

Improving Quality Assurance Co-operation with European Union Universities

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Abstract: This paper describes the existing relations of the VSB- the Technical University of Ostrava with particular attention to the Faculty of Mechanical Engineering, its functions, management system and structure, as well as the institutional culture, attitudes, methods and practices in the education process.

Quality assurance procedures are mentioned. The Technical University of Ostrava lately went through several evaluations and the results are given in their reports. The evaluations range from national to international. The paper gives the information collected through various means: interview with the University representatives, the participants during the evaluating process, people dealing with collecting information subject to a particular accreditation. The experience was quite interesting. It is concluded that the present state can be improved by instruments of quality management of pedagogical and research and development activities, such as authorisation of study programs by the Faculty Scientific Board, unifying the regulation for post-graduate programmes of study for the entire University in accordance with other universities, regular accreditation of post-graduate programmes, assessment of quality of pedagogical process by University Scientific Board, accreditation process for naming new Professors and Associate Professors, annual assessment and analysis of R&D activities by Scientific Board of the University.

The emphasis is put on co-operation with other universities. All the partnerships seem to have their origins in links established through individual staff contacts during conferences, or in response to enquiries from a potential partner while planning a project. The visits provided evidence of the need for wider dissemination of knowledge and experience, both within and across institutions. Most of the partnerships are developing at the University. The ones, which had originated from contact and initiatives at the departmental level, are being brought within a more formal and explicit framework of university-wide policy and practice.

Keywords: assurance, quality, co-operation, university, education

1. Introduction and the Background of the University

The VSB- Technical University of Ostrava is the fourth oldest and fifth biggest among 23 HEIs of university type in the Czech Republic. It belongs among the five classical technical universities. These are at the top of the unified pyramidal educational structure of institutions run by the Government. These universities co-operate together. Co-ordinate their study programs and regulations and stay in close contact. The Technical University of Ostrava is located in the third largest city of the Czech Republic. There are six faculties at the University - Faculty of Mining and Geology, Faculty of Metallurgy and Material Science, Faculty of Mechanical Engineering (from 1950), Faculty of Economics (from 1977), Faculty of Electrical Engineering and Informatics (from 1991), and the newest Faculty of Civil Engineering (from 1997).

Recently there are 14 143 students and 600 staff of which about the half are academics. The academic staff consists of 64 Professors, 165 Associate Professors, 510 Professors' Assistants and Researchers who apart from teaching responsibilities are engaged in grant funded research on national and international level.

The main strategic objective of VSB-Technical university of Ostrava is to continue in progressive re-structuring from original mining HEI to the modern multidisciplinary technical and economic university, which would play the active role in the re-structuring of the old industrial region based on extraction of coal and production of steel.

The aim is to develop an open structure of educational programs based on engineering expertise completed by humanities and legislation awareness subjects, to teach young people who are able and willing to put through, implement and direct the necessary change.

Although VSB-TU Ostrava is a school with teaching mostly technically focused fields it shows a permanent growth of a number of students since the school year 1989/90 (see Tab. 1), in some years it overcomes the limits set by the Ministry of Education.

In the school year 1999/2000, the total number of 14 143 students are studying in six faculties of VSB-TUO, in bachelor, master and doctorate study programmes.

Table 1. Number of study programs with the number of students

Type of a study program	Number of study programs	Number of students
Bachelor	9	1 429
Master	14	11 539
Doctorate	16	1 175
Total	39	14 143

2. The University's Quality Strategy

The Technical University of Ostrava lately went through several evaluations and the results are given in their reports. The evaluations range from national to international. The information for filling the table No.2 was collected through various means: interview with the University representatives, the participants during the evaluating process, people dealing with collecting information subject to a particular accreditation. The experience was quite interesting. The national evaluations, from the subjective point of view, were hard, competitive and not friendly at all. On the other hand, the evaluating committees, which came from abroad, were friendly, sensible and positively non-competitive.

Table 2. The evaluations of the University

Evaluation completed by	When	Who	Why
FEANI Classification of schools/courses (Paris)	March 1996	VSB-TUO	Recognition Of "Euro- Ing." degree
IGIP Consultative status with UNESCO and UNIDO	1997	VSB-TUO	International approbation for teachers of educational engineering studies at the institutes of higher education
Czech Government Accreditation	December 1997	VSB-TUO	Evaluation of study programs and fields
PHARE Multi-Country Programme in Higher Education, ZZ-95.20 Quality Assurance in Higher Education co-ordinated by Quality Support Centre (QSC)	April 1998	VSB-TUO particularly Mechanical Engineering F. and Electrical Engineering and Informatics F.	Recognition of diplomas and study credit points across borders
The Ministry of Education of Czech Republic	1999	VSB-TUO particularly F. of Mechanical Engineering	Accreditation of faculty and for nominating new professors and associate professors
Czech Government Accreditation-to-be	In process for the year 2000	VSB-TUO	Evaluation of study programs and fields

3. Quality Assurance Procedures

Evaluation of the study program

- (1) Study program undergoes evaluation, which is given by Ministry or another superior organization.
- (2) If the study program did not undergo the evaluation, then the students can not study it, cannot be examined nor graduate.
- (3) Master degree must be authorized by evaluation as well according to the Law 46 paragraph 5 of the Law Code.

