



THEORETICAL ANALYSIS AND POSITIONING BENCHMARKING AS A PRODUCT QUALITY MEASURING INSTRUMENTS

Daniela Todorova

“Todor Kableshkov” University of Transport, Sofia, Bulgaria

Nina Gergova

“Todor Kableshkov” University of Transport, Sofia, Bulgaria

Maria Christova

“Todor Kableshkov” University of Transport, Sofia, Bulgaria

Petar Kolev

“Todor Kableshkov” University of Transport, Sofia, Bulgaria

©MESTE

JEL Category: I23, I25

Abstract

The European Higher Education Area - EHEA is established on the principles and values, indicated in the Bologna declaration from 1999. During the annual conferences of ministers of higher education at countries from EHEA in the next years (Prague, Bergen, London, Leuven, Budapest, and Bucharest) these principles and values are developed and approved. One of these values is the quality of education. The highly compatible educational environment could provide such quality of education through which students acquire knowledge, skills, and competencies, necessary for the labor market. The aforementioned defines the relevance of the scientific problems addressed to the quality of higher education. The problem for quality has many aspects. One of them is at most significant: the quality of education science. It has to solve many tasks, addressed to the quality concept, quality measurement; choice of quality criteria and indicators (according to methods of mathematical taxonomy, multi-factor and cluster analysis, multidimensional scaling), quality verification and etc. Today, the dynamic development of the IT sector and the social trend raise new problems for the higher education. Higher schools are related to both the market where quality educational services are provided and the labor market. The students are the consumers of educational services, while employers are the main

Address of the corresponding author:

Daniela Todorova

dtodorova@vtu.bg

consumers in the labor market. With the benchmarking approach, higher schools can define clear objectives for their development, based on the

information about the advantages and disadvantages of education. The main objective of the present report is to be defined and evaluated the key indicators for quality measurement and management of education at higher schools by means of benchmarking model and to be defined the competitiveness of the European educational market.

Keywords: benchmarking, higher education, higher schools, quality, competitiveness.

1 TIMELINESS AND RELEVANCE OF SCIENTIFIC PROBLEMS

The European Higher Education Area - EHEA is established on the principles and values, indicated in the Bologna declaration from 1999. During the annual conferences of ministers of higher education at countries from EHEA in the next years (Prague, Bergen, London, Leuven, Budapest, and Bucharest) these principles and values are developed and approved. One of these values is the quality of education. In this regard:

- The main principles, criteria, and methodology are harmonized to ensure the quality of education. Three levels of their application are adopted: institutional (the universities it selves), external (the Agencies for evaluation and accreditation) and European, which is represented by the *European Association for Quality Assurance in Higher Education (ENQA)*.
- The *European Qualifications Framework (EQF)* in EHEA is adopted, through which the national qualification frames are established. In 2012 the Bulgarian Ministry of Councils ratified the *National Qualifications Framework of the Republic of Bulgaria (NQF)*, in which the last three levels define the knowledge, skills, and competencies of bachelors, masters, and doctors in Bulgaria,
- The Bulgarian Parliament adopted the National Strategy for development of higher education till 2020.

At the conference of ministers of higher education in Erevan, last year (May 14th-15th, 2015) the document "Standards and guidelines for quality assurance in EHEA" was updated.

The original document was adopted in 2005 and since then a significant progress in the field of quality assurance is achieved. In the elaboration of standards in 2012, the Education International (EI), *BUSINESSEUROPE* and the European registry for quality assurance (EQAR) are included.

The final document is approved by the conference of ministers in Erevan.

ENQA, which member is Bulgaria (through the National Evaluation and Accreditation Agency (NEAA)), put all the necessary requirements for applying the document. NEAA adopted its own program and action plan in October 2015 that was officially published on its website.

In this program, it is underlined that higher schools have the responsibility for the quality of education as they take into consideration the main student and public needs. (Hristov & Hristova, 2016)

In the world, where we live, there is fierce competition among various countries, territories, as well as in and out of the European Union.

What is typical is that countries do not have equal economic, social and geographical conditions and not every country could compete in the same conditions.

