

Development of Internal System of Education Quality Assessment at a University

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ABSTRACT

The urgency of the research is determined by the need to ensure the quality of higher education an essential factor of which is development of the internal assessment system for educational activities at universities. The aim of the article is validation of the model of development of the internal assessment system for educational activities at universities which is aimed at providing the management with immediate, objective and reliable information on the state and development of the educational process and the processes related to it, whether intermediate and final results correspond to the set goals and regulatory requirements. The leading research methods were teacher modeling and instructional design, theoretical analysis and review of educational practices in the field of quality assessment at a higher education institution, as well as mathematical methods of statistics, which allowed to comprehensively investigate the effectiveness of the suggested model based on the analysis of the dynamics of the key indicators of education quality. The article describes theoretical concepts which determine the characteristics of the model of development of the internal assessment system for educational activities at the university; its main components - the goal, principles, the objects for assessment and entities of assessment, the content and technology of assessment - are revealed; and it also highlights peculiarities of development of the internal quality assessment system at the university in relation to the external environment requirements and etc. The article can be of practical use when modernizing the quality assessment system at universities, when developing projects and programs on improving education quality assessment systems.

KEYWORDS

Education quality; internal system of education quality assessment; development model of internal system of education quality assessment

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Introduction

The relevance of the study is determined by the need to improve the existing approaches to education quality assessment systems at universities in the context of changes in the system of higher education. An important trend in

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the development of the quality assessment system of a higher education institution is the shift from external quality assessment procedures (state accreditation) to procedures of self-assessment of the education quality and learning conditions of educational institutions based on the development of the internal systems of education quality assessment.

Literature Review

Education quality at a higher education institution as an object for assessment

In the Federal Law "On Education in the Russian Federation" (2012) the quality of education is defined as a "an integrated measuring system of educational activities and teaching of students showing the degree of their compliance with the federal state educational standards, the educational standards, the federal government requirements and (or) the requirements of an individual or a legal entity on behalf of which educational activities are carried out, including the degree of achievement of the expected results of the educational program"

Researchers specificate various components in the category of education quality. Some studies describe internal and external quality components (Subetto and Selezneva, 2000). The first are related primarily to the conditions, processes and results of educational activities, and the result in this case is the quality of knowledge, skills and abilities. External components reflect the compliance of internal components with the state's requirements, students and their parents' needs, needs of social groups, and the compliance with the federal state educational standards and educational image of the organization as a guarantee of quality, etc.

A more complicated quality structure has seven groups of factors of education quality at the university (Kachalov, 2001):

1. The quality of the objects using educational services (applicant, student, post-graduate student).
2. The quality of the object of educational services (educational organization), including management quality, the quality of the project of delivery of learning services (structure and content of educational programs), the quality of resources for delivery of learning services (material-and-technical resources, human resources, methodological resources).
3. The quality of the process of educational services delivery (quality of applied technologies, quality of process monitoring of educational services delivery, quality of result monitoring of educational services).

Summarizing the above ideas of quality of education, we can assume that its multidimensional character, of course, complicates the quality assessment procedures, requiring them to be comprehensive, continual and regular; it requires participation of all parties of the educational process; it involves assessment of the whole set of conditions of education services delivery .

Development model of the internal system of education quality assessment

We define education quality assessment as a complex system which provides assessment of the state of the educational process in respect of its regulatory compliance (legal requirements in the field of education, provisions of the federal state educational standards, legal and regulatory framework of the educational institution), as well as in respect of its compliance with the requirements of the entities of the educational process.

The researchers (Bordovsky, Nesterov and Trapitsyn 2001; Belova, 2008) describing the typology of education quality assessment systems define the following types in accordance with such criteria as: in respect of the system, duration time, comparison of results, strategic objectives, and long-term prospects.

Table 1. Typology of education quality assessment systems

In respect of the system	Internal (entity) External (object)
duration time	Ongoing assessment Final assessment
Comparison of results	Relative Absolute
Strategic objectives	Solution of inner problems Meeting environment requirements
Long-term prospects	Object management Influence on the environment

Within the framework of our study we will highlight two subsystems of education quality assessment – internal and external ones which complement and determine each other.

Talking about the functions of internal systems of education quality assessment, it should be noted that they are supposed to determine, provide, maintain and improve quality of the process and results of higher education in relation to the requirements of all parties of educational relations (the state, employers, students, teachers).

Further we shall describe the model of the internal system of education quality assessment.

In accordance with the activity approach the development model of internal system of education quality assessment includes value-orientational, content, operational-activity, result-evaluation modules. These modules are intersubordinated, interdependent, and interconnected.

The value-orientational module is represented by the goal and a set of basic development principles of internal system of education quality assessment.

