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DISTANCE LEARNING EFFICIENCY CRITERIA: MANAGING THE PROCESS OF QUALITY ASSESSMENT

The article examines various approaches in determining the criteria (indicators) of the effectiveness of distance learning. The components of distance learning quality assessment are revealed: material and technical support of distance learning; quality of educational material for distance learning; quality of individual educational programs; quality of individual academic achievements of students; quality of the system of self-control and self-assessment of students; qualification of teachers and staffing of distance education. The factors defining the criteria are determined: factors of the educational process; organizational and managerial factors; availability of equipment, means of information technologies, organization of the workplace, use of progressive methods of teaching; environmental factors; human factor; social environment factors; factors related to individual characteristics, etc. The groups of criteria for the assessment process are considered: assessment of the course content; effective use of teaching tools; teaching methods. The evaluation criteria which are divided into four main groups are examined: technical, educational, organizational and ethical criteria. The main stages of assessment are distinguished: planning, development of the management program; obtaining and analyzing information that affects quality; decision-making; control; obtaining and analyzing information about quality changes.

Key words: distance education; distance learning; educational process; quality of distance education; efficiency indicators; evaluation of distance learning efficiency.

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КРИТЕРІЇ ЕФЕКТИВНОСТІ ДИСТАНЦІЙНОГО НАВЧАННЯ: УПРАВЛІННЯ ПРОЦЕСОМ ОЦІНЮВАННЯ ЯКОСТІ

У статті розглядаються різні підходи до визначення критеріїв (показників) ефективності дистанційного навчання. Обґрунтовуються складові оцінки якості дистанційного навчання: матеріально-технічне забезпечення дистанційного навчання; якість навчального матеріалу для дистанційного навчання; якість індивідуальних освітніх програм; якість індивідуальних навчальних досягнень здобувачів; якість системи самоконтролю та самооцінки здобувачів; кваліфікація викладачів та кадрове забезпечення дистанційної освіти. Визначаються фактори, що окреслюють вплив технічних засобів навчання в традиційному навчанні: фактори навчального процесу (цілі, завдання, складність змісту навчання); організаційно-управлінські фактори (фактори технічного забезпечення діяльності викладача та здобувача); наявність необхідного обладнання, засобів інформаційних технологій, організація робочого місця, використання прогресивних методів та організаційних форм роботи; фактори навколишнього середовища; людський чинник; фактори соціального середовища; фактори, пов'язані з індивідуальними особливостями людини тощо.

Розглядаються групи критеріїв для процесу оцінювання: оцінка змісту курсу (структура курсу, відповідність матеріалу програмі, перевірка знань, виклад матеріалу); ефективне використання інструментів (використання засобів комунікації, засобів перевірки знань, тощо); викладання курсу (професіоналізм викладачів, організація навчання, зворотний зв'язок, використання інформаційних технологій). Розглядаються також критерії оцінювання, які можна розділити на чотири основні групи: технічні, навчальні, організаційні та етичні критерії.

Виділяються основні етапи оцінювання: планування, розробка управлінської програми; отримання та аналіз інформації про будь-який процес, що впливає на якість; прийняття рішень щодо управління якістю освітніх послуг та забезпечення впливу на об'єкти та процеси; забезпечення контрольної дії; отримання та аналіз інформації про зміни якості, які були викликані контрольними діями.

Ключові слова: дистанційна освіта; дистанційне навчання; освітній процес; якість дистанційної освіти; показники ефективності; оцінювання ефективності дистанційної освіти.

Постановка проблеми

The increasing development of information technology in the XXI century boosted modernization of the education system. In Ukraine, the essence of such modernization was mostly reflected in the Concept of distance education development [2], which covers a wide range of society and becomes the most important factor in its development, revealing such issues as new progressive concepts in teaching, introduction of the latest pedagogical technologies and scientific and methodological achievements into the educational process, Ukraine's entry into the transcontinental computer information system. As stated in the Concept of Distance Education Development, the development of the educational system in Ukraine should lead to: emergence of new opportunities to update the content of education and methods of teaching disciplines and dissemination of knowledge; expanding access to all levels of education, realizing the possibility of obtaining it for a large number of young people, including those who cannot study within traditional forms due to lack of financial or physical opportunities, due to professional employment, prestigious educational institutions, etc.; implementation of the system of lifelong learning; individualization of education within a mass education. At the same time, with the wide provision of distance learning under COVID 19, the issue of its assessment regarding the concept of quality and efficiency is becoming relevant.

