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### Professional Culture of the Specialist of the Future

#### INTEGRATIVE MODELS OF THE FUTURE TEACHERS EDUCATION QUALITY ASSESSMENT

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#### *Abstract*

The article identifies the problem of development and practical application of an integrative model for the higher education quality assessment. The authors give examples of higher education quality assessment models and make a conclusion that it is necessary to develop the model that takes into account the significant aspects of interaction between universities and the parties that are interested in the quality of the future specialists training to reach a certain level. The authors presume that pedagogical universities of the future are the universities with an innovative approach to training, which suggests that the quality of the future teachers training is assessed not only from the standpoint of the Ministry of education requirements, but also from the standpoint of stakeholders – employers, public authorities, partners, non-profit organizations, etc. The authors took into account the impact of the environment on the analysis and quality control procedures in the development of an integrative model for education quality assessment and identified the main functions through which such an interaction is carried out.

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**Keywords:** Education quality assessment, model, quality management, stakeholders of educational institutions.



## **1. Introduction**

Despite the serious theoretical and practical achievements in the field of quality management, the future teachers education quality assessment remains a socially important problem. The analysis of modern research shows that the importance of education quality assessment is recognized by both the state and society. The integrative models that take into account the significant aspects of interaction between the higher educational institution and the parties interested in the implementation of quality management systems in higher education institutions are widely discussed in foreign literature. Both specific scientific articles, monographs and university websites (Uppsala University, Massachusetts Institute of Technology, University of Hong Kong, University of Helsinki, etc.) can be considered as primary sources. The information presented on the websites is more applied and is presented by Regulations, Action programs, descriptions of the structures involved in the planning and organization of education quality assessment, quality control and improvement processes.

## **2. Problem Statement**

Pedagogical universities are presented as the flagship of reforms in higher education. Universities of the future should focus on the teacher education quality as a target indicator of what should be sought in the training of future professionals. At the same time, today we see the opposite – the entrants with lower scores or those who do not expect to work in the specialty after graduation go to pedagogical universities.

It seems that the teacher education quality must be assessed from the standpoint of involvement of all persons and parties interested in the specialists good preparation in the process. The issue of the diversity and effectiveness of the implementation of higher education quality assessment models deserves special attention in the study of the paradigmatic foundations of the higher education quality concept. Integrative models allow to include all stakeholders of the education quality process into this process.

## **3. Research Questions**

The following are the research questions, which are attempted to be answered in this article:

What education quality assessment models exist today?

What is the impact of the higher educational institution external environment on the activities to improve education quality?

What main structural elements should be present in the integrative model of the future teachers education quality assessment?

How is the interaction between the higher educational institution and stakeholders to assess the education quality in the implementation of analysis, control and improvement of the pedagogical education quality procedures carried out?

## **4. Purpose of the Study**

The purpose of this article is to describe the components of the integrative model for pedagogical university education quality assessment, taking into account significant aspects of interaction between the

higher educational institution and the parties interested in the implementation of quality management systems in higher education institutions.

## 5. Research Methods

The main research method is the construction of a simplified model of interaction between universities and stakeholders to assess the pedagogical education quality in the process of analysis, control and decision-making to improve the education quality.

## 6. Findings

All the variety of the quality management processes organization models in partnership with public authorities, public organizations and other stakeholders of the quality assessment and improvement process presented in the foreign literature can be classified into the following main groups:

- national-institutional model, involving a combination of state and intra-university functions of quality management;
- TQM-based model, taking into account the need for the quality management system to respond to changes in the external environment (Ashraf & Ibrahim, 2009);
- external quality management model, when the higher educational institution "gives all or part of the assessment, control and development of quality improvement functions to external agents and facilitators" (Razinkina, et al., 2018; Alexankov, Trostinskaya, & Pokrovskaya, 2018);
- universities rating model on the "education quality" complex basis as a means to increase the activity of scientific research, struggle for a global service consumer etc. (Akopova & Chernyavskaya, 2014).

It seems necessary to emphasize at the beginning of the study that these models are not alternative. They are more likely to be complementary ones. For example, the TQM integrative model can be supplemented with an external quality management model.

