure exhausted with the existing standardized tools of higher education quality diagnosis and other tools of students' knowledge assessment, used in higher educational institutions?

Despite the involvement of the leading practitioners in the relevant professional field, scholars to state certification, this stage of training quality diagnosis has the character of internal control. The completeness of training quality assessment is provided by the employers and university graduates conclusions, higher educational institution ratings they compile. Thus, it is important to determine the ability of the graduate to professional adaptation, its duration (the competencies experience component), the extent of his/her expectations to meet production and personal needs (motivation and evaluative aspect of assessment), his/her employment by specialty (realized competitiveness potential), and so on.

A research considering such training quality characteristics is usually carried out after the student graduation from higher educational institutions. Although such opportunities are available during his/her work experience internship and pre-diploma practice.

While making the assessment tools in this period, higher educational institutions rely on standardized requirements and qualification descriptors of educational qualification characteristics of specialists, which are developed in accordance with the National Qualifications Framework. Modern technologies of students' knowledge diagnosis and state certification envisage not the "knowledge-based" methodical base, but the "learning-doing" one. In such a case the results of this assessment really reveal the potential of training quality, the implementation of which is materialized after the employment of graduates as information structured on the criteria, characteristics, specific indicators can be obtained and analyzed with the help of various

means of feedback (expert way) – surveys, thematic roundtable discussions, webinars featuring employers, graduates, etc. This approach is rapidly being introduced in KNUTE.

The competence-based approach envisages that the results of feedback such as a real integrated characteristic of training quality should be laid in the base of educational programs development, strategic scientific and practical partnerships according to the systematic formation of the integrated set of professional and personal specialists' abilities that are able to act constructively in polyfunctional and polisubject environment.

Expanding the contents of education quality definition under the competence-based approach, it is necessary to include is not only the ability of the education product to meet the needs of the society (individual consumers) in a system of characteristics, but also the efficiency of its formation, which is assessed through the optimal unit costs for university training.

After the introduction of the new Law of Ukraine "On Higher Education" the issues of higher education quality acquire the nationwide status. It creates a national system that has both institutional and social components. It develops the new principles of higher education, the procedural provisions of its operation mechanism, which the basic principles of higher educational institutions are organic for.

High public confidence in higher education system of Ukraine is expressed in the law through declaring the principles of autonomy and self-government in the activities of the higher educational institutions, the expansion of their rights and duties, responsibilities.

Exercising the right of a higher educational institution to form the parameters of the financial and economic and other activities, to manage their own revenue, particularly that one from providing services on fee-paying basis is envisaged by a major functional – providing the highest quality of service, efficient use of all resources and to maximizing the social and economic impact.

Conclusion.

- Quality of education services provided, occupies a central position in the system of assessing the competitiveness of higher educational institutions, it has a clear social component, measured through the graduate achievement of a certain level of spiritual development, high personal characteristics, including professional ones;

- development of the quality management system of higher education is derived from the process of developing the model of modern specialist training that should correspond to the dynamic model of economic development;

- a competence-based model that measures the training quality through the assessment tools such as competence and professional competence has been adopted as a basic model of training on the territory of the European Higher Education Area;

- implementation of models of educational process organization in the competence-based format allows to balance the training cycle and the life cycle of knowledge, to build the graduate competitiveness potential on the basis of contents fundamentalization of professional competencies;
- in the implementation of competence-based approach such issues as the evaluation of specialist training outcome in the coordinates "competencies – qualification", creating the appropriate system of benchmarks, quantitative characteristics of reference levels are emphasized;
- after the introduction of the new Law of Ukraine "On Higher Education" the issues of higher education quality acquire the nationwide status, materialize in the national system, which has institutional and social components, correspond to basic principles of national higher educational institutions – autonomy and self-governance.

The ways of improving the system of modern specialists in the new paradigm of higher education on the basis of quality criteria allow to create a nationwide system mechanisms of developing and monitoring the professional characteristics of graduates using such measurement tools as experience and competence, to target higher educational institutions of Ukraine to rational approaches of competitiveness capacity consolidation in the construction of their educational process and their own work in general.

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Гуляєва Н. Компетентнісний вимір якості вищої освіти.

Постановка проблеми. Еволюція теорії якості, її тлумачення у сфері вищої освіти, створення інструментарію виміру і планування, розвиток системи критеріїв і напрямів підвищення рівня є предметом сучасної наукової дискусії і формування нормативної бази адміністрування. На основі різних сценаріїв формування компетентностей випускника вищого навчального закладу визначаються напрями вдосконалення змісту підготовки, організації навчання і діагностики знань студентів, взаємодії з роботодавцями, що створює реальні передумови зміцнення потенціалу конкурентоспроможності всіх учасників цього процесу.

Аналіз останніх досліджень і публікацій. Розвиток системи вищої освіти, глобалізація освітнього середовища вимагає створення базисних умов зіставності й органічності параметрів національних освітніх конструкцій, і це є найактуальнішими питаннями, які інтенсивно досліджуються вітчизняними і зарубіжними науковцями, викладачами-практиками, професійним середовищем роботодавців.

Мета статті – систематизувати основні підходи до оцінки якості вищої освіти, її сутнісних ознак, розкрити зміст компетентнісного підходу як прийнятого в Європейському просторі за новою парадигмою професіоналізації підготовки, визначити базисні умови врівноваження циклу підготовки і життєвого циклу знань, формування потенціалу конкурентоспроможності як вищого навчального закладу, так і його випускника.

Матеріали та методи. Застосовано наукові методи теоретичного узагальнення, системного аналізу, індукції, наукові та періодичні видання.

Результати дослідження. Досліджено сутність якості вищої освіти і основні принципи побудови системи управління нею, сучасні інструменти оцінки її рівня, завдання вищої школи із забезпечення необхідного рівня якості відповідно до змісту, умов і результатів навчання, ефективності мотиваційного механізму і професійної орієнтації.

Висновки. Визначені напрями вдосконалення системи підготовки сучасних фахівців за новою парадигмою вищої освіти на основі критеріїв якості дозволять у національному масштабі створити системні механізми формування і моніторингу професійних характеристик випускників з використанням таких інструментів виміру, як компетентність і компетенція, орієнтувати вищі навчальні заклади України у конструюванні навчального процесу і у власній діяльності в цілому на раціональні підходи зміцнення потенціалу конкурентоспроможності.

Ключові слова: якість вищої освіти, компетентнісний підхід, компетенція, потенціал конкурентоспроможності, стандарти якості, педагогічна інженерія, фундаменталізація вищої освіти, професійні кваліфікації, модель навчання дією, національна рамка кваліфікацій.