

INCREASING EFFECTIVENESS OF HIGHER EDUCATION

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Summary

The concept of effectiveness in Higher Education is presented and commented on. The main items to characterize effectiveness are introduced: correct orientation of the study directions, rapid integration of graduates on the labor market, internationally recognized results in advanced research, performing management of resources, students and staff participation in international academic exchange, high performance in student support and services. Quality in HE is discussed, as well as the relationship between undergraduate, postgraduate and continuing education. The role of practical training is underlined. Attention is given to higher education ability to adapt itself to change, including extensive use of resource-based learning, information technology, and e-learning. In conclusion, the impact on universities of mass education is discussed. The presentation is general, but some examples are taken from topics related to environment water.

1. Introduction

In education there is still a large diversity of terms defining higher education institutions, as another proof of diversity and autonomy as well as a consequence of historical origin and perpetrated tradition. Hence, we speak about “college”, “university”, “academy”, “institute” etc. However, the wording has very little universal meaning since in most cases it is impossible to know from it more than the fact it is defining a higher education institution. In fact, it is impossible to have an indication on the academic offer unless one looks carefully at the study directions, curricula, duration of studies, and degrees the institution offers. Generally, the term “university” indicates some kind of “universality” materialized by many diverse study directions, with schools

of humanities, medicine, engineering, economics, liberal arts or others, aggregated into a larger structure with common points in policies, research, leadership, administration, student services and many other activities. On the other hand, one can find “specialized” institutions, such as “Technical Universities”, “Medical Schools” etc. Higher education institutions, public or private, are nowadays in a dynamic process of “reform”, a somewhat misleading term for outsiders, which indicates in fact the on-line and continuing adaptation to the new realities of modern society and to globalization. The process is enhanced by the increased use of new teaching and research resources, availability of advanced information technology and “customer’s” demand. Finding adequate financial support to allow for access to modern facilities and equipment for education and research makes the concept of “entrepreneurial university” more and more accepted by the academic world. In the “entrepreneurial university”, a minimum of five elements have been identified as a minimum: a strengthened steering core; an expanded developmental periphery; a diversified funding base; a stimulated academic heartland; and an integrated entrepreneurial culture. To those five, an additional one could be considered as a condition for development and responsibility, namely ownership of property: estate and buildings. International experience shows that this last one is not easy to obtain in many states, which would rather lend or commission the land on which campuses are based rather than sell or donate it to the higher education institutions.

Basically, there are two main higher education systems which co-exist in the world, namely the much older “European-Continental” (EuC) system and the “Anglo-Saxon-American” (ASA) one. The main difference between the two lies in the fact that in the ASA one an intermediate undergraduate diploma is offered (Bachelor), as a pre-requisite for Master and then Doctoral studies. Graduate studies are an optional follow-up, while in the EuC system the 4 to 6 years curricula lead directly to an equivalent of a Master’s degree which is also a pre-requisite for Doctoral studies. Over the years intensive academic debate has been held on which system is better or on how they could possibly merge. The discussion referred mainly to engineering-technical higher education. The Bologna declaration was signed on June 19, 1999 by 30 European ministers of Education setting the agenda for the development of higher education, including engineering education, in Europe for the next decades. The Specific Objectives of the Bologna Declaration are:

1. The adoption of a common framework of readable and comparable degrees, “also through the implementation of the “Diploma Supplement”; 2. The introduction of undergraduate and post-graduate levels in all countries, with first degrees no shorter than 3 years and relevant to the labor market; 3. ECTS-compatible credit systems also covering lifelong learning activities; 4. An European dimension in quality assurance, with comparable criteria and methods; 5. The elimination of remaining obstacles to the free mobility of students (as well as of trainees and graduates) and teachers (as well as of researchers and higher education administrators).

These objectives are clearly an effort to create a framework for the mobility of students in Europe with much concern for keeping up the quality standards. At the same time, during the Convention of European Higher Education Institutions which was held in Salamanca between 28 and 30 March 2001, the aim of *making European higher*

education institutions more attractive for students from other educational areas where the Bachelor degree is offered was one of the conclusions of the final document, to be presented to the European meeting of Ministers of Higher Education in Prague, 17 – 20 May, 2001. However, many representatives of universities, professional organizations and other institutions proposed that it should be the liberty of universities to offer in some cases longer study programs leading directly to a diploma equivalent to a Master's degree. At Salamanca it was stated quite clearly that a competition between European and American Higher Education to attract students at all levels is going to be very much stimulated by the follow-ups of the Bologna declaration. The students' convention, which took place in Göteborg in March 2001, expressed similar ideas, with much concern on the need to have the study periods spent at other university fully recognized by their home university as part of their credit accumulation. Thus, a much more competitive environment between higher education systems and universities is emerging. In this environment, public and private universities try to diversify their study offer as well as their services. In many countries, the best example being the United States of America, private universities hold a significant share of the higher education system, with transparent and accepted quality assurance mechanisms in place; in some Asian countries, such as Japan, private universities are also part of the educational system.

In many European countries, such as France, Germany, etc., there are only a few private universities and in others they simply do not exist. Special cases in the picture are countries from Central and Eastern Europe, formerly belonging to the Soviet area of influence. Under the communist regime, all education was public. After the 1989 political changes education became one of the most dynamic elements of social life in many countries, such as Romania, the Ukraine, Hungary and others. It is very interesting to note that the process started by itself, being triggered by the educational market, as a proof of the high position still held by higher education in the society but also by the insufficient offer of the public universities in many study directions. Consequently, new private higher education institutions emerged, based in many cases on foundations. The majority of them are not yet legally recognized as universities by the authorities, the accreditation process being under way. In many countries the debate over the question whether the higher education should be tuition-free or not, or offer the level of tuition a student is to pay, is still fierce, with solid arguments presented by each side.

But, are universities the only players in this competition, which is basically one for attracting students? A few years ago the answer would have been almost unanimously positive. Now, this is no longer the case. With the new developments in communication technology and with companies in fierce competition for the market, unexpected players come into the game. Also, the need for rapid integration of graduates with specific skills and competencies, related to the industry of economic life, has stimulated alternative offers for education by important and powerful companies, especially in computer science, but also in engineering and economics. Distance learning is becoming a means to attract students ("learners") to follow such study programs instead of going to a "traditional" higher education institution. New or old certification bodies are being involved in the quality assurance process, together with professional associations.

From this brief description, it is clear that the complexity of the problems of higher education is growing, especially for undergraduate levels. At the graduate level, the picture is somewhat different, with the MS or Ph.D. students involved in real problem-solving research activities, for which public organizations, industry, other state or private structures are still ready to pay.

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Biographical Sketch

Radu Mircea DAMIAN was born in Bucharest, Romania and graduated at the Technical University of Civil Engineering Bucharest, Faculty of Building Services Engineering (1966); he earned a M.Sc. in Fluid Mechanics at the University of Iowa, Iowa City, U.S.A. (1972) and a PhD in Fluid Mechanics at the Technical University of Civil Engineering Bucharest (1980).

He was Design engineer, Institute of Studies and Design in Power Engineering, Bucharest (1966-1970); Assistant Professor, Lecturer, and presently Professor of Hydraulics and Fluid Mechanics, Technical University of Civil Engineering, Bucharest (1970-present); he is the author of 6 books and more than 60 papers; he has been contractor or coordinator of 7 international education projects (EC-TEMPUS) and was chairman of the committee for continuing education of the International Association of Hydraulic Engineering and Research IAHR (1999-2001).