Most foreign authors put emphasis on the fact that educational institutions are not static organizations. Their environment is in a constant state of change, which significantly affects the educational institution life cycle and what stage of development and how quickly the educational institution will reach. Therefore, many models that provide for certain schemes of interaction with the environment, primarily with organizations that enter in the partnership with the higher educational institution, take into account the institution life cycle. Thus, Page (2002) states that this is especially important when it comes to a university operating in market conditions, which are characterized by fairly free economic conditions. "The quality management system focused on interaction with stakeholders and parties, with its components of long-term strategic planning and with the participation of staff in continuous improvement" provides, in his view, the conditions under which the higher educational institution is able to solve problems at each stage of its life cycle.

The institutions using traditional management technologies are increasingly facing challenges in responding to changes in the external environment. Traditional institutions characterize hard boundaries, barriers and out-of-date relationships (Popham, 2010). The characteristic features of such institutions

include: absence of a common mission, rigid power hierarchy and over-confidence in bureaucratic procedures. Such organizations have not developed a focus on their clients, students, and students tend to be very passive in various activities.

Opportunities in the field of flexible management of changes in the external environment offered by the quality management system of the higher educational institution contribute to building "successful relationships" in the organizations of the external environment, which significantly distinguishes the institution focused on quality from the traditional educational institution management model (Morley, 2003). At the same time, the fundamental point is the guarantees provided to the higher educational institution staff that the higher educational institution employees will be important partners in the process of transition to quality-oriented management.

According to the authors of the article, the above models can be combined into one complex model, which is presented in Fig. 01, excluding from it the elements that may contradict each other. Attention is drawn to several facts regarding the developed scheme:

1) several levels of the external environment can be identified for the modern pedagogical higher educational institution functioning in the market relations:

- global (level of global ratings, global students, global universities, etc.);
- national (level of national quality monitoring, national standards and quality requirements, national consumer, etc.);
- regional (level of regional authorities, regional companies, public organizations of local level, regional consumer);

2) many functions that connect the persons and the parties interested in the activities of the pedagogical higher educational institution in the field of quality with the internal environment of the higher educational institution, and characterize the specifics of the external agents impact, are repeated at different levels of this model. At the same time, there are specific functions that are either not typical or less typical (so they can be neglected) for another level;

