Reform in Bulgarian Higher Education

Kiril KIROV; Deshka MARKOVA; Ilya NEMIGENCHEV
Technical University of Gabrovo, 5300 Gabrovo, 4, H. Dimiter Str., www.tugab.bg

kirov@tugab.bg; markova@tugab.bg; rector@tugab.bg

KEYWORDS: *higher education, quality, assessment, accreditation*

ABSTRACT: *This paper describes the European framework of higher education in accordance with the meetings of the ministers in charge of higher education in Bologna, Prague and Berlin:*
- *applying a system of comparable Bachelor's, Master's and PhD degrees;*
- *developing a system comparable to ECTS for credit transfer and accumulation;*
- *encouraging student, faculty, research and administrator mobility;*
- *ensuring higher education quality, etc.*

The degrees in higher education in the Republic of Bulgaria and state requirements to each educational degree have been presented as well as the regulating documentation.

The criteria for assessing higher education standards, the organs carrying out the state evaluation and accreditation of institutions, major subjects and indices of external assessment have been considered.

A quality control manual has been written at Technical University of Gabrovo in compliance with EN ISO 9001:2001 comprising an organizational diagram, procedures, instructions and documents employed in performing an internal audit and in the process of quality management of training. The system of self-assessment allows preventive decision making for corresponding actions.

1   EUROPEAN FRAMEWORK OF HIGHER EDUCATION

The work on harmonizing the requirements to the training of university students in the European economic environment has a special place in European integration processes at the end of 20th and the beginning of 21st century. The attempts at establishing European standards in the area of higher education have their most legitimate manifestation in some documents of the Council of Europe, in joint declarations of European ministers in charge of higher education, the European University Association (EUA), the European Association of Institutions in Higher Education (EURASHE), the National Unions of Students in Europe (ESIB), etc.

In 1997 the Lisbon Convention of the Council of Europe agreed on the contents of the European Diploma Supplement, required for professional recognition of the higher education qualifications [1, 2]. The Sorbonne Declaration of 1998 stressed the role of universities for creating a European area of higher education, enhancing the mobility of European students and their employability. The Bologna (1999), Prague (2001) and Berlin (2003) Conferences of the ministers responsible for higher education outlined the views of European countries on the following aspects of higher education, assuring its compatibility, quality and mutual academic recognition:

- adoption of a system of easily readable and comparable degrees – Bachelor, Master and Doctor;
- establishment of a system of credits, compatible with the ECTS system, promoting possibilities for transfer and accumulation of credits, as well as acquiring education and qualifications in different institutions and countries;
- promotion of mobility for students, teachers, researchers and administrative staff, having a social and educational significance both in the training of learners, and in their employment across Europe;
- promotion of quality in higher education by means of national bodies for assessment and accreditation authorized by the governments, in cooperation with the European Network for Quality Assurance in Higher Education (ENQA);

- promotion of autonomous universities for cooperation in the development of curricula, programmes and modules in a way that would allow the mutual recognition of academic degrees or parts of them;
- establishment of life-long learning as a basic element of higher education, in which there are no age limits for extending the qualifications and education, and life-long learning is a response of the individual to meeting the new requirements that university graduates face during the entire course of their employment.

The mass-scale expansion of higher education, with 45 to 55 % of high school graduates going to university instead of 15 – 25 %, as the situation was 50 years ago, is typical of the whole of Europe and a number of other developed countries and raises the question of product quality.

After the political changes of 1998 – 1991, a need arose for a change in the contents of a number of humanitarian and social science courses studied in Central and Eastern Europe, and new areas were introduced, such as business.

Private universities were founded, which responded to the increased demand for specialists in significantly modified areas, such as business and law, and also to the greater interest of young people in pursuing careers as university graduates. These universities managed to attract very good lecturers by offering them better financial conditions, although they had not contributed to improving their qualifications from assistant-professors to professors. These universities do not develop under the control of the state, however it is in the interest of the state to monitor and compare their output with that of state universities.

Quality assurance in Western Europe is carried out by independent agencies, with view to increasing responsibility and accountability. In Central and Eastern Europe, where the introduction of private universities and tuition fees led to a sharp increase in the number of universities and degree courses, the agencies are usually assessment and accreditation agencies, aiming to restrict this growth and prove the right to license and funding.

