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INTERNAL SYSTEM OF QUALITY ASSESSMENT OF EDUCATIONAL PROGRAMS: DESIGN, STRUCTURE AND EXPERIENCE OF IMPLEMENTATION

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Abstract. This article analyzes the design and implementation of an internal quality assessment system for specialized educational programs as a basis for designing change management procedures. The system's structure is characterized by quality assessment subjects, indicators, and their content. Education quality is presented as a comprehensive characteristic of educational activities and student preparation, including the results and achievements of graduates. The experience of Yanka Kupala State University of Grodno in conducting internal quality assessments of specialized educational programs is presented. Areas for applying the assessment results are outlined.

Keywords: education quality, specialized educational program, quality assessment, assessment structure, university, quality indicators.

Introduction

In the modern system of higher professional education, the issue of quality training is a key and defining one. In the context of growing competition and an ever-expanding range of requirements for advanced specialists capable of working in high-tech production and the digital economy, universities' constant search for new tools for managing and demonstrating the quality of education is particularly pressing. An analysis of international practice and scientific experience demonstrates the importance of using various tools to assess education quality. This highlights the need to develop a system that comprehensively assesses education quality based on manageable structural components. In the context of universities' broad academic freedom and the increased influence of social partnerships in the implementation of educational programs, educational institutions' responsibility for the quality of education is growing. Therefore, the design of a quality assessment system that takes into account the results and achievements of educational participants deserves special attention.

Materials and methods

The theoretical and methodological basis of this study were the principles of TQM (Total Quality Management), as well as the experience of Yanka Kupala State University of Grodno (hereinafter referred to as GrSU) in developing an internal system for assessing the quality of educational programs.

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The study utilized methods of analysis, generalization, compilation, synthesis, and benchmarking. The object of the study is the quality assurance of specialist training at the higher education level.

In the national legislation of the Republic of Belarus, the concept of «quality of education» is enshrined in the Educational Code of the Republic of Belarus (hereinafter referred to as the Code) (Clause 1.10, Article 1) and is defined as the conformity of education with the requirements of the educational standard, the curriculum documentation of the relevant educational program, and other requirements stipulated by the Code and other legislative acts (Educational Code of the Republic of Belarus, 2011). At the same time, the Code defines the procedure for monitoring and self-monitoring of quality assurance in education (Articles 116 and 117 of Chapter 13) (Educational Code of the Republic of Belarus, 2011). Monitoring is entrusted to the Ministry of Education of the Republic of Belarus and the Department for Quality Assurance in Education, while self-monitoring must be carried out annually by the university itself, which provides for the direct responsibility of educational institutions for ensuring the quality of training.

An analysis of various sources that form the basis for models for improving activities (the ISO 9000 series of standards (ISO 9000-2015, 2015; ISO 9001-2015, 2015) of the International Organization for Standardization (ISO standards), the Standards and Guidelines for Quality Assurance in Higher Education in the European Higher Education Area of the European Association for Quality Assurance in Higher Education (ENQA standards) (European Standards and Guidelines, 2018), and the European Excellence Model of the European Foundation for Quality Management (EFQM standards) (The EFQM Model, 2025)), allows us to conclude that three sources are important for determining quality:

regulatory requirements at the state level, which define the framework for the educational institution's activities;

the university's own goals, which are defined within the framework of existing regulatory requirements that influence their implementation;

stakeholder requirements, which are reflected in the vision of the final result and its specification.

Thus, the quality of education represents a comprehensive characteristic of educational activities and student preparation, expressing the degree of their compliance with regulatory requirements and the needs of all participants in the educational process, in whose interests the educational activity is carried out, including the degree to which the planned outcomes of the educational program are achieved.

Results and discussion

Assessing the quality of education in terms of graduate outcomes and achievements highlights the need to rethink the model for improving the educational process. In this regard, it seems relevant to understand the learning process and outcomes specifically within the framework of the educational program in the specialty. This is due to a number of factors. Currently, higher education institutions (hereinafter referred to as HEIs) have developed a practice of monitoring (assessing) quality at the level of the university, faculty, and department quality management systems. This approach is also defined by the requirements of the Ministry of Education of the Republic of Belarus for the organization of annual self-assessment of educational institutions.