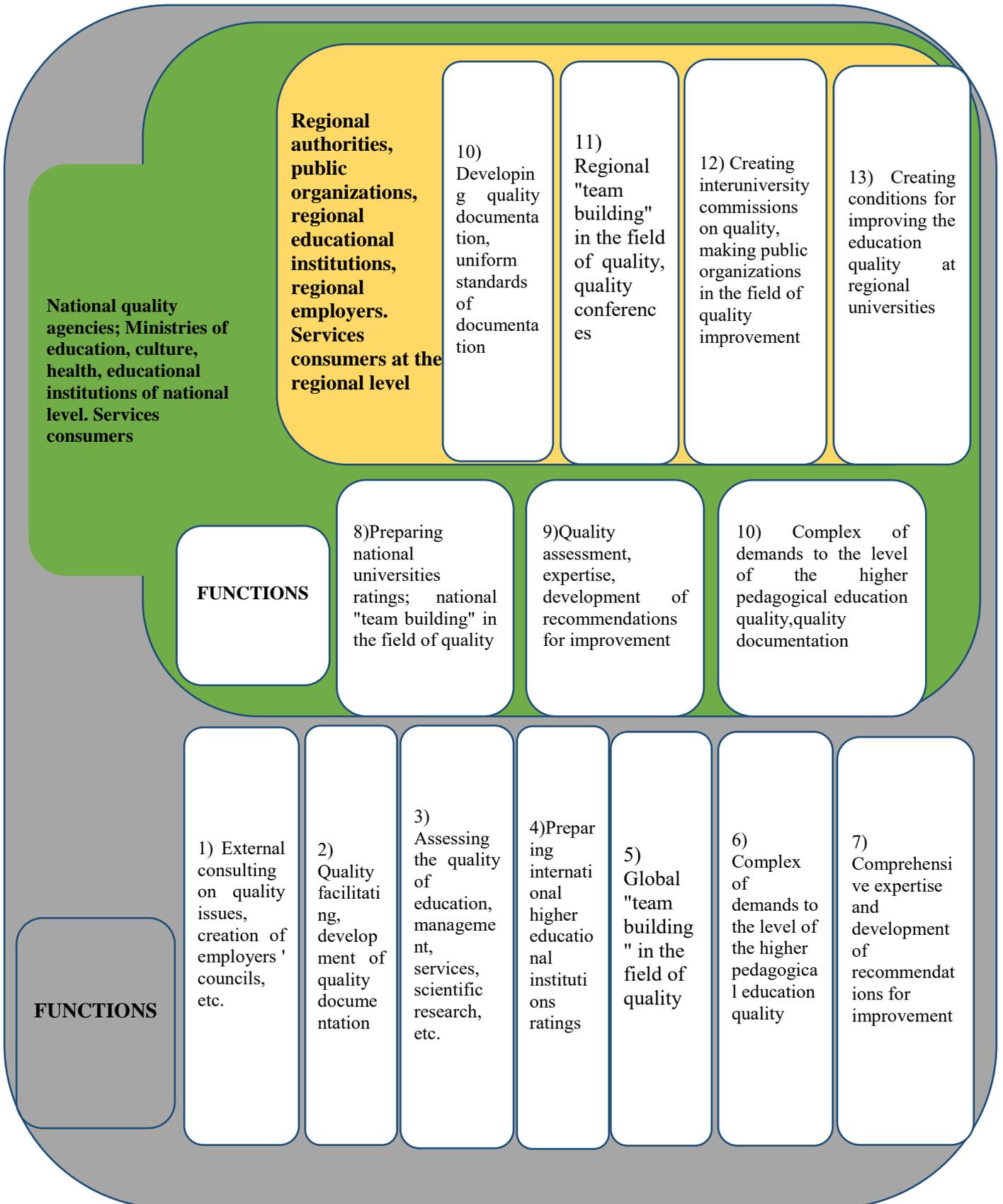
3) the presented scheme does not show the interaction direction. But in fact, all these functions, which are performed by external stakeholders in terms of quality assessment, have a certain response to the higher educational institution actions. This will be clarified in the explanation of the scheme elements.

The fundamental element of the external environment in the integrative model is the higher *educational institution clients* (in the scheme – global, national, regional consumers). From the point of view of the quality management system, organizations are the systems designed to "serve clients" (Rahman, Farley, & Moonsamy, 2012). To do this in the most effective way, all parts and systems of the institution must meet the needs and requirements of the consumer (students and their parents). Many authors, referring to the TQM model and the role of consumers, refer to Peters' (1991, p.16) words that "it is necessary to make sure that quality is always defined in terms of consumer perception". Therefore, we presented our clients as a special element of the structural and functional model on the general scheme at all levels of impact on the quality management systems of the pedagogical higher educational institution (Apevalova, Kutyeveva, & Pasholikhov, 2015).

Uppsala University, for example, fixes these requirements at the level of documents, saying in the Provision on quality that the quality system must meet the internal and external needs of consumers and

various organizations interested in the high quality of the higher educational institution. It should also contribute to the achievement of the goals set out in the university document called "Goals and strategies in the field of quality", which, inter alia, states:

- Those responsible at different levels should develop and improve the structures and processes aimed at interaction with the national quality agency, public organizations and the higher educational institution partners.
- Staff participation and professionalism, including "continuous self-critical review" of their activities, should form the central component of the quality culture.
- The influence and responsibility of the services consumers: students and doctoral students - should be strengthened by effective management procedures, as well as forms that consolidate their (managers and teachers') responsibilities.