The University applies for evaluation in written. The forms must contain the information about name of the university, study programs, personnel, financial, material and technical means to ensure the education for a standard period of time.

The negative evaluation may prevent to continue in the education, if the study program does not correspond with the requirements given by Law or does not meet the provisions ensuring the study.

The evaluation is valid for a limited time.

Accreditation process for nominating new professors and associate professors in the field

- (1) The Ministry evaluates the University's fields in which professors are named by the president or associate professors defend their work.

The University applies for this evaluation in written. The application must contain the University's name, the field and its educational, scientific, research, development and other activities, the data about professors and academics teaching in this field at the university and the list of members of the scientific counsel.

- (2) The evaluation can also be limited for a period of time.

The evaluating committee

The committee has 21 members named by the government after a recommendation from university representatives, the Board of the Czech government for research and development and the Science Academy.

The responsibilities are:

- a) to ensure the quality of the university education,
- b) to evaluate educational and scientific, research and development and other activities of the University.

Law regulates the selection and appointment of academic and administrative staff. Selection of academics is based upon negotiation with top specialists with various expertise backgrounds and from the offer of university graduates. Their appointment assumes competition of tenders and members of respective committees and commissions are nominated by the Minister of Education of the Czech Republic and are established from the specialists of VSB-Technical University of Ostrava as well as other Universities and Academy of Sciences of the Czech Republic. The appointment of administrative staff presumes a clean record and moral integrity, requires professional ability and experience, and assumes tender procedure. The selection of students is on the whole decentralised and fully within the authority of individual Faculties. Technical Faculties provide Application Tests on mathematics and physics. Faculty of Economics provides Application Tests on mathematics, foreign language, and general economic review.

4. Co-operation with Other Universities

Closer attention as to the assurance processes and quality issues, must be paid to the reputation of our higher education abroad as well as.

The task of assuring quality and standards at a distance, and working with a partner, not to be underestimated in the demands, which are likely to be significantly greater where the partnership spans different countries, higher education systems, and languages.

All the partnerships seem to have their origins in links established through individual staff contacts, or in response to enquiries from a potential partner. The visits provided evidence of the need for wider dissemination of knowledge and experience, both within and across institutions. Most of the partnerships are developing. The ones, which had originated from contact and initiatives at the departmental level, are being brought within a more formal and explicit framework of university-wide policy and practice. There is a range identified from simple procedural oversight to variability in institution and operation of assurance and control processes by comparison with an institution's internal provision.

Increased competition will make it more important than ever those universities develop their individual profile and thus make visible their unmistakable individual identity. At the same time, considerable importance is attached to co-operation with partner universities abroad, there is the perceived need to collaborate more closely even with non-academic partners (industry).

It becomes apparent to which extent the European Union and its education and training programmes have both boosted the process of transnational co-operation and shaped the perception of the relevant instruments for the implementation of internationalisation strategies, such as joint curricular planning and degrees, exchange of students and teachers, recognition of credits, to name some of them. The Union's involvement in educational co-operation is

still based on a basis of financial resources and allocations. Grants for joint European projects are available, it is necessary to find ways to find out about them and be prepared to joint them, which means to be prepared in these areas:

- language ability
- paper work connected with forms filling projects submitting
- presentation of the university (in print and electronically) upgraded and with concrete numbers
- people available to travel to preparatory meetings
- communication, operability, dynamic changes and fast responses to them.

Competition and co-operation can certainly be compatible. But co-operation cannot be random. Partner choice is essential. Its guiding principle should be quality. A university does not forsake the unmistakable quality of its own degrees by recognising credits earned abroad, provided the credits have been awarded by a quality institution. Therefore internationalisation strategies should focus on strategic partner choice. A second criterion for choosing partners is the degree to which their teaching and research efforts complement one's own. Increasing budgetary constraints and the need for "profiling" will make it less and less possible for a single institution to offer each and every specialisation. International networking, particularly in joint degrees, is viewed as an efficient way to maintain a broad range of teaching offers, while concentrating on one's own strengths.

Communication networks have continuously increasing capacity and versatility, expanding possibilities for computer-based teaching and learning. Distance learning is rapidly expanding. The new forms of education should be based upon using state-of-the-art technology to provide market supported through an exchange mechanism facilitating:

- exchange of ideas by service providers and customers, leading to supply of relevant services for which there is a demand;
- the development of teaching material;
- continuous update of supply information by service providers;
- registration of interest in educational services by customers throughout the network;
- mapping of customer requests for information, informing the suppliers about the market demands at any time;
- delivery of teaching/training material;
- evaluation of feedback and the sharing of good practices.