However, the design is carried out specifically within the framework of the educational program for the specialty. Applicants are recruited for specialties, and assignment to their first job and employment are based on the acquired qualifications and specialty. Personnel managers request a specific specialist with a set of competencies within a specific specialty. Students and applicants focus their interest on the specialty, not the faculty or department. Applicants and their parents choose the university and specialty. The availability of an educational program for a specific specialty and the employer's request make the choice justified. According to the results of a survey of applicants (n = 776) conducted at GrSU, 81.2% of applicants chose this university because it «has the specialty they are interested in».

When designing educational programs, HEIs today enjoy broad academic freedom. Firstly, the university independently determines the curriculum component for each specialty, taking into account scientific and academic interests, the focus of the educational program, the specifics of the future specialist's professional activities, and the requirements of the organizations that commission the training. The curriculum component for general and specialized higher education specialties accounts for 35 to 65% of academic hours, while for advanced high-

er education specialties (Master's programs), it accounts for 65-75%. This allows for consideration of both the graduate's future professional activities and the innovative development of the region in which the university is located, even at the design stage of educational programs. This makes it essential to develop a competency-based model of graduates in collaboration with the recruiting organizations. Learning design is aimed at constructing the educational experience. A focus is formed on guiding students through a specific path to a specific outcome, taking into account their needs and requirements, and selecting appropriate technologies within a specific educational program. Furthermore, universities have gained the ability to define specializations within their specialties, taking into account regional characteristics, the institution's research focus, and the needs of students and organizations that commission the training.

All of these places' significant responsibility on the university for defining and ensuring the quality of education. Specifically, it is responsible for the content of the educational program (what kind of specialist to train and using what educational technologies) and the provision of educational services that must meet the needs and expectations of both the service provider and society, including the development and nurturing of civic, personal, and professional competencies.

Universities already have numerous tools for assessing various aspects of quality. However, they are not systematic and do not focus on measuring learning outcomes. Therefore, a quality assessment system and monitoring of educational programs as an integral component are becoming increasingly important as a foundation for action. Monitoring should provide factual information that enables prompt management decisions and adjustments to the content and delivery methods of educational programs to improve their outcomes. The assessment results should be based on indicators for analyzing the current state of educational quality.

The quality assessment system for educational programs should be based on external evaluation procedures and internal monitoring.

External quality assessment procedures for educational programs implemented at GrSU include: licensing of educational activities; state accreditation of higher education institutions for compliance with the university category and specialization; inspection and monitoring by authorized regulatory bodies; external audit (recertification audit and periodic assessment of the university's certified management system for compliance with the requirements of STB ISO 9001-2015 and ISO 9001:2015); the work of the commission during participation in the «Prize of the government of the Republic of Belarus for achievements in the field of quality» competition; assessment using international ranking criteria; and international accreditation in accordance with the standards and Guidelines for Quality Assurance in Higher Education in the European Higher Education Area (EHEA).

Following the implementation of the above procedures, action plans are drawn up to eliminate non-conformities and implement recommendations. Action plans are developed by the structural units responsible for external assessment and approved by the university rector. They reflect the actions to implement the measures, their deadlines, and the structural units responsible. The results of the planned activities are reviewed at meetings of collegial bodies, where the effectiveness of recommendations and proposals is analyzed.

GrSU has significant experience designing an internal education quality assessment system. Comprehensive programs for specialty development, taking into account the specialty life cycle, have been developed for all educational programs. These programs define the projected and expected training outcomes, taking into account the interests of all participants in the educational process, and are enshrined in a graduate competency model. The development and implementation of this model is defined in the comprehensive specialty development program, taking into account the necessary resources. Thus, those responsible for the educational program plan their activities based on the set goals in the form of expected results.

In 2023, GrSU designed an internal system for assessing the quality of educational programs. It takes into account those indicators that can be influenced and managed. Of course, external factors also influence the quality of educational programs and must be taken into account, but their inclusion in the assessment (monitoring) system is not considered inappropriate. A list of manageable aspects of educational activities that most significantly affect the quality of education has been defined.