The assessment is based on four major principles: autonomy of the process (independent agency); self-assessment, using the Quality Assurance System, conducted by bodies within the University; external evaluation done by the agency and publishing a report of the results.

Accreditation in Western Europe does not cover all degree courses, but applies mainly to the ones that require a practice license, such as engineering, law, medicine, education.

2   SYSTEM OF ACADEMIC DEGREES IN THE HIGHER EDUCATION OF BULGARIA

The introduction of academic degrees in Bulgarian higher education was decreed by the Act of Higher Education. In 1997 [3] introduced a State Register of educational-qualification degrees according to degree courses. It formulated 10 higher education areas, each divided into professional trends (17 for the 'Engineering and Technologies' area). Degree courses were determined for each trend, leading to the educational-qualification degrees of Bachelor, Master and Specialist, and so were the respective professional qualifications. For instance, Bachelors completing degree course 8.1.2, 'Mechanical Engineering Equipment and Technologies', acquire the qualification of Mechanical engineer, Masters following the same degree course acquire the qualification of Master engineer, and specialists – the qualification of Mechanic. For degree course 8.6.3, 'Electronics' the qualifications are as follows: Electronics engineer for Bachelor and Master engineer for Master. Higher education and professional qualifications are offered in one, two or three degrees for different degree courses.

A number of other Decrees of the Council of Ministers have defined Unified state requirements for acquiring higher education in different professional trends. For trend 8.1, 'Mechanical Engineering', [4]

has determined the forms of higher education training – full-time and part-time, minimum length of training 4 years with a total workload of 3600 academic hours for the Bachelor's degree; 1.5 years, 8 courses and 900 academic hours for the Master's degree, full-time training, and the respective norms for part-time training. The curricula include compulsory, elective and optional courses, as well as the names and the workload of the compulsory ones, which are 24 courses with 2160 academic hours, respectively, for the 'Mechanical Engineering Equipment and Technologies' degree course. The decree also formulates a number of other aspects, such as the amount of practical classes, requirements to the lecturers and the members of the State Examination Boards, the form of graduation for different degree, etc. For low-power electrical engineering degree courses from the 'Electrical Engineering and Electronics' professional trend, [5] requires 4 years of study, corresponding to 8 semesters for the Bachelor's degree, full-time training, and a minimum workload of 3120 academic hours, 1005 of which are for 10 compulsory courses for the professional trend, while for the 'Electronics' degree course another 810 academic hours are required for 12 compulsory courses. The Master's degree requires the same length of training and minimum number of courses as for the 'Mechanical Engineering' trend, however the minimum workload is 800 academic hours for each degree course of the professional trend.

The excessive regulation of the education in accordance with [3], [4] and [5] has been criticized by a number of European experts as predetermining the curricula, opposing academic autonomy and having no analogue in European countries. In 2002 a new Classifier of higher education areas and professional trends [6] was introduced, which does not formulate the degree courses in the professional trends, leaving the choice to be done by the universities, and then be authorized through accreditation. The Council of Ministers has also introduced a new Regulation of State Requirements for acquiring higher education [7]. It does not formulate the names of the compulsory courses forming the foundation training. Instead, the Faculty Boards are entitled to determine the ratio between compulsory, elective and optional courses, as well as their names. The workload for students has been reduced to 2200 – 3000 academic hours for the Bachelor's degree. A minimum of basic requirements has been defined for the training in the three degrees. Their consecutive order is Specialist, Bachelor and Master, the respective diploma being obtained upon completion of each degree. Students can interrupt their studies, or continue their education for the next degree at the same or a different university, in the same or in a different degree course, the way of continuing being subject to the regulations of the specific university.

The degree of Specialist is acquired upon completion of a 3-year period of training with a workload of 1800 – 2400 academic hours after a fundamental, specialized, practical and computer-aided training in the conditions of educational mobility. The training is completed with a state examination. This degree is not compulsory for the training in the subsequent degrees, but gives opportunities for practical realization.

The degree of Bachelor after completing secondary education is expected to give an overall idea about the professional trend and the degree course, broad-based theoretical knowledge, adaptability and teamwork skills, opportunities for educational mobility and international comparability of knowledge and skills. The training is completed with either graduation paper or state examination, the former being much more common for engineering degree courses.