The aim of development of the internal system of education quality assessment at a higher educational institution is to receive objective information of the results of the students' training, which can help to evaluate the compliance of the results with social and personal expectations and to determine the facts and changes which influence education quality.

The basic principles of development of the internal system of education quality assessment at a higher educational institution are:

- The principle of integrity assumes integrity of all components of the system providing a comprehensive character of the educational process at a university in the form of measurable indicators, a strong link between the internal system of quality assessment with the external quality assessment system provided by licensing procedures, state accreditation procedures, and government monitoring and supervision.

- The reasonability principle requires uniformity of quality assessment methods and educational activity technologies.

- The process-oriented principle requires studying the quality characteristics of the educational process at a university in the course of their modification and development.

- The multifunctional principle is based on comprehensive assessment of all the components of the educational process, its content, methods and organizational forms, results, as well as conditions of their implementation. It is aimed at defining the main factors influencing quality of education, providing all the parties of educational relations with reliable information on the quality of the educational process and on the ways to improve the university management on the basis of the data obtained.

- The result-oriented principle assumes that the content and technologies of the internal system of education quality assessment are aimed at achieving the goals of the system, which allows monitoring its current state, determining the problems and development prospects.

The content module of the model can be characterized by means of describing quality assessment tools at a university. The key instruments are the following:

- the control system (entrance tests; entrance, formative, intermediate, summative assessment);
- the system of quality assessment of the academic teaching staff;
- university self-assessment as a tool of improving its educational activities;
- the system of surveying students, academic staff, employees, and employers in respect of education quality assessment;
- the system of competitions aimed at quality assessment of educational programs, and individual achievements of students and teachers;
- the performance appraisal rating system for the departments and structural divisions of an institution and the current educational programs.

The operational-activity module is represented by totality of objects and entities of education quality assessment activities at a university, as well as by the implemented technologies of assessment

Objects of assessments are documentation concerning the internal quality education system, management quality, quality of educational programs, quality of resources provision, result control quality, and quality of the educational process of a higher education institution.

The entities of education quality assessment activities are all those who are involved in the process of assessment: the academic staff, heads of departments and divisions, students, their parents, as well as external entities interested in the systematic education quality assessment.

The technology of assessment includes totality of invariable procedures which provide for achieving the aims of the internal education quality assessment system:

- conceptualising and developing regulatory and legal framework of the assessment system;
- defining the objects for assessment and groups of consumers of the assessment results;
- defining the aim of assessment, a model and procedures of assessment;
- defining assessment criteria;
- selecting assessment methods;
- carrying out the assessment procedure;
- documenting the assessment results and reporting them to the consumers;
- studying the effectiveness of the assessment process.

The result-evaluation module is characterized by totality of criteria and indicators of the internal system of education quality assessment correlated with the requirements of the external quality assessment procedures and including requirements to the content, results, and conditions for implementation of educational programs.

According to (Belova, 2008; Zhigalev, 2008), we consider the process of development of the internal system of education quality assessment as a process of qualitative and quantitative alterations to its components providing the transition from one level of its integrity to another.

The suggested development model of the internal system of education quality assessment can be considered open as it allows improvement. At the same time, it establishes the general direction of development of the internal system of education quality assessment defining the aim and principles of the system, as well as its content, and educational technologies. The model allows representing the structure, content, and forms of the system operation, as well as the technology for its development in higher education practice.

Aim of the Study

The aim of the article is validation of the model of development of the internal assessment system for educational activities at universities.

Research questions

The tasks of the research were the following:

1. to form the rationale for development model of internal system of education quality assessment;
2. to test the development model at a higher education institution;
3. to assess the effectiveness of the suggested development model of internal system of education quality assessment on the basis of analysis of the dynamics of the key education quality indicators.

Methods

The main methods to research the discussed problems are the following:

- theoretical methods – hindsight analysis which allowed to reveal the essential characteristics of the quality assessment system at a university; pedagogical modeling to work out the development model of the internal education quality assessment system at a higher education institution;

- empirical methods – review of educational experience in the field of education quality assessment, studying the relevant documentation; pedagogical experiment, mathematical methods of statistics, which together allowed to comprehensively study the effectiveness of the suggested model by means of analysis of the dynamics of the key education quality indicators.

Research premises

The research was conducted at the premises of the Vyatka State University of Humanities (Kirov).

Stages of the research

The research consisted of three stages:

The rationale for the methodological basis of the research was established at the 1st stage; the development model of the internal education quality assessment system at a higher education institution was worked out.

The 2d stage was implementation of the development model of the internal education quality assessment system which was aimed at monitoring the process of qualitative and quantitative alterations to its components providing the transition from one level of its integrity to another.

