

Universities meeting the challenges of a knowledge based global society

Statement presented on the occasion of the EDEN Annual Conference, at the 24th June in Bologna
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Abstract

Universities are part of a rapidly changing world, and will have to contribute in appropriate ways to the development of a global society. Profiles of qualifications needed are changing rapidly and higher education institutions meet new external pressures and expectations. The way to cope with these challenges and demands is diversification. Universities should develop and promote variety and flexibility and sharpen their individual profiles. Since higher education institutions are autonomous bodies, diversification should be initiated by the institutions themselves in a bottom-up approach. Flexible and open systems of teaching can be part of the response, and should be introduced and developed according to institutional policies and profiles. The challenge is to utilize all available means and tools in flexible and creative ways on one side and to preserve the university as a corporate communicating body on the other side.

Keywords

Universities, higher education, qualifications, diversification, flexibility

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Knowledge and qualification are besides labour and capital key elements of the future development of society. Therefore higher education and research in the society of the 21st century will be even more important and necessary than in the 20th century. Universities as parts of a rapidly changing world will have to play an essential role to meet with these challenges by organising and promoting research and offering study programmes based on the link of research and teaching, they will have to educate and train young researchers and to offer and provide continuing academic education and training. They will have to contribute to the development of society in a global system of competition and submitted to national commitments and constraints. In the new world to come, education and training certainly are the most valuable asset a citizen can have to find a job and research of high quality is a necessity to survive.

II

Universities though based in a region will have to compete world-wide, they will have to respond to globally rooted challenges as well as to national social needs. Whilst criteria for the quality of research in the past have always been international, the quality standards for teaching will now and in the future be set by the fact that graduates from universities will have to compete on a more and more globally oriented labour market.

III

Higher education in the past used to be an exclusive domain for a chosen few (5% of an age group). After the Second World War, however, European societies have been faced with a constantly growing demand for higher education. This development was encouraged by many governments who saw it as a means to stimulate their country's industrialization. Today in most highly industrialized countries, between one third and one half of each year's cohort is asking for higher education, in some countries even more ($\pm 50\%$ to HE in general, $\pm 30\%$ to universities) and this percentage will continue to grow, also in at least some member states of the European Union.

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As it is said in a recommendation adopted last week by the assembly of the Confederation of European Union Rectors' Conferences, which was prepared by a working group chaired by Prof. Trindade, profiles of qualification are nowadays subject to quick and sometimes radical changes. Jobs are destroyed and created due to fluctuations of world markets. Industries and services require frequent adjustments in organisation, methods, sites, volume of manpower, scientific and technical knowledge, qualifications and skills. Not only jobs are losing their stability everywhere but also the corresponding qualifications, no longer answering a demand, may lose their market, thus evoking a requirement for updating, upgrading and even reconversion of qualifications.

V

Initial education and training can not keep untouched of the evolution in vocational profiles, which happens much quicker than medium-term planning allows for. In most countries of the world, even in the richer and more developed ones, national educational and training systems have not been designed for this purpose having been planned to cope with life long demand by initial training for young people who, typically, enter the system, stay in it for a limited number of years and, with a comparatively small number of exceptions, never return to it again.

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The young people nowadays apply at the universities with different and inhomogenous expectations, interests and capabilities. The majority of them submits itself to the efforts and financial burdens of

studying in order to find a well paid job later outside university and research. Some of them expect from higher education institutions a broadly based education to be prepared to react in a flexible way to the changing profile of the demand of the labour market. Another part expects a preparation for a special extra scientific profession. Not few of the students have to spend part of their time jobbing in order to earn money to finance the costs of studying. Then there is an increasing demand for further and continuing education from enterprises and graduates who are exercising a professional activity, not to forget a general demand on part of society for contributions from higher education institutions to lifelong learning.

VII

Universities have to be aware of the fact that half life of special knowledge is accelerating extraordinarily. Universities have to take into account that the progress of knowledge, that innovations and discoveries no longer will mainly happen within the framework of the traditional disciplines but at their interfaces.

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The way to cope with these challenges and demands is diversification by promoting variety, flexibility and the possibility to combine courses and programmes.

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Diversification in higher education throughout Europe is nothing new. At various times over the past eight or nine centuries, higher education in various parts of Europe has been "diversified" as a result of changes in political/religious powers and social structures, as a result of academic competition, as result of new inventions/discoveries or as a result of various combinations of all factors. The medieval Italian universities presented one form of "diversification" with universities known throughout Europe for their specialists in one area or another. Other medieval universities never obtained this form of area-related excellence due to many factors, mainly the existence of institutions like the Inquisition or strong absolutist monarchies. Academies were established in England to protest against the conservative universities in the seventeenth century, and academies were created in France as an integral part of the politics of the absolutist state. New developments were found in Protestant/Lutheran countries, once the restraining dogmas of the Roman Catholic church were removed. The industrial revolution established new needs, and in the wake of industrialization new types of higher education institutions meeting the needs of society appeared. The development of specialised institutions varied according to national traditions and developments. Some countries or regions saw the appearance of independent institutions outside the universities to cover the new fields (polytechnics, schools of commerce, schools of architecture, music conservatories, performing arts institutions), while others incorporated these fields in the existing universities.