The training for the degree of Master is carried out in three trends:
- building upon and differentiating the training in the degree course for which the Bachelor's degree has been acquired;
- single-stage training for the Master's degree right upon completion of secondary education for degree courses where no other degrees are envisaged (lawyers, doctors);
- additional training for students having acquired Bachelor's or Master's degrees in other degree courses.

The general practice is to adopt one curriculum for the Bachelor's degree, and another one, normally comprising several areas of specialization, for the Master's degree, covering two semesters of training and one for working out the graduation paper. The students who graduated from other degree courses are

trained following four or five one-semester curricula, similar to individual curricula, covering compensation training.

3   HIGHER EDUCATION QUALITY ASSURANCE

Under the conditions of the expected mass mobility of undergraduate and post-graduate students, as well as university graduates across Europe, the basic condition for the recognition of periods of study, the entire training or professional qualifications is the agreement reached as regards the quality of higher education. Different views are popular in this respect [8, 9, 10].

1. *Quality as an "exceptional achievement",* as the sum of the top achievements of various universities in various aspects. This maximalist view is more suitable to be the aim of a number of students, rather than an indicator.
2. *Quality as "perfection"* is measurable and applicable for industrial production, but not for the training of a large group of people.
3. *Quality as "correspondence to the purpose"* cannot be applied given the great variety of requirements of different users (students, businesses, academic community, government, etc.).
4. *Quality as "threshold or average level of knowledge, skills and habits".* The threshold is an assessable and widely applied indicator for estimating the results and performance in a specific subject, but it is a static criterion, which tends to lag behind the requirements of time and does not stimulate creativity.
5. *Quality as an "improvement"* is a dynamic basis of the European procedures for higher education quality assurance. The idea is difficult to implement using indicators and to some extent is comparable to point 3.

In accordance with the Act of Higher Education, a National Assessment and Accreditation Agency has been set up in Bulgaria as a body of the Council of Ministers, which elaborates systems for institutional assessment of universities and programme assessment of degree courses. It executes regular external quality control according to pre-published criteria. This is a relatively static control, the results of which affect the accreditation and have a great impact on the status of institutions and degree courses.

The National Assessment and Accreditation Agency is managed by a president and an Accreditation Board consisting of eight members. It appoints permanent commissions in the following professional areas: agrarian, social, technical, natural sciences, medicine, economics and humanities. The accreditation of institutions and degree courses is carried out by licensed expert groups, set up for the specific procedures.

The expert groups evaluate institutions according to four major criteria (structure and organization; academic staff; scientific performance and facilities and equipment) and three supplementary criteria (educational goals and mission; quality of education and academic staff; academic freedom and autonomy), each having strictly defined contents. The expert groups perform their assessments by verifying the proofs in the institution self-assessment report, meeting lecturers, students and users, examining the facilities and equipment. The permanent commission gives quantitative grades for each criterion, as well as qualitative grades – 'unsatisfactory', 'satisfactory', 'good' and 'very good', the maximum score of the quantitative grades being 50 points. The Accreditation Board either confirms or changes the grades and then renders a decision for granting accreditation for a certain period of time on the basis of the overall evaluation or a refusal to grant accreditation. In case of two consecutive refusals the National Assembly makes a decision to close down the higher education institution.

The assessment and accreditation of the existing degree courses for acquiring the degrees of Bachelor and Master are performed in accordance with five major criteria (educational goals; compliance with legislation; academic staff; teaching documentation; research; facilities and equipment) and four supplementary criteria (examination procedures; realization of the degree holders on the labour market;

quality of training and academic staff; academic autonomy). Two criteria are applied for the degree of Doctor. In case accreditation is denied, no subsidies are granted from the state budget for student admission and no diplomas are issued in that specific degree course.

Assessment according to analogous criteria is carried out in case of opening or transformation of institutions and evaluation of projects for introduction of new degree courses. In the case of 'very good' or 'good' assessment, accreditation is granted for a period of five years, in case of 'satisfactory' assessment, the accreditation is for three years, and if the assessment is 'unsatisfactory', based on unsatisfactory grades in at least one of the major criteria or uniformly low grades in all criteria, accreditation is denied, which means withdrawal of subsidies from the state budget for student admission and no issuing of state diplomas.