International educational project participation will make the universities more flexible by offering students a selection of venture for teaching and learning.

The universities in the Czech Republic have declared positions by a new law which gives them rights and duties to make decisions in wider range than before about their operation and development, in order to improve control and all activities (ISO 9000).

5. Innovative Methods and Practices in Other Forms of Study

Continuing Education - Lifelong Learning

Strategies of lifelong learning are initiated at two Faculties of the Technical University, free of charge, two semester evening courses and paid-for-specific-course, the offer of which is renewed yearly. The University develops new modes of study and flexible frameworks within the range of provision defined as continuing education.

Lifelong learning has no tradition at the university but it is expected that its importance will grow with the on-going re-structuring of industrial environment and the growing need of retraining and training the working force as well as managerial staff of restructured a new enterprises. It will include:

- continuing professional development in the national scale
- co-ordinating role in relation to continuing professional development across EU Universities in the international scale.
- arrangements for collaboration with other institutions, firms or agencies (Microsoft Co.,etc.)

Teaching and Learning, Technology and the Importance of the Media

Information technology for teaching and learning can offer:

- Accessing electronic references
- Computer-based learning programs
- Computer based searches
- Electronic discussion groups with learners
- E-mail communication for class management
- Examples with the use of tools such as databases or spreadsheets
- Presentations to accompany lectures
- Publications of lectured text
- Real time databases to retrieve information
- Research using Web or CD ROM
- Video conferencing with other students

These forms of teaching and learning are requiring activities, which are more or less passive or active.

Table 3. Using information technology for teaching and learning

Passive	<p>Presentation Word-processed lecture notes Producing computer-generated slides and presentations Creating reference material which is accessible via the WWW or CD ROM Advantages: easy to maintain, update from term to term, ...</p>
	<p>Collection and Interaction Self-assessment questions marked by the computer providing feedback Requirement of on-line search, database query, spreadsheets calculations Computer assisted learning Mathematical or graphical modeling, simulations Advantages: Additional skills</p>
	<p>Production Student produce new resources by using computer-based tools</p>
Active	<p>Communication e-mail, bulletin board, chat, electronic access to frequently asked questions, conferences</p>

Students with Disabilities

The area of applied informatics is a suitable field for the pilot implementation of bachelor study for students with disabilities, both for building their professional carrier and the retraining for a wider age categories, study or courses. Its suitability is possible to judge according to the content of study (in the labs, computer classrooms), as well as the chance of employment at the time, when the job market is requiring specialists with IT skills. The graduates are able to work for firms and state institutions as a part time job or home-working, with the possibility of long distance approach to a local firms network including active interaction within INTERNET/INTRANET.

Granted projects were concluded at the Department of Control Systems and Instrumentation of the Mechanical Engineering Faculty, in the framework of national fund agencies with these goals:

- 1) Verification and individualisation of study plans for bachelor study of "Applied Informatics and control" including offer extended for full engineering study of "Automated Control and Engineering Informatics", with modification for the area of innovation and retraining courses for people with disabilities.
- 2) Design and implementation of non-barrier access into selected parts of University campus, for example washrooms, computer classrooms and experimental labs, as well as food areas.
- 3) Innovation of technologies for remote computer access into University's and Faculty's computer network and a consequent use of information technology for homework.
- 4) Design, implementation and verification of specialised computer stations and their functional properties from the ergonomics point of view [SMUTNÝ1999].

6. The Conclusions and Recommendations

Mainly these instruments of quality management of pedagogical and R&D activities at VSB TUO are employed:

- Authorization of study plans and newly developed study programs by the Faculty Scientific Board,
- Unifying the regulation for post-graduate programs of study for the entire University and in accordance with other Universities,
- Post -graduate programs are subject to accreditation,
- Quality of pedagogical process is assessed yearly and scrutinised by the University Scientific Board,
- Accreditation process for nominating new professors and associate professors is subject to strict control by pedagogical, scientific and other specialist performance. The final decision is given by secret vote at the meeting of the Scientific Board,
- R&D activities of the University are analysed yearly by the University Scientific Board. Members of the Board are, apart from academics, representatives of industry, regional and local government and other local institutions.

Considering quality assurance for the studied subjects no fundamental criteria are applied. There are some experiments and ideas being designed by the Department of Social Sciences of the University. The best criterion of the teaching process should be a qualified graduate student who was able to find a corresponding job to his/her qualification. The questions remain- how much the University prepared this particular graduate for his/her profession, what quantitative rate could evaluate the role of the University and the effort which the student put in the education, how to manage the feedback from University graduates. The negative side of the evaluation is its competitive character, which drives the older universities with traditionally acknowledged positions in fights with the modern and newly established higher educational institutions, for students, study programs, with all the means and changing rules "during the game".

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