**Figure 01.** Scheme of pedagogical higher educational institution interaction with systems external stakeholders

The role of employers at the international, national and regional levels in assessing the education quality is also difficult to overestimate. Most international rankings provide an assessment of the demand for graduates in the labor market (Brennan & Shah, 2000). At the same time, the career path of a graduate in many universities is monitored throughout his life. Thus, a special department that tracks the career of the employee who completed his training is created in the American MIT (Massachusetts Institute of Technology) which occupies leading positions in the world ratings. At the same time, the criteria for assessing its success are: annual salary; work in the specialty/not in the specialty (the second option is assumed by the university as the one that indicates perhaps not the best quality of training); career advancement during the first 3 years of work; production of a new own type of product (confirmed by patent, copyright) during the first 2 years of work. The university created the conditions under which many students begin to meet these criteria during their studies. This allowed the institution to occupy places in the top-ranking of innovative universities (the universities, producing and introducing a production invention to the market) (Hirschler, 2015). According to the results of this rating, the first place was taken by Stanford University, whose graduates are the creators of the world's most famous technology companies, including Hewlett-Packard, Yahoo and Google. The second and the third places were taken by MIT and Harvard University, respectively. Asian universities are also gaining momentum in the creation and development of scientific innovations and they are most successful in turning innovations into finished products. The second place in the total number of universities, after the United States, is occupied by Japan with 9 universities, followed by South Korea (8 universities). It can, therefore, be argued that not only the employers themselves, but also the global market for goods and services, as well as the ways the university interacts with it, are a serious indicator of the educational work quality at the higher educational institution.

Asian universities also believe that the function of determining the student's future career path is an important milestone in assessing the education quality. Thus, University of Hong Kong not only gives the rating of demand for graduates in the labor market in the "quality of teaching" section - 99.7% over the past 8 years (!), but also considers the indicator of the graduates satisfaction level very important (81.7% of this university graduates are satisfied with their work). To assess this indicator, the university performs a number of functions, such as online surveys of graduates, requests to employers, identification of "global workers" among graduates, etc.

Element 1) of the scheme demonstrates that the international community plays an important role in improving the education quality for foreign universities. There can be a great number of examples and not only from among western universities. For example, University of Hong Kong established the Council, which includes 18 honorary employers (18 Honorary Career Advisors - the largest Council among national universities) that not only participate in the employment of graduates, but also give advice on improving the education quality due to the market requirements, modern production, etc.

Elements 2), 10), 11) of the scheme regarding development of the documentation regulating various aspects of activity in the field of quality management in a higher educational institution show that this activity considers requirements of all levels of external environment. This is evidenced by the structure of the documents made by western universities in response to the external environment requests.

For example, the structure of quality documentation developed at Uppsala University with the participation of international teams of experts includes:

- - Programme of work on quality at Uppsala University
- - Quality goals and strategies of Uppsala University (Decision of University Board 2008-04-22, unit responsible: Planning Division, UFV 2007/1478)
- - Training of employees and students (doctoral students) in the field of quality (Decision of Vice Chancellor 2008-05-06, unit responsible: Division for Development of Teaching and Learning, UFV 2007/670)
- - Guide on the students' working conditions at Uppsala University
- - Uppsala internationalization programme;
- - Plan devoted to ethics in respect of persons with different sexual orientation 2006-2015
- - Uppsala University programme of cooperation with society and organizations (Cooperation Programme, Uppsala University in Dialogue with the Wider Community).

Elements 5), 8), 12) of the scheme. The structural and functional model of interaction with external stakeholders of quality management in the higher educational institution involves effective team building with the inclusion of external agents in the team. As pointed out by many authors (Lunenburg, Ka-Ho Mok, David Chan, Montes, Pomfret, So, Min, Wei, Xu, etc.), the optimal integrative model of quality management process organization is the TQM-based model (Total Quality Management (Lunenburg, 2010), whose development provides for the account of the whole complex of interactions with organizations). Thus, Ali and Shastri (2010) point out that there are no single, once and for all defined, "correct" forms of organization according to TQM, although some management structures are more suitable than others. However, for all management structures according to the TQM-based model, the *team building function* is important, providing the "development and strengthening of team work, which includes not only the educational institution employees, but also representatives of organizations that monitor quality, partner organizations interested in quality and organizations that control quality". The latter, in particular, are public organizations, as explained by the authors. At the university itself, representatives of external quality agents interact with mid-level managers who become leaders and champions of quality and take on the role of supporting teams and helping their development (Page, 2002). This new role is important for middle managers because teamwork can have a downside.