Аналіз останніх досліджень і публікацій

Much of literature is devoted to the study of distance learning and its efficiency in university education. The foreign scholars studied the nature and characteristics of distance education, the peculiarities of its assessment and trends in distance education research (Anderson B., Barker B. O., Dickson M. W., Kearsley G., Moore M. G., Simpson M. and others). Among the Ukrainian researchers who examined the advantages and disadvantages of distance learning, its compliance with the formal requirements, indicators of its evaluation are: Hurzhii A., Dmytrenko P., Kuharenko V., Tatarchuk H., Shunevych B. and others. The works of the scholars indicate a scientific novelty and enhance the relevance of this paper.

Виділення невирішених раніше частин загальної проблеми

Today in the Ukrainian research literature there is a lack of investigations on distance learning assessment, especially speaking about the criteria of its evaluation.

Мета

The purpose of the article is to reveal the issues of distance learning efficiency criteria regarding the process of quality assessment managing.

Виклад основного матеріалу

The efficiency of any education, including distance education, has several aspects. The obtained education (and its level) affects both the economy and the society (its social and moral aspects of life).

We agree with V. Shchetinin and others that this problem is to be considered within three interrelated aspects: pedagogical, economic and social [9]. The pedagogical aspect is fundamental for the proper social and economic effect of education. The social effectiveness of education is assessed through such indicators as the positive impact

of the educational process on the development of the best qualities of the individual and his/her most comfortable living conditions, on the improvement of all aspects of social relations, on the formation of an open democratic society.

The economic efficiency of education should be considered from the standpoint of the effectiveness of the education sector itself (the quality of educational services, more rational use of resources in the education sector). The economic efficiency of education can also be considered as the influence of education, for example, on the increase in citizens' wealth (by means of the educational level of workers, the degree of their professional level), on the rate of all other sectors development of national economy. Efficiency is also considered in absolute and relative cost reduction, reduction of resources used in the branches of production due to new scientific and technical developments carried out by specialists in the field of education. Social efficiency of education predicts social outcomes such as life expectancy, civic engagement and general life satisfaction.

In the distance learning (DL) system, it is also necessary to take into account the pedagogical, social and economic aspects of the effectiveness of the educational process. The effectiveness of DL expresses the degree of compliance of the results obtained with the intended goals and objectives of the educational process (regarding time expenditure, teachers and students' activity, and educational services market). The effectiveness of DL is assessed according to several criteria.

Hawkes M. expresses some ideas on evaluating Internet based courses [11]. He suggests that evaluation criteria can be broken into four major areas: technical (ease of use, access speed, graphical realism level, and audio/video output flexibility), instructional (interactivity, integrative capacity, learner control, learner/instructor attitudes, and learner achievement), organizational (technical maintenance, space and time feasibility, support systems availability, staff development, and community partnerships), and ethical (technology access) criteria.

In the assessing of any service quality, there are such main stages as:

1. Planning, development of a management program.
2. Obtaining and analyzing information about any process affecting quality.
3. Making decisions on quality management of educational services and providing impact on objects and processes.
4. Provision of control action.
5. Obtaining and analyzing information about changes in quality that were caused by control actions.