The first of these is «the quality of the faculty», guaranteed by the high academic qualifications of the faculty. The next aspect is «the quality of educational programs», which is ensured by the combination and interrelationship of educational content, teaching methods, and research. Another aspect is «the quality of student preparation»,

which can be achieved by bridging the gap between secondary and higher education and enhancing the role of career guidance and motivation mechanisms. «The quality of the university infrastructure» is the fourth aspect, encompassing the entire range of university operating conditions.

When designing an internal evaluation system for educational programs, its functions should be defined and the intended outcomes of the evaluation should be determined. Thus, an internal quality assessment system should be understood as a set of organizational structures, diagnostic, and evaluation procedures that ensure a unified assessment of students' educational achievements and the effectiveness of educational programs.

The primary functions of the designed system should include assessing the quality of student preparation based on the completion of the educational program and providing input for management decisions. Management decisions should be aimed at improving educational programs (structure and updating of content, resource provision, competence and qualifications of teachers). In addition to providing input for decision-making on improvement, the assessment system is also aimed at demonstrating quality. The system should work not only to identify problems but also to identify best practices. It also serves as a unique tool for internal benchmarking, a tool for identifying best management practices, and for studying and disseminating positive experiences in implementing educational programs.

The assessment methodology is systemic in nature and should be monitoring-based, which necessitates systematic and planned observation, measurement, evaluation, and analysis. It is advisable to maintain four mandatory monitoring components within the designed system: organizational, empirical, analytical, and performance. These components are interrelated, and each determines the quality of the subsequent ones. The organization of monitoring (the object and timing of the assessment) determines the effectiveness of the monitoring.

The quality of empirical data, which determines its analysis and the applicability of the results for management decision-making, depends on the diagnostic material.

It should be noted that evaluation is not an end in itself. Monitoring results must be suitable for use by various target groups: faculty, students and their parents, university administration and collegial bodies, government agencies, and personnel recruiters.

GrSU has developed a methodology for implementing an internal system for assessing the quality of educational programs. Taking into account all of the above, the methodology defines the assessment elements that form the system's sections. The following are defined as system elements:

assessment of the quality of students' educational activities and their results;

assessment of the quality of educational programs (educational environment and scientific and methodological support);

assessment of the quality of the faculty; feedback from participants in educational activities;

monitoring of graduates' professional results and achievements.

The structure of each element establishes the frequency and subjects of assessment, their indicators, responsibility for the subject of assessment and the adoption of management decisions based on its results, and the methodology for calculating the indicators.

The presented aspects form sections of the system. The structure of each defines the subjects of assessment. For the subjects, the indicators for assessment (Table 1), responsibility for collecting information and the methodology for calculating the indicators were determined.

Table 1. Structure of the internal quality assessment system

Subject of quality assessment of the educational program	**Evaluation indicator**
1. The quality of students' educational activities and their results	
Interim results of theoretical and practical training	Average midterm assessment score for academic disciplines (modules), coursework (projects), and practical training

Final learning outcomes	Honors diplomas
	Excellent grades obtained in the state exam and thesis (project) defense
	Students who failed the final assessment
	Students who successfully completed the educational program (out of the total number of students enrolled)
2. Quality of educational programs (educational environment and scientific and methodological support)	
Practical component of the educational program	Academic disciplines implemented jointly with social partners
Scientific and methodological support for the educational program	Availability of registered educational and methodological kits/central educational and methodological kits for curriculum disciplines
	Availability of approved educational publications for curriculum disciplines
3. Quality of the teaching staff	
Degrees of faculty implementing the educational program	Percentage of full-time faculty supporting the implementation of the educational program
	Percentage of full-time faculty, including part-time employees (working under an employment contract), holding academic and honorary degrees
	Percentage of employees (external part-time employees) holding academic degrees and titles and engaged to implement the educational program
Teaching excellence	Results of the teaching staff ranking for «Academic Activity»
	Results of the teaching staff ranking for «Research and Innovation Activity»
	Percentage of faculty holding a foreign language proficiency certificate
Publication activity	Research publications in peer-reviewed scientific journals (including collections of scientific papers from the Higher Attestation Commission list)
4. Feedback from participants in educational activities	
Demand for the educational program	Passing score for the specialty
	International students studying in the educational program
	Export of educational services
	Students studying under targeted training agreements
Student satisfaction	Student satisfaction level
Professional qualities of the teacher	Results of the survey «Teacher through the eyes of students»
	Invited specialists from abroad to conduct classes
5. Professional results and achievements of graduates	
Retention of young specialists in the profession	Retention rate of young specialists in the educational program
Student satisfaction	Graduate satisfaction level