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Diversification nowadays has to be seen from yet another perspective: The shortage of public funds today characterizes the situation in most of the European countries and has a particularly profound effect on higher education and research. This shortage of public funds has made competition between higher education and other areas of politics, and between the individual institutions of higher education for state money stronger and harder than in the past. Competition between the higher education institutions is increasing nationally and internationally. It is increasing not only in research but also with regard to scholars and reputation and, in some countries of the European Union, to students.

To be successful, the institutions of higher education have to not only sharpen their profiles by setting priorities and that means to define posteriorities as well. As state money will at an increasing rate be allocated according to the quality of the performance of higher education institutions universities have to convince the state, they have to convince the society of the value, importance and quality of their performances in research, teaching and graduation and of the optimal use of funds devoted to them.

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National governments have come up with different strategies for coping with the increased, changing and differentiated demand in higher education. Many of them tried to improve the efficiency of the higher education by intensifying state interference.

The principle "value for money" often led to state regulations for the courses offered combined with access policies. Governments wanted to create long-term demand oriented strategies. But predictions of the future needs in society for all types of university graduates are normally outdated before being printed and therefore not reliable planning instruments. The "production time" for a new type of graduate is at least between three and five years, not taking into consideration the time needed to develop and implement new courses.

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Diversification can happen and takes place within the individual institution as well as between institutions thus creating different types of institutions. It happens between higher education and vocational education. Examples of intra-institutional diversification are the courses leading to a B.A., M.A. and Ph.D. degree in the UK or diploma courses, graduate courses finishing with the Dr.-degree and continuing education e.g. in Germany. Examples of inter-institutional diversification, on the other hand, are the distinctions between "Université" and "Grande Ecole" in France, "Universität" and "Fachhochschule" in Germany, "Universiteit" and "Hogeschool" in the Netherlands, "University" and "College" in Central European states and the setting-up of non-university sectors of higher education in Austria, Finland and Switzerland.

The discussion in UK about the question whether it was the right way to make or name the polytechnics universities, about introducing an intermediate degree like the Bachelor in Germany and France, the development of concepts for further and continuing education, the establishing of doctoral colleges only in some states show the various possibilities of intra-institutional diversification.

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Diversification can either be started from within and based on the concepts of higher education institutions themselves or be prescribed by the State. Since higher education institutions are or at least should be autonomous bodies with their proper tradition and accountability, diversification should be initiated by the institutions themselves in a bottom-up approach rather than forced upon them by top-down state regulations.

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In November 1996 the Confederation of European Union Rectors' Conferences, which is the "Voice" of the national rectors' conferences, approved a set of recommendations on diversification. In this document it is stated that institutions should define their role and mission individually and thus diversify their tasks. This relates to study programmes, research, training of young researchers and continuing academic education.

The question is whether higher education institutions are prepared to define priorities and posteriorities and whether national or state governments are prepared to establish adequate legal framework for the developing "institutional individualism" of higher education institutions and not to interfere with their internal diversification process.

On the other hand one has to admit that a bottom-up diversification concept alone will not be sufficient to cope with upcoming new demands of the labour market and society. The state must be entitled to interfere if new challenges in research and higher education are not taken up and if a new type of institution is needed.

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The aim of higher education is to make graduates able for a job. They should be made fit for the individual job by training in practice. The traditional university approach of combining research and teaching and thus promote and encourage a personal and a development of a solid basic disciplinary and methodological knowledge is not a mission of the universities only of the past but is one of the future as well. It includes nowadays and in the future the development of key qualifications as communication- and teamwork-skills and the knowledge of foreign languages.

A university will certainly not meet these challenges if it considers students to be consumers or "users" and treat them that way. If a university aims at generating graduates prepared to play an important role in society, prepared to take over responsibility and provided with the key qualifications or transferable skills mentioned students must be considered and treated as academic citizens.

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The general and methodological elements in higher education will have to be emphasized more strongly, leaving specialization to either the fourth and fifth-year of studying or to life-long learning programmes. But not only a new balance between general education and conveyance of special knowledge should be strived for in higher education, a main element of qualification of the initial academic education of each individual graduate should be to have learned to learn.

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Higher education systems will have to develop more flexible curricula consisting of modules in order to open the uniform structure and leave to every single student the decisions whether she or he will spend full time or only part time for studying, when to graduate, at which level, and with which qualifications.

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To what extent flexible and open systems should be introduced should be up to the individual university to decide but the quality of the modules should be checked and evaluated by an accreditation system being obliged to minimum standards to guarantee quality in favour of students and society. This accreditation system should be established by the national university community but involving representatives of the state and of those who will employ the university graduates. The procedure to be observed in setting standards must involve the expertise of the individual discipline and guarantee internationally competitive quality.