Distance learning, if it exists in a particular educational organization, should also be monitored and evaluated aiming to improve the educational process. Quality improvement measures are an action or a sum of actions that change a factor or condition. There are no general requirements for everyone on the development of an electronic textbook, a distance course, general rules, for their assessment, and for an examination of the quality of services provided within the distance learning. Also, the necessary documentation on monitoring distance learning has not been developed and, accordingly, there is no necessary documentation, which should include basic documents: a list of specialties for whom distance learning

is allowed; a document on the introduction of new positions in the educational organization related to distance learning, distance teacher, distance learning methodologist, etc., as well as structural units (distance learning departments, etc.) with job duties of employees; a document regulating the development of a curriculum for distance learning, programs, time tracking; a list of requirements for providing distance learning (technical, methodological, personnel, etc.); general rules for attestation of distance learning teachers and administrators of distance learning; standards governing the use of electronic signatures and seals in the preparation of contractual and financial documents in the organization of distance learning [7].

According to I.A. Kuznetsova [3], the assessment of the quality of distance learning should be close to the assessment of the quality of regular full-time training, since the goal of education in the traditional form and in the form of distance learning is identical. The requirements for the learning outcome are formed on the basis of factors influencing quality. The quality depends on the characteristics of each component. The components for assessing the quality of distance learning are:

1. Material and technical support of distance learning. Quality control of logistics is reduced to the characteristics of computers and network equipment: sufficiency in quantitative terms of computer equipment, the degree of its compliance with the requirements for computers for distance learning systems; bandwidth of data transmission channels; characteristics of tools for the development of electronic (network) textbooks and teaching aids; availability and performance of equipment for making hard copies, video courses, CDs.

2. The quality of educational material for distance learning. When assessing the quality of educational material for distance learning, it is necessary to study and evaluate curricula and programs in detail: compliance of curricula with the State Educational Standard; the availability of educational programs, their compliance with the State Educational Standard, the subject area and didactic requirements; compliance of the content of the textbook with the approved curriculum; compliance of the scope and content of the material with the established standards.

3. The quality of individual educational programs. The requirements for educational activities are often presented in the form of competencies in subjects which students must master.

The content of programs in academic disciplines should include universal educational actions of students, based on the principles of individualization. The selected training materials are transferred to the trainee, and the information about the testing unit interacts with the «assessment» factor: the development of programs for individual educational routes of students; the levels of achievement of the effectiveness of training; the levels of educational motivation and cognitive interests.

4. The quality of individual educational achievements of students. As a rule, checking the level of knowledge helps to control the quality of education. It is designed to provide feedback and collect basic information to judge the efficiency of the distance learning process. The control system is developed, taking into account the basic requirements of this system: individuality, systematicity, variety of forms and methods, versatility (control should

cover all the educational material), objectivity. Indicators of the group «Quality of the assessment system for distance learning» are the following: an automated document management system, often referred to as an electronic dean's office; availability of a quality management system for training; expert assessment of methods and content of educational material presentation and the levels of individual educational activities of students.

5. The quality of the system of self-control and self-assessment of students. The indicators of this group include: how each student independently controls the results of his/her educational activities; how the student conducts a self-assessment of his/her achievements.

6. Qualification of teachers and staffing of distance education. In distance learning, there are several categories of teachers: the authors of teaching materials, teachers-consultants, teachers-lecturers. The indicators of the group «Staffing for distance learning»: the percentage of teachers with academic degrees and without a degree; availability of scientific and/or methodological publications among the teachers, authorship in distance learning courses; the qualification category of the teacher-practitioner.

Thus, while assessing the quality of distance learning, the goals of education (based on the State Educational Standard) are taken as a basis for the goals of distance learning: creation of a material and technical base for distance learning; provision of high-quality curriculum, curricula and teaching aids for distance learning that meet the requirements of the State Educational Standard; creation of individual educational training programs; provision of objective information about the level and quality of individual educational achievements of students and the average statistical achievements of educational institutions in order to correct the educational process and educational activity of graduates; provision of conditions for self-control, self-correction and self-assessment of educational activities of students; methodological support of students in preparing them for passing the exams; the need for advanced training of teachers.

Based on the goals of distance learning, the parameters of distance learning are to be developed: material and technical support, the quality of educational material, the quality of individual educational programs, the quality of individual educational achievements of students, the quality of the system of self-control and self-assessment of students, the qualifications of teachers and staffing. The levels and criteria are defined for each parameter.