The indicators in the first block reveal the students' mastery of the educational program in their specialty. They demonstrate the appropriateness of the structure of the learning process itself, its content, and technologies, the

results with which young people enter the workforce, and the effectiveness of the university's measures (including the effectiveness of career guidance at all stages of education) to maintain student enrollment.

The second block and its indicators reveal the effectiveness of scientific and methodological support for education and the practical component of the programs. The indicators in the third block allow for a qualitative assessment of the faculty and characterize the university's ability to provide the educational process with full-time faculty, the availability of practicing specialists, research potential and potential in intercultural communications, the performance of faculty involved in the educational program, and their efforts to promote the results of their work.

The next block, «Feedback from participants in educational activities», reveals the program's demand in the labor market, the quality of career guidance activities, the effectiveness of marketing activities abroad, and the program's attractiveness to foreign citizens.

The indicators in the «Professional results and achievements of graduates» block reveal the retention rate of young professionals after placement (indicating the effectiveness of placement and the system of relationships with employers) and their satisfaction. If graduate success is considered a quality parameter, then all other blocks act as intermediate stages. Systematic tools for collecting and analyzing information specifically for assessing graduates' professional results are currently lacking. This section is an area for further improvement and development.

The quality of educational programs is also influenced by external factors that must be taken into account, but it does not seem appropriate to reflect them in the assessment system. This is because the university is not always able to influence external factors, and taking them into account allows for the planning and implementation of preventive actions.

In accordance with the specified framework, over the past two years, an assessment of the quality of educational programs in all full-time general higher education and specialized higher education specialties has been conducted. The information was collected independently by members of the working group. The results were presented to the university's management and deans (by faculty specialization, for educational programs) as absolute values, with maximum, minimum, and average values for the entire university, along with the range of variation (to assess conditional homogeneity). Based on the nature and content of the indicators themselves, conducting an assessment and analysis university-wide and drawing meaningful conclusions from them is neither entirely appropriate nor useful. Furthermore, not every indicator's maximum value is optimal or effective for the university. For example, the maximum number of full-time faculty members in the academic process, on the one hand, indicates stability in staffing.

On the other hand, ensuring practice-oriented education requires attracting leading industry experts. Even with a full complement of full-time faculty (who are permanently employed at the university), the question arises: how beneficial is this for the quality of specialist training? Each indicator is self-sufficient and, ideally, requires separate analysis and consideration within the faculty.

The data obtained from the assessment indicate heterogeneity of specializations, which is typical for multidisciplinary universities. However, defining an integrated indicator and ranking specializations does not seem appropriate. Each program has its own strengths, and evaluation allows us to identify potential areas for improvement. An example is the share of honors degrees, which is traditionally higher in humanities programs than in engineering and technical programs. Therefore, it can be concluded that the results are applicable across each block and indicator at the level of a specific educational program within a specialization or a single-profile faculty.

Currently, the existing university management system presupposes department heads. These departments graduate students in several educational programs, which significantly hinders the uniformity of management attention. This situation limits and complicates responsibility and management decisions regarding the development of educational programs.

Management decisions should also be aimed at improving educational programs (structure and updating of content, resource provision, competence and qualifications of faculty). This ensures the assessment and improvement of the current state of the specialty itself.