There are also such conditions in the field of education, where the European educational policy provides various measures (tools), which are necessary, the differences among member-states to be surmounted.

The highly compatible educational environment could provide such quality of education through which students acquire knowledge, skills, and competencies, necessary for the labor market.

The aforementioned defines the relevance of the scientific problems addressed to the quality of higher education.

2 PROBLEMS IN EDUCATIONAL SYSTEM IN BULGARIA AS A RESULT OF THE CRISIS

The problem for quality has many aspects. One of them is at most significant: the quality of education science. It has to solve many tasks, addressed to the quality concept, quality measurement; choice of quality criteria and indicators (according to methods of mathematical taxonomy, multi-factor

and cluster analysis, multidimensional scaling), quality verification and etc.

Bulgarian higher schools need to overcome many negative effects of the world economic and financial crisis. As a result of these conditions in the period 2009 – 2013 for the Bulgarian economy the following is typical:

- Shrunk of the industrial production;
- Many production factories were closed;
- The number of unemployed people raised;
- Many sectors of the economy needed lower prices of utilities and state funding to keep their professionals at work;
- The global financial crisis reflects negatively on the households' real incomes – the credit installments were increased, as well as the prices of products and services;
- The share of bad credits in Bulgaria reached 12.6%.
- The Bulgarian export decreased significantly, which results in a negative balance of payments and lower GDP. As a result, some of the companies shortened their personnel and others changed to part-time working process.
- As a consequence of the lower turnovers, many companies were forced to change their investment policy, which results in a decrease of economic growth.
- The lower global liquidity leads to a discount of the direct foreign investments. (Plevnaliev, 2012)

These conditions suppose application of activities that stimulate sustainable development through employment, social activities, efficient investment policy and funding through national and European resources. These are the key structural elements of the National Policy for Sustainable Development, which the main objective is to enhance effectiveness in all sectors of the economy and ensure better living conditions for the society.

Many problems could be observed also in the educational system in Bulgaria as a result of the crisis:

- The population of the country drastically thinned down (e.g. from 8.8 million in 1990 to 7.35 million in present times);

- Aging population (Bulgaria takes the third place of the middle-aged population in the EU);
- Lower birth rate and higher mortality rate;
- Reduced flows of students;
- Increasing number of the dropouts, especially from minority groups;
- Increasing the number of dropout students;
- Limited opportunities for employment;
- Growing youth emigration etc.

According to the National Statistical Institute of the Republic of Bulgaria, the public expenditures as a percentage of GDP in the country constitute 3.98%. Public expenditures for education are of utmost importance because they have a direct impact on the economic growth, influence labor productiveness and professional development of the workers.

It is necessary the qualification of employees to be developed continuously in order for them to adapt easily to the requirements of the labor market. The main objective of higher education in Bulgaria is to develop and maintain efficiently the relation education-science-business, because of its great importance for the professional realization of graduates.

The main objective of the educational market is a complex of knowledge and skills of graduates to be developed. The accumulated competence, professional expertise, and creative work during training, allows graduates to be more competitive, effective and adaptive.

3 CURRENT STATE OF THE RESEARCH ON THE PROBLEM AREA

The relevance of problems, concerning the quality of education at higher schools, is reinforced by the fact that their overcoming is in accordance with the national, regional and European strategic objectives in the field of higher education.

The quality of education and higher education are of utmost importance for the competitiveness of the nation as well as of the state. The symbiosis between traditional forms of education at higher schools together with the innovative methods allows new and modern teaching approaches to be applied. (EC, 2015)

The main objective of Bulgarian universities is not only to provide new skills and competencies but also to support the development of science and integrate innovations in the teaching and research activities.

At the Bulgarian educational market, the competition among higher schools is fierce because of their need to attract much more candidate-students. The good quality of educational services provided, the university vision as well as the educational policy are the key factors of guarantee for success. That is why; the priority of each university is the expansion of new professional fields and the development of the systems of education. It is also very important, the education to be carried out in accordance with the business and labor market needs.

Another significant challenge for higher schools in Bulgaria is the programs for lifelong learning and training development.