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Flexible systems are also a way of responding to the increasing debate about "virtual" universities. The question is not whether a student has to be physically present at a university or can sit at home, communicating with any given university alone by electronic means. The already mentioned paper of the Confederation of European Union Rectors' Conferences says that introduction of new technologies in conventional institutions, as supplementary means to provide students (at all levels of education) with diversified access to sources of information and data others than those provided by their teachers face-to-face, is now recognised as a global trend in pedagogy, for all kinds and levels of educational institutions. Without changing the conventional nature of classroom and teacher-based learning, the existence of communication facilities will introduce a new degree of freedom in students' approaches to learning, by increasing their autonomy for acquiring new knowledge. This is likely to increase the efficiency of learning. It will, of course, introduce a new dimension in the teachers' role. They will be catalysts

stimulating students' search for knowledge and managers of dispersed and possibly excessive amounts of available information.

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Helping the teachers to adapt to this new role, by adding new competencies to their existing scientific and pedagogic backgrounds is a major task for teacher training institutions and, given the urgency of the process, the large number of teachers involved and the dispersed nature of their locations, probably requires the intensive use of ODL methods. A learner's role and attitudes will change accordingly, by accepting and adjusting to the increase in their autonomy in respect to the new teachers' role, by learning to access, to select and to use the information available in the communication networks and in interactive, multimedia learning materials.

XXI

Experience has shown that the economic facts of ODL are not understood well enough by most educational authorities, which tend to believe that distance education is always cheaper than classroom teaching. This is only true if significant initial investments have been made and an adequate yearly budget allows the system to expand beyond the critical threshold.

XXII

The challenge is to utilize all available means and tools in flexible and creative ways on one side and to preserve the university as a corporate communicating body, as a corporation on the other side. Bologna is the place to stress that the idea of university is essentially defined by the idea of a communicating corporation of teaching and learning people.

XXIII

In order to avoid a general structural insecurity of employment the working population must adjust to the changing needs of the labour market by frequently having updated, upgraded or totally reconverted their vocational profiles. Continuing education and training appears as the only way to avoid dequalifications and the risk of dismissal. Both in developed and in developing countries, continuing education for all members of society is a must, to avoid maladjustment, exclusion and loss of social stability. Therefore, what is far more important than in the past is the answer of the institutions of higher education to the need for a life-long pursuit and renewal of knowledge.

New combinations of traditional and innovative elements will have to be introduced into open and flexible course curricula and more interdisciplinary courses than nowadays will have to be offered. Research will also in continuing education be the fertile soil to provide society and industry with academics of the highest quality.

XXIV

The national system of higher education or the universities will have to solve the tension raised by the need to provide mass education on the one hand and to educate a "functional elite" on the other, and to fulfil these tasks against a background of decreasing financial means and increasing national and international competition.

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The consequences and implications of these developments are obvious: Due to the differentiation and diversification in all scientific disciplines in teaching and research and due to the rising cost of running a university an individual institution will hardly be able to run all scientific disciplines in teaching and research on a nationally and internationally competitive level. Universities will have to develop a "culture of closing down" weak points in order to strengthen their strong points. The concept of the university of the future is that of an incomplete university prepared and well equipped to compete nationally and internationally. On the other hand, limitation of the number of disciplines and concentration of financial means by setting up priorities and posteriorities in teaching and research requires networking in and between disciplines as well as in and between institutions of higher education and research.

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So competition between universities will lead to a university landscape structured by profile and individuality of each university on one side and cooperation and mobility on the other side. Internationality will determine the future university in all fields requiring mobility of students and staff including administrative staff. Science and knowledge are created, developed and oriented by international competition and standards. This will be pushed by the development of the information and communication technologies world wide.

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The university of the 21st century will be characterized by individuality and autonomy on one side and cooperation on the other side, by internationality in research and teaching and by the commitment to preserve and foster the cultural heritage.

Diversity and variety will determine the university landscape in Europe, and beyond. This will be an enrichment if diversification is going hand in hand with open access and permeability. Credits, exams and grades must be convertible in the sense of equivalent not equal.

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Universities in the 21st century will have to bridge the gap between

- specialization and trans- or interdisciplinarity
- the local and regional needs and the requirements of globalization
- initial academic education and a rapidly changing profile of demand for qualification in society, science and labour market
- mass education and the promotion of highly talented individuals. It is crucial for the future of Europe to have as many well educated and skillfull people as possible but the philosophy of higher education cannot be: if we cannot educate all to the highest level, we leave all of them at the lowest. The answer to this challenge is not levelling but to educate people to the highest individually possible level by diversification and differentiation according to their different interests, capabilities and expectations. This is the way "to promote the highest level of knowledge for the European Union people through broad access to education and its permanent updating" as is said in the preamble of the Amsterdam Treaty.