While considering the quality of DL as an educational service, it is necessary to define such interrelated quality factors, as: the quality of the content, the quality of the teacher, the quality of DL technology (methods, means, forms). These factors largely coincide with the factors that determine the influence of technical teaching aids in traditional teaching [5]:

- factors of the education process (goals, objectives, the complexity of the learning content);
- organizational and managerial factors (factors of technical support of the teacher's and student's activities) – availability of the necessary equipment, means of information technologies, organization of the workplace, use of progressive methods and organizational forms of work;

- environmental factors (regulatory, sanitary-hygienic, aesthetic, technical);
- human factors – factors of the social environment (mentality, attitude to profession, degree of responsibility, level of professionalism, motivation, etc.);
- factors connected with the individual characteristics of a person: psychophysiological, anthropometric, behavioral features; the ability to learn, health, age, etc.

According to V. Belton and T. Stewart's principles of identification of quality evaluation criteria [10], Vinogradova I. and Kliuka R. offered such a group of criteria for the evaluation process [12].

The first group of criteria: evaluation of the course content (course structure, correspondence of material to the program, relevance of material, testing of knowledge, clarity of material presentation).

The second group of criteria: effective use of tools (studying community – usage of communication means, means of knowledge testing and calculation of the grade, personalization, information downloading speed, reading of material with widely used tools, help to the student).

The third group of criteria: course teaching (professionalism of lecturers, organization of teaching and help to the students, feedback of independent learning and testing activities, practical benefit of the course, comfortable and suitable usage of information technologies).

Speaking about assessment in distance learning, the following stages of its implementation are to be argued:

I. Preparatory stage: determination of a group of teachers (tutors) trained to work in a distance environment and a group of experts to assess the quality of teaching/learning materials of the distance learning course, activities to assess the results of distance learning. The scholars also identify the characteristics of the teacher as an indicator of a quality instruction in education. This stage includes the development of electronic distance courses on a distance learning platform, structuring of educational material. An important task of this stage is the organization of technical support for the distance learning process: access to the Internet, creating a ZOOM (Google meet) links for teachers and students, posting information in a distance environment on the university website (MOODLE platform).

II. Analytical stage: evaluation of the criteria and indicators of distance learning at the university, determining the quality of the results, interpretation of information about the learning outcomes.

III. Control (synthetic) stage: combining the data obtained in all areas of training, in the disciplines of various cycles, formulating conclusions based on the data obtained, adjusting the organization of the learning process and assessing the quality of distance learning at the university.

The quality of education is influenced by many factors, both external and internal, and in order to assess and determine the quality of distance learning, it is necessary to provide certain procedures within the quality management cycle: planning, implementation, control, management impact. To improve the quality of education, the management of DL should be systematic. The education establishment is to create a governing body

responsible for the timely collection of information, quality analysis, development of standards and quality criteria.

The concept of DL quality assessment presupposes diagnostic and assessment procedures implemented by i) various subjects of state and civic education management, which are delegated some powers to assess the quality of education, ii) organizational structures and regulatory official (formal) materials that ensure the quality of education [8].

On the whole, the system for assessing the quality of education in Ukraine is developing, a unified conceptual and methodological understanding of education quality and approaches to its measurement is being formed.

The Law of Ukraine "On Higher Education" prescribes an efficient approach to ensuring the quality of higher education by creating a system of quality assurance in higher education (Article 16). It has three components [6, p. 11-13]: internal quality assurance of educational activities and quality of higher education; external quality assurance of educational activities of educational institutions and the quality of higher education; ensuring the quality of the National Agency for Higher Education Quality Assurance (NAQA) activities and the institutions accredited by it.

Internal quality assurance is organized by the higher education establishments on the basis of:

- formation of human resources, educational and methodical, logistical and informational support, other resources for provision of educational process;
- implementation of annual monitoring of the educational process' results obtained by the participants and their regular publication, periodic review of educational programs;
- advanced training of pedagogical, scientific and scientific-pedagogical workers;
- creation of information and communication systems for effective management of the educational process, informing about educational programs, degrees of higher education and qualification;
- systems of academic and scientific integrity.