The teams that are too autonomous can expand, becoming uncoordinated in their work. Teamwork should be structured within a simple but effective management system. It is important that these teams, gathered from a variety of people, including those who are not great specialists in education (for example, employers' representatives), understand the vision and policy of the institution in the field of quality. This is one of the reasons why vision and leadership are considered as one of the key characteristics of quality management organization models in the TQM literature.

Element 9) of the scheme. National quality agencies, various ministries and agencies are important elements of the quality management model. In considering the contexts for assessing quality in education, it is necessary to distinguish between national and internal factors. At the national level, we find a number of factors in the development of higher education, which are typical for most countries. University systems have expanded to include not only the creation of new institutions and the growth of the existing

ones, but also the external environment impact. Higher education has become more diverse, both in terms of types of institutions, types of programs; and in terms of the varieties of groups of students who study in them. Higher education has become more international, involving more students and increasing the flexibility of educational systems. All this creates pressure on universities, which are being involved in the process of qualifications harmonization and curricula internationalization. In terms of quality assessment, the higher educational institution is influenced by both the elements of national quality management control and the internal mechanisms of this activity.

The state represented by authorized agencies, Ministries and departments as a level of the scheme, as well as element 10) of the scheme. The implementation of the state control implies a certain degree of uniformity of higher education institutions, as the state participation in quality management involves unified methods for assessing education quality. In this sense, it is important to develop mechanisms for self-regulation of quality management processes in the higher educational institution, which will be contributed by strengthening the management system and improving the system of universities' responsibilities for the decisions made.

How do the state and the higher education institution interact in assessing the education quality? Let us recall, for example, that at University of Helsinki the university strategic plan outlines the focus and goals of training development. The results assessment and monitoring is part of the operational management process of the university itself. Quality goals are monitored through quantitative and qualitative indicators (Murgatroyd & Morgan, 1993). Some of these strategic indicators are quantitative and are continuously tested by the university management; while others are defined by the Ministry of education and culture. Among the results and indicators subject to external monitoring, you can see the following: the number of the second-cycle degrees, the number of the first cycle degrees, the number of doctorates, the Bachelors' Graduate Survey results, the number of international students who receive higher education with the second cycle degree, etc. Many of these indicators are included in the ratings, which are also an "important element of integrative structural-functional model of quality management" (Trapitsin, Timchenko, & Krokinskaya, 2015).

At the national level, developed states exercise a large number of functions in regulating the education quality. For example, the Swedish government delegated the authority to manage quality in higher education institutions to the National agency for higher education in Sweden (Högskoleverket). Since 1995, the National Agency has been carrying out the following types of assessments:

- organizes and conducts assessment of subjects and programmes that allow accreditation of educational programs and training programs;
- analyzes the education quality on the basis of standards developed for the whole country;
- assesses the universities capacity to open postgraduate training programmes;
- makes a decision on the assigning the University status to an institution;
- develops education quality assessment systems at the national level, correlates them with supranational systems, builds an integrated system (Omar & Liuhanen, 2005).

Elements 7), 9), 10) of the scheme demonstrate the need for external and internal stakeholders to implement the quality management system functions such as: organizing the procedures for the higher educational institution quality assessment. For this purpose, for example, European and American

universities created the system that combines Quality assurance, Quality improvement, Quality audit and Quality assessment (Trapitsin, Granichina, & Granichin, 2017).

It seems that the pedagogical education quality assessment can be based, among other things, on the principle followed by Dutch higher educational institutions. It implies qualitative and quantitative assessment of students' knowledge in specific areas and disciplines they study, measurement of the number of lecture hours, "student capacity", etc. A common way to measure these results is to assess the so-called "key - relations", such as: the ratio of the number of students and teachers, the area of premises relative to the number of students, the number of sessions and exams in relation to the duration of training and the number of disciplines studied, the number of economic resources per student, etc.. For example, it is mandatory to assess disciplines and educational programs from the standpoint of quality at universities in Finland, which is carried out by the National agency of higher education.

## 7. Conclusion

Integrative models for education quality assessment are important in the analysis of the teacher education quality. They allow us to take into account various aspects of the quality of future teachers training, who employers, public authorities, non-profit organizations, influential individuals, national quality agencies, etc are interested in. We would like to note that due to the growing globalization of processes in higher education, the differences between the national traditions of education quality assessment are being gradually erased. In general, the abundance of conference materials on the education quality and the assessment process transparency lead to the fact that unified quality assessment procedures start to emerge, which ultimately allow to build universities ratings and ensure the competitiveness of higher educational institutions in the world market of educational services.