One of the areas of application of the assessment results at Yanka Kupala State University of Grodno is the analysis of the implementation of Comprehensive Specialty Development Programs and decision-making regarding their adjustment. The results of the internal quality assessment system are applicable for self-monitoring of edu-

cational quality assurance and the preparation of information by specialty (including during state accreditation of specialties).

The assessment system is also aimed at demonstrating quality internally and externally. It not only provides input for decision-making but also identifies best practices, serving as a unique internal benchmarking tool.

Conclusion

In the long term, as statistical data accumulates (through further assessment of the quality of educational programs), a measurable basis for planning and implementing changes to the management system for specialties will emerge, which is particularly relevant in a turbulent external environment. This management intervention will ensure the quality of specialist training and enhance the competitiveness of higher education institutions. Managing changes at the level of educational programs within specialties will ensure stability in the face of uncertainty and turbulence.

The application of the obtained results requires management influence and decision-making at the specialization level. This raises the issue of responsibility and authority, assigning responsibility for training specialists in a specific specialization to a specific manager (the head of the educational program). Their authority should ensure the coordination of joint efforts to ensure the quality of training. This will allow for systemic management of changes in the organization of the educational process and improve the quality of the training itself.

Conducting educational quality assessments specifically within educational programs appears promising. Its implementation is aimed at providing objective information on the quality of training and its outcomes. The use of this system will, on the one hand, identify weaknesses in the training of specialists in a specific educational program and promptly make necessary changes to the organization of the educational process in the specialty before the end of the training cycle (the student's term of study in the specialty), and, on the other hand, will allow for informed changes to the comprehensive specialty development program, which includes strategic management of the educational program. The system's components (elements, assessment subject, and indicators) are variable and may change depending on the educational institution's characteristics and strategic goals, consumer requirements and expectations, changes in the external environment, and other factors.

Contribution of the authors:

In writing this article, the authors' contributions are equally distributed and divided among themselves according to the following criteria:

Kalatsei M.Y. – responsible for all aspects of the work, including conceptual framework, ensuring data reliability and integrity, reviewing and resolving issues, and critical revision of the content.

Shcherbinin S.N. – contributed significantly to the conceptual framework, collecting, analysing, and interpreting results, critical revision of the content, and approved the final version for publication.

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Внутренняя система оценки качества образовательных программ: проектирование, структура и опыт применения

Аннотация. Статья посвящена анализу проектирования и опыта применения внутренней системы оценки качества образовательных программ по специальности как основанию для проектирования процедур управления изменениями. Характеризуются представленные в структуре системы предметы оценки качества, показатели и их содержание. Качество образования представлено как комплексная характеристика образовательной деятельности и подготовки обучающегося, в том числе с учетом результатов и достижений выпускников. Представлен опыт ГрГУ имени Янки Купалы в проведении внутренней оценки качества образовательных программ по специальностям. Отмечены направления применения результатов оценки.

Ключевые слова: качество образования, образовательная программа по специальности, оценка качества, структура оценки, университет, показатели качества.

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Білім беру бағдарламаларының ішкі сапаны бағалау жүйесі: жобалау, құрылым және енгізу тәжірибесі

Аңдатпа. Бұл мақалада өзгерістерді басқару процедураларын әзірлеу негізі ретінде мамандандырылған білім беру бағдарламаларының ішкі сапаны бағалау жүйесін жобалау және енгізу тәжірибесі талданады. Жүйенің құрылымында сапаны бағалау пәндері, көрсеткіштері және олардың мазмұны сипатталған. Білім беру сапасы білім беру қызметі мен студенттерді дайындаудың кешенді сипаттамасы ретінде ұсынылған, оның ішінде түлектердің үлгерімі мен жетістіктерін ескеру қажет. Гродно қаласындағы Янка Купала мемлекеттік университетінің мамандандырылған білім беру бағдарламаларының ішкі сапаны бағалауын жүргізудегі тәжірибесі ұсынылған. Бағалау нәтижелерін қолдану салалары көрсетілген.

Түйін сөздер: білім беру сапасы, мамандандырылған білім беру бағдарламасы, сапаны бағалау, бағалау құрылымы, университет, сапа көрсеткіштері.

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