Its effectiveness is assessed by NAQA or another independent accredited body.

The subjects of assessment are:

- 1) at the «entrance» – the demand (matching supply and demand) for educational services;
- 2) at the «exit» – the demand (matching supply and demand) for graduates.

While planning the assessment of the quality of a process, a system-activity approach is used. The system of assessment presupposes internal monitoring in educational institutions, the implementation of which also contributes to quality assurance.

The main goals of the structural elements of organizations in terms of training by means of distance learning are:

- 1) creation of material and technical basis for distance learning;
- 2) provision of high-quality curricula, curriculum programs and teaching aids for distance learning that meet the requirements of the State Educational Standards;
- 3) creation of individual educational training programs;
- 4) provision of objective information about the level and quality of individual educational achievements of students

and the average statistical achievements of educational institutions in order to make changes in the educational process and educational activity of graduates;

4) provision of conditions for self-control, self-correction and self-assessment of educational activities of students; methodological support of students in passing the exams;

5) determination of the need for advanced training of teachers to work with students distantly.

The general idea of the institutional control and assessment system of distance learning is to create a set of methods, procedures, software and pedagogical tools for monitoring and assessing the educational achievements of students at all levels of education, in its coordination with the external control and assessment system.

External quality assurance of educational activities of the educational institutions and the quality of higher education provided by them is based on periodic monitoring and evaluation of the effectiveness of internal quality assurance according to the criteria and recommendations developed by the NAQA, accessible and transparent reporting. NAQA is a permanent collegial body authorized by the Law of Ukraine "On Higher Education" to provide the control of the quality of educational and scientific activities of higher education institutions.

NAQA has been working since January 21, 2019, when the first meeting was held, at which the chairman was elected – S. Kvit, the director of the Center for Quality Assurance in Education of the National University «Kyiv-Mohyla Academy». At the meeting on March 28, 2019, the draft Regulations on accreditation of educational programs, the structure and staffing of the Secretariat, the Procedure for granting and confirming the status of national institution, the Concept of the National Agency's strategy, and the procedure for appealing decisions of a specialized academic council were discussed. The composition of the committees of the National Agency and their chairmen has been approved: Appeals Committee; Ethics Committee; Committee on Accreditation of Educational Programs, Independent Quality Assessment Institutions and Institutional Accreditation; Higher Education Quality Assessment Committee; Committee on the Activities and Accreditation of Specialized Scientific Councils; Committee on Standards and Economics of Higher Education. It was also decided to form branch expert boards and a competition was announced to select their members. However, in October 2021, the Supreme Court made a resolution that the competitive selection of NAQA members was provided with significant procedural irregularities that directly affected its results.

Thus, the reforming of higher education began after 2014, together with the implementation of the principles and approaches of the European Higher Education Area. The issue of the quality assessment of distance learning at the higher education institution is to be solved being based on the following universal principles:

- specificity (clear definition of the object of assessment, the appropriate assessment criteria, compliance of tasks with the criteria and indicators of the object of assessment);
- integrity (correlation with the full scope of requirements for learning outcomes, the possibility of applying to various disciplines);

- manufacturability (expedient formalization of tasks, the possibility of using technical means to obtain the estimated information and perform the necessary calculations).

Today when DL is widely used under COVID 19 various Guidelines are published: for governments, for educational institutions, for academic and support staff, for students and student bodies, for parents, for quality assurance/accreditation and academic recognition bodies. That testifies the management trends in developing distance learning efficiency criteria.

Висновки

A quality assurance system was created in Ukraine at the national and institutional levels followed with the processes of broad involvement of educators, employers and other stakeholders into the decision-making and quality assurance process. The Ukrainian system of quality assurance, which was launched recently, is still in the process of development, overcoming various problems and conflicts [1]. All this is happening in parallel with measures to combat corruption, decentralization, autonomy of higher education institutions.

The introduction of innovations in distance education often leads to the emergence of new ways in teaching, new means of communication, new courses and new institutions. In this context, the evaluation covers a wide range of activities and requires the full arsenal of data collection and analysis tools.

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