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## References

- Akopova, M., & Chernyavskaya, V. (2014). Evaluation of Academic Science: Perspectives and Challenges. *Zeitschrift fur Evaluation*, 2, 348-357.
- Alexankov, A.M., Trostinskaya, I.R., & Pokrovskaia, N.N. (2018). Industry 4.0 Requirements For Quality Of Human Capital And Competencies Formed Within Educational Institutions. *The European Proceedings of Social & Behavioral Sciences EpSBS*, 4, 26-34. doi: 10.15405 / epsbs.2018.02.4
- Ali, M., & Shastri, K.R. (2010). Implementation of Total Quality Management in Higher Education. *Asian Journal of Business Management*, 2(1), 9-16.
- Apevalova, Z.V., Kutyeva, El.R., & Pasholikhov, M.S. (2015). Upravlenie kachestvom v zarubezhnyh vuzah: analiz «obychnykh» universitetov i uchrezhdenij, orientirovannyh na kachestvo [Quality management in foreign high schools: analysis of conventional university and Institutions oriented for quality]. In V.P.Solomin, V.Z.Kantor, L.A.Gromova, V.G. Zarubin , V.V. Timchenko (Eds.) *Management of the XXI century: anti-crisis strategies and risk management* (pp. 112-115). Saint-Petersburg: Herzen State Pedagogical University of Russia. [in Rus.]
- Ashraf, M.A., & Ibrahim, Y. (2009). Quality Education Management at Private Universities in Bangladesh: an Exploratory Study. *Jurnal Pendidik dan Pendidikan*, 24, 17–32.

- Brennan, J., & Shah, T. (2000). *Managing Quality in Higher Education: An International Perspective on Institutional Assessment and Change*. Philadelphia: Open University Press
- Hirschler, B. (2015). *U.S. universities lead in innovation, Asia a rising power*. London: Thomson Reuters
- Lunenburg, C.F. (2010). Total Quality Management Applied to Schools. *SCHOOLING*, 1, 1-6
- Morley, L. (2003). *Quality and Power in Higher Education*. Philadelphia: Open University Press.
- Murgatroyd, S., & Morgan, C. (1993). *Total Quality Management and the School*. Philadelphia: Open University Press.
- Omar, P.-L., & Liuhanen, A.-M. (2005). *A Comparative Analysis of Systematic Quality Work in Nordic Higher Education Institutions*. Helsinki Pikseri Julkaisupalvelut.
- Page, K. (2002). *Total Quality Management in Education*. (3rd. ed.), London: UniPress
- Peters, T. (1991). *Thriving on Chaos: Handbook for a Management Revolution*. N.-Y.: Harper Perennial
- Popham, W. J. (2010) *Educational assessment: What school leaders need to understand*. Thousand Oaks, CA: Corwin Press
- Rahman, A., Farley, A., & Moonsamy, N. (2012). Impact of the Government Funding Reforms on the Teaching and Learning of Malaysian Public Universities. *Higher Education Studies*, 2 (2), 114-221.
- Razinkina, E., Pankova, L., Trostinskaya, I., Pozdeeva, E., Evseeva, L. & Tanova, A. (2018). Student satisfaction as an element of education quality monitoring in innovative higher education institution. *E3S Web of Conferences, Vol.33*, 03-43). doi: 10.1051/e3sconf/20183303043
- Trapitsin, S., Granichina, O., & Granichin, O. (2017). Information and mathematical models for evaluation of the effectiveness and quality of the university. *International Conference "Quality Management, Transport and Information Security, Information Technologies", IT and QM and IS, 10*, 287-291. doi: 10.1109/ITMQIS.2017.8085813
- Trapitsin, S., Timchenko, V., & Krokinskaya, O. (2015). Quality assessment in higher education: are Russian universities focused on the educational needs of students? *International Journal for Quality Research*, 9, 2, 339-354. doi: 10.1109/CSCI.2016.0063