The quality of education has two main aspects. The first aspect is to be assessed the conditions and potential of the school to provide quality. And the second aspect refers to the assessment of knowledge, skills, competencies, and values of students, as well as their ability to find a job at the labor market, concerning his personal and professional realization.

The fundamental principles for evaluation in the first aspect (applied also for evaluation and accreditation) are (Lambovska, 2013):

- Determination of the standards for knowledge, skills, values, and competencies of the evaluated person;
- Determination of the criteria and key quality indicators;
- Definition of the weight coefficients for their significance;
- Determination of the evaluators and their significance;
- Assessment of the object in accordance with the accepted measures and defining their numerical values.

The National evaluation system of Bulgaria applies this approach. It has chosen a method according to which different aspects of education and research process are assessed.

4 BENCHMARKING – FOR QUALITY MEASUREMENT AND MANAGEMENT OF EDUCATION AT BULGARIAN HIGHER SCHOOLS

With the benchmarking approach, higher schools can define clear objectives for their development, based on the information about the advantages and disadvantages of education.

In the second aspect, applied during the running and term assessment of students, as well as during their state exams and diplomas defend, the level of education is examined. The science of examine is also characterized, as well as the issues concerning the national and European standards for educational degrees. When the quality of education is assessed in this aspect, also the ability of students for self-education must be taken into account.

In the benchmarking, a new assessment for the competitiveness of higher schools will be proposed, which depends on the following indicators: competitive conditions, competitive advantages, competitiveness of higher education and of the labor market. (Todorova & Gergova, 2016)

The main is to be defined and evaluated the key indicators for quality measurement and management of education at Bulgarian higher schools by means of benchmarking model and to be defined the competitiveness of Bulgaria at the European educational market.

The subject of the research is the quality of education, characterized by its peculiar indicators for evaluation of the higher schools in Bulgaria.

The higher schools of Bulgaria face the challenge to provide such educational services that must guarantee quality and good professional realization of everybody who wants to educate. By eliminating the education barriers and proposing equal opportunities and rights for education in the last years, the interest of Bulgarian students for education abroad is getting higher. This raises the question of the ability of Bulgarian universities to cope with these new challenges.

Core points for comparison are the standards for knowledge, skills, values, and competencies, defined in the European and National qualification

frames and specified in the academic standards for degrees in the various professional fields. Through the main hypothesis, the project team strives to prove that Bulgarian higher education is developed in accordance with the European standards and at the same time a fundamental change of the educational methods is being done.

The main component of the development of the educational system is the implementation of innovations as a result of the improvement of the quality of research at higher schools as well as the application of the best practices at other higher schools in the EU. To prove the main hypothesis, a benchmarking model will be established in order for the main objectives of the research to be achieved.

The main hypothesis is based on the network approach in the field of higher education.

Based on the aforementioned, the competitiveness of higher schools will be analyzed as a complex model, consisted of the following:

- Need for educational services;
- Consumers of the higher schools' services provided;
- Consumers' preferences of higher schools' services provided;
- Realization of educational services;
- Assessment of the indicators for the competitiveness of higher schools.

Many factors such as the social, demographic, economic and technological impact of the above-mentioned indicators. Both the number of higher schools and their rating are the main indicators for every region of the country. When defining the competitive advantages of higher schools, indicators such as quality of education, professional expertise of academic staff, material-technical base, quality of resources, development of the research activity and the international prestige are what matters.

Today, the dynamic development of the IT sector and the social trend raise new problems for the Bulgarian higher education.

Higher schools are related to both the market where quality educational services are provided and the labor market. The students are the consumers of educational services, while employers are the main consumers in the labor market.

The benchmarking is related to the assessments for the situation and issues, concerning the Strategy for the development of higher education in Bulgaria, adopted by the Parliament during 2015.

- Establishing measures for quality of education and sustainable system for feedback by the employers about the quality of knowledge, skills, and competencies of graduates at higher schools.
- Although all of the higher schools adopted quality management control system in the recent years, still the control and its application are not satisfactory.
- Development of the practice for external quality control of higher education.
- Establishment of working and effective mechanism for assessment of the quality of professional realization of graduates.