Assessment of the effectiveness of the of the suggested model was made at the 3d stage by means of analysis of the dynamics of the key education quality indicators,

Assessment criteria

Assessment of the effectiveness of the suggested model was made by means of qualitative assessment of variations of its main modules: value-orientational, content, operational-activity, and result-evaluation modules; as well as by means of analysis of the core education quality indicators at the university.

Results and Discussions

We will describe the peculiarities of development of the internal system of education quality assessment characterizing the main model modules.

As for the value-orientational module, it should be noted that the development priorities were predetermined by the federal law requirements, as well as the university regulatory and legal framework for educational activities, taking into consideration goals and values of the educational institution connected with quality of training of specialists in demand on the regional job market.

As for the content module, namely, the key quality assessment areas of activity, it should be noted that changes in the federal education legislation allowed to considerably and substantially expand the scope of these activities.

Development of the control system was connected with improvements in the content and procedures of the entrance, formative, intermediate, summative assessment. It was aimed to provide its credibility, consistency, and efficiency.

The performance appraisal rating system was the main tool of the formative assessment at the university. Credibility of assessment of successful acquisition of the educational content by students was provided by computer-based testing by means of «AST-test» program, as well as by active involvement of employers to the final certification procedures. To assess the compliance of students' personal achievements with the requirements of a particular educational program different assessment tools were used including typical assignments, tests, case studies, which helped to evaluate the level of the formed competences. Assessment tools were developed in accordance with the employers' requirements. Such systematic monitoring allowed achieving a sustainable positive dynamic pattern of indicators of the students' achievements and quality of their knowledge (Table 2).

Table 2. The dynamics of indicators for academic performance and quality performance rate of undergraduates

Indicators	2012	2013	2014	2015
Academic performance of undergraduates, %	83,8	82,6	82,38	81,4
Quality performance rate of undergraduates, %	52,3	52,4	54,48	58,7
Academic performance of undergraduates at the Final Certifying Examination, %	98,4	99,0	99,8	99,7
Quality performance rate of undergraduates at the Final Certifying Examination, %	71,1	71,9	74,8	75,5

Development of the system of quality assessment of the academic staff was ensured with a series of measures; students, colleagues and heads of departments were also involved in this process. Evaluation of the academic staff by the head of the structural departments was carried out by means of annual integrated and thematic reports, competitive selection for academic teaching positions, attending classes by colleagues. Evaluation of the academic staff by students was organized in the form of a survey with the help of the e-resources of the university. An essential information resource expanding the field of assessing the quality of the academic staff activities was the so-called professional performance evaluation contract, the indicators of which ensured the development of this component of the system.

A new mechanism for developing the education quality system can be considered as the annual self-evaluation report of an educational institution, which makes quality assessment procedure systematic and its results open to public. The comprehensive analysis of the educational performance of an educational institution carried out in the course of self-evaluation, allowed making timely management decisions, as well as making adjustments to the list of measures for education quality assessment.

The development of internal system of education quality assessment was connected with the necessity of systematic inclusion into its procedures of all the parties of educational relations, which required development of the system of surveys among all entities of education.

Improving the activities connected with education quality assessment was carried out in the course of surveying students, teachers, employees, and employers (each year more than 2000 students, 200 teachers and about 400 employers are surveyed). The assessment results show that the degree of satisfaction of the customers and interested parties with the results of university activities is 97%. About 92% of the staff and students are satisfied with the quality of university management. The participation level of public agencies in the management activities and monitoring of its activities by means of trustee and supervisory boards is assessed by the respondents as high. The level of employees' loyalty to the goals of university activities is high. There is a positive dynamic pattern in the level of social-psychological climate, of recognition of corporate culture elements which allowed evaluating the internal environment of the university (Table 3).

Table 3. The dynamics of education quality assessment by the entities of the educational process

Indicators	Unit of measure	Reference value (2011)	2012	2013	2014	2015
Social-psychological climate	level	moderately favourable	moderately favourable	favourable	favourable	favourable
Recognition of corporate culture elements	level	low	medium	medium	high	high
Employees' loyalty to the goals of university activities	level	medium	medium	high	medium	high
Management quality satisfaction of students and academic staff	%	65	75	88	90	92
Educational results satisfaction of the consumers and the interested parties	%	65	75	80	92,2	97
Participation of public agencies in the management activities and monitoring of its activities by means of trustee and supervisory	level	medium	medium	medium	medium	high

boards

Education quality assessment was also carried out as a system of competitive activities aimed at assessing the quality of educational programs, the quality of individual achievements of students and teachers. Student research contests, contests of creative projects, olympiads and sports competitions; competitions " Best Educational Program", "Best Department of the Year", "Professor of the Year", "Young Scientist of the Year", "Best Student of the Year in Science", "Student of the Year" are quite popular at the university; they allow personalizing the content and quality of assessment procedures at a university.