The Act of Higher Education compels universities to elaborate their own systems for assessment and maintaining the quality of training and academic staff. They are dynamic, based on constant monitoring and self-assessment, and provide possibilities for impact of various structures on the state of the objects controlled.

The university quality control system is dynamic and constantly operative. Its efficiency determines the vitality of the institution and its potential to respond to the continuous changes in both the external environment in the form of legislation and markets, and the internal state in the form of goals, staff and facilities [11].

The Technical University of Gabrovo has adopted a Quality Assurance System [12], in compliance with the requirements of the Bulgarian State Standard EN ISO 9001:2001. The university mission, goals, priorities and strategy for development are formulated in a consistent manner. A structural unit for quality control of training has been introduced, consisting of committees in charge of quality as part of the Academic and Faculty Boards, as well as quality supervisors in the departments.

The quality control system encompasses:

- Management processes (responsibilities of the management, measurement and analysis of the customers' requirements, processes, products and data, remedial and preventive action);
- Basic processes (planning of the training process, teaching documentation, human resources, student admission, training, graduation, qualification improvement);
- Supplementary processes (resources, recruitment of academic and administrative staff, training of personnel, infrastructure and working environment).

The quality control procedures describe the responsibilities, competencies and organizational links between the structural units concerning the specific activities. They are based on work guidelines and operative documents, serving as quality records. The frequency of the internal audits has been determined, as well as the remedial action of the units in charge of quality.

The operation of the quality assurance system is supported by the university information system. This system complies with the requirements of the National Assessment and Accreditation Agency for assessment of institutions and degree courses. It is now in the process of quantitative matching of the criteria for the specific activities and the first self-assessments are being performed.

REFERENCES:
[1] *Diploma Supplement. Contents, functions, structural scheme.* Phare. European Commission. General Directorate of Education and Culture. Ministry of Education and Science. National Centre for Academic Recognition and Mobility ENIC/NARIC, Sofia, 2000 (in Bulgarian).

[2]   *Diploma Supplement. European Practices in the Introduction of the Diploma Supplement*. Phare. European Commission. General Directorate of Education and Culture. Ministry of Education and Science. National Centre for Academic Recognition and Mobility ENIC/NARIC, Sofia, 2003 (in Bulgarian).

[3]   *Decree of the Council of Ministers No. 86/1997 for introduction of a State Register of educational-qualification degrees according to degree courses in the higher education institutions of the Republic of Bulgaria*. Sofia, 1997. (in Bulgarian).

[4]   *Decree of the Council of Ministers No. 376/1997 for adoption of a Regulation for unified state requirements for acquiring higher education in degree courses in professional trend 'Mechanical Engineering'*. Sofia, 1997. (in Bulgarian).

[5]   *Decree of the Council of Ministers No. 379/1997 for adoption of a Regulation for unified state requirements for acquiring higher education in degree courses in professional trends 'Electronics', 'Communication Equipment and Technologies', 'Computer Systems and Technologies' and 'Automation, Information and Control Systems' in professional trend 'Electrical Engineering and Electronics'*. Sofia, 1997. (in Bulgarian).

[6]   *Decree of the Council of Ministers No. 125/2002 for introduction of a Classifier of higher education areas and professional trends*. Sofia, 2002. (in Bulgarian).

[7]   *Decree of the Council of Ministers No. 162/2002 for adoption of a Regulation for state requirements for acquiring higher education in the educational-qualification degrees Bachelor, Master and Expert*. Sofia. 2002. (in Bulgarian).

[8]   HARREY, L., GREEN, D. *Defining Quality, Assessment and Evaluation in Higher Education*. Sofia, 1993, 18,9-34.

[9]   CHRISTOPHERSEN, D., A. SURSOCK, D. WESTERHEIDEN**.** *Quality Assurance in Higher Education. Guide to Quality Assurance: Procedures and Practices*. Sofia, 1998 (in Bulgarian).

[10]   CONNAN, S. et al. *European University: Guide to Institutional Approaches to Strategic Management, Quality Control, European Policy and Academic Recognition*. Sofia, 2000 (in Bulgarian).

[11]   IVANOV I., I. NEMIGENTSCHEV, I. ZHELEZAROV. *Ein Modell des ausbildunsprocesses an der Technischen Hochschulen unter dem Aspekt der Standarts ISO 9000:2000*, Proceedings IWKM'02, Mittweida, 2002. (in German)