By adopting and obeying the Standards and guidelines for quality assurance in the European Higher Education Area (ESG), the member-states ensure an education that is based on the principles of transparency and mutual trust.

The improvement of the quality of education depends mostly on the opportunities for competition among higher schools.

Carrying about young people is a serious challenge that our country faces because by ensuring appropriate conditions for education and professional realization of students, the quality of life could be improved as well as the demographic situation in the country.

Stimulating innovations and entrepreneurship are the basis of the Lisbon strategy. Achieving sustainable economic growth and providing better jobs in a competitive economy based on knowledge identify opportunities and challenges for the development of higher education in Bulgaria.

According to the official statistics in 2015, the number of people on age 15-34 is 1 747 648, and till 2020 – it will be 1 555 852 (Danchev, Bassett, & Salmi, 2012). As a result of the sharp drop in emigration in the period 2002-2006, in the last years, the new rise of emigration among young people on age between 20 and 29 years is observed. What is positive here is that the structure of the potential emigration flow is

changing. At the same time, unemployment among young people is rising.

The share of self-employed among young people on age 15-24 is 3.4%, which share is under the average for the EU and lower than that in Greece (7.8%) and Romania (11.3%). The group of self-employed young people on age 25-29 rises to 5.7%, but it is still under the average for EU-28 (8.7%), Romania (11.4%) and Greece (14.9%).

As a result of the trends observed, it is clear that most of the graduates are looking for professional realization as employees and that is why they have to improve their qualification, competencies, and skills continuously in order to respond to the requirements of their employers. In this regard, education at state higher schools must respond to the national policy for young employment, based on the short-term (5 years) and long-term (15-20 years) planning.

5 CONCLUSION

There is a strong correlation between national identity and the development of the educational system in Bulgaria. Despite the significantly low living standards of the nation, the ambition of the population for higher education is increasing.

As a result of the Bulgarian membership in the EU, there is a direct correlation between welfare and

the ambition of young generation to graduate higher education in other countries in the EU or in the USA, which reflects negatively on the identity of education in the country at the expense of globalization and cosmopolitan identity.

The lower level of prosperity and the limited opportunities to reveal the young population potential leads to their migration after they graduate universities, as the education is paid by the state and consumed by students but the return for the national economy is zero.

The surrounding economic environment and the state of the labor market require continuous improvement and qualification of people, as well as acquiring new knowledge and skills. The national strategy for lifelong learning main goal is "successful employment of people by improving conditions for equal access to education and training and development of the system for lifelong learning."

The investment in knowledge brings the highest dividends, and that is why it is necessary to focus on stimulating modern, flexible education system. It is a major challenge for the education system of our country as it is necessary to create and provide an effective system that enables lifelong learning.

WORKS CITED

- Danchev, P., Bassett, R. M., & Salmi, J. (2012, Sep. 01). *Strengthening higher education in Bulgaria: options for improving the models of governance, quality assurance and financing of higher education*. Retrieved from The World Bank: <http://documents.worldbank.org/curated/en/694441468006586259/Final-report>
- EC. (2015). *Strategy for Development of Higher Education in the Republic of Bulgaria for the 2014-2020 period*. Retrieved from Research & Innovation: <https://rio.jrc.ec.europa.eu/en/library/strategy-development-higher-education-republic-bulgaria-2014-2020-period>
- Hristov, H., & Hristova, M. (2016). National policy on quality of higher education – critical analysis and opportunities for improvement of the university management. *BAN*(1).
- Lambovska, M. (2013). Application of a Model for Control on Teams at the University Of Transport "Todor Kableshev". *Academic journal, Mechanics, Transport, Communications*(2), 0-1 - 0-11.
- Plevnaliev, R. (2012). Bulgaria 2020: National priorities in education and science. *Nauka*(6), 11. Retrieved from President of the Republic of Bulgaria.
- Todorova, D., & Gergova, N. (2016). Possibilities To Apply Benchmarking As An Instrument For Product Quality Measurement. 21. *Medzinarodna vedecka konferencia Crises situations solution in a specific environment* (pp. 650-656). Zilina: FSI.