An innovative addition to the system of education quality assessment was the method of rating assessment of activities of the educational departments and educational programs which provided reliable information and its systematic character. This method of education quality assessment brings out the best education practices and subsequently ensures their replication.

Describing implementation of the operational-activity module of the internal system of education quality assessment, we will characterize the objects, entities and technologies of assessment.

Due to significant changes in the federal legislation in the sphere of education, more serious requirements are imposed in respect of documentation of the internal education quality system, which serves as an object of activity both in external and internal systems of assessment. Only in 2015 39 local acts were changed in the course of development of the local regulatory and legal framework which ensures the educational process (due to changes in the federal regulations); they were directly related to the education quality assessment and defining the system of requirements for its content and procedures. The corresponding specialized departments and services of the University carried out systematic assessment of educational programs, their regular updating, as well as whether they are available for the entities of the educational process, which implies that all the components of the educational programs can be found on the official University website.

Regular assessment of the quality of education resources allowed to make appropriate management decisions (both short- medium- and long term) concerning improvement and projecting of staff, material and technical, information and other resources to ensure meeting the requirements of the federal state educational standards.

Development of the internal system of education quality assessment was also carried by means of inclusion of new entities of assessment relating both to internal and external university environment. The dynamic character of internal quality assessment system manifested itself in the change of the positions of objects for and entities of assessment (teachers and students were both entities of assessment and objects for assessment). Development of subjectivity of students is a challenging task in the development of internal system of education quality assessment.

The results of student surveys show that University students aim to get quality education, by which they mean the level of intelligence and practical training in a specific professional field, which guarantee the status of a qualified

expert and ensure career growth. The students fully rely on the university staff to design their educational path and they give a high rating to the professional qualities of the academic staff. The internal system for assessing the quality of education belongs to the category of open systems, which manifests itself at both content and technological levels. One of the main entities of the internal education quality assessment system are employers who are involved in assessing the quality of development and implementation of educational programs. At the final training stage at the university employers, as members of the State Examination Commission, assess the readiness of graduates for independent professional activities. Every year a survey is conducted among employers, which makes it possible to assess the quality of graduates' training in the course of their professional activities. Along with proficiency and professional skills, personal qualities of graduates are assessed, which gives information about the quality of not only of the learning process, but also civic and behavioral education, which are parts of the educational process as a whole. Surveying employers from different spheres of economy of the region allows evaluating the quality of education of graduates of specific educational programs. The assessment findings are used to improve the educational process at the University.

The assessment technology used by the university is variable, and it is reflected in the content of the relevant local regulations. It should be noted that one of the basic methods of internal system of education quality assessment are: observation, expert and rating estimation, scaling, benchmarking, content analysis, analysis and processing of the results; surveys among students, staff, and employers; self-diagnostic techniques, self-correction, self-assessment, testing, and SWOT-analysis.

Describing a system of criteria and indicators for internal education quality assessment system, it should be emphasized that the internal system of education quality assessment of the Vyatka State University of Humanities forms an integrated whole with the external assessment system, as it is aimed at ensuring the quality of education and searching for resources for its improvement. At the same time the external quality assessment of education, including state accreditation which currently takes the leading role, the state control of the education quality, as well as monitoring of the activities of higher education institutions, also confirm the effectiveness of the model of internal system of education quality assessment described in this paper.

Thus, development of the internal system of education quality assessment is connected with changes in objectives and principles of assessment, modernization of the content and assessment technology, with quantitative and qualitative changes in its objects and entities in accordance with the goals and values of educational organizations, as well as the requirements of the external evaluation of education quality imposed by the legislation of the Russian Federation.

Conclusion

The issue of the internal system of education quality assessment is developed within the framework of education quality management theory (Subetto and Selezneva, 2000; Bolotov and Efremova, 2005), as well as standardized quality management systems (Katchalov, 2001), which are the

theoretical foundation for the development of models of the internal system of education quality assessment.

Despite the detailed and profound character of the undertaken research into the methodology of quality assessment as a quality management system component, it does not fully reveal all the ways of improving the internal system of education quality assessment. This fact determines the need to develop alternative models of education quality assessment at a higher education taking into account the specific character of a higher education institution, as well as the constantly changing requirements and external procedures of education quality assessment

The results of the study are based on testing the model of internal assessment of education quality at a university including value-orientational, content, operational-activity, and result-evaluation modules. They help to improve the educational process and the processes relate to and ensure the educational process. They help to determine the conformity of the educational training results (both intermediate and final) to the goals of the educational process and regulatory requirements.

Implications and Recommendations

The article can be of use to heads and employees of higher educational institutions who are responsible for development of internal assessment systems for educational activities.

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Disclosure statement

No potential conflict of interest was reported by the authors.

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