

# Dental education and the Bologna Process

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IT is 15 years since the European Commission launched its emblematic programme in education, 'the Erasmus Programme'. More than a million European students and more than 1000 of their teachers have now had the opportunity to participate in exchanges. Consequently, a tremendous growth of mutual knowledge, trust and collaboration among the different higher education institutions has emerged. While the programme demonstrates that different educational systems can be compatible, it also shows the need for convergence so as to conform to a European identity in higher education. Such convergence was begun with the Declaration of La Sorbonne (1998), jointly signed by the ministers of education of Germany, France, Italy and the UK. This called for the harmonization of the architecture of higher education qualification systems in Europe.

As a follow-up, the Confederation of European Union Rectors' Conferences, in co-operation with the Association of European Universities, undertook a project for the European Commission (DG XXII), on Trends in Learning Structures in Higher Education (1). The outcome provided an overview of structures throughout the European Union and the European Economic Area and outlined the areas of divergence and convergence. Six potential key differences were identified (Box 1). This Report served as preparatory work for the Forum of Bologna which took place in June 1999. There, the process that had started in Paris acquired its definitive nature with the signing of the Bologna Declaration (1999). Ministers from 29 countries declared their formal commitment to achieving the objectives set down in the Declaration and to undertaking the necessary reforms in order to accomplish it. The Declaration has six objectives (Box 2).

This Declaration places special emphasis on the need to provide the European area of higher education with more coherence, while maintaining the inherent

## Box 1. Potential key differences in EEA countries:

- Type, breadth and duration of secondary education, with obvious consequences concerning age and preparation for further studies.
- The existence or not of subsystems of higher education, their respective roles, size and interrelationships and in particular the potential to transfer from one to the other.
- Access to higher education (from open choice to various forms of selection and numerous clauses in all or some sectors).
- Study fees (from entirely free to differential or generalized systems of tuition fees).
- Organization of studies in terms of calendar (from annual courses to block modules), choices (varying from set curricula to nearly free choice), frequency and type of examinations (continuous examinations, final exams per credit, or block examinations after several semesters of study).
- And of course, the structure, duration, number and type of degrees that can be earned.

diversity. The Declaration also strongly emphasizes the development of a two-tier structure in which the first level would lead to a degree title (bachelor or graduate), and the second to a postgraduate degree (master or doctorate). Further, it addresses two common concerns of governments and European educational systems

- The need to reduce the training time required to attain the first university degree;
- The need to enhance the visibility of European titles thereby to become internationally more competitive.

With the signing of this Declaration, a follow-up debate and process has been organized at many different levels, including among others, the Ministries of Education. From Rectors' Conferences, to student

*Box 2. Objectives of the Bologna Declaration:*

- The adoption of an easily readable and comparable system of degrees and titles, through the introduction of the Diploma Supplement that would favour the employability of European citizens and the international competitiveness of the European system in higher education.
- The adoption of a two-tier system, based primarily on two main cycles, undergraduate and postgraduate. The title obtained at the end of the first cycle of a minimum duration of 3 years should have a specific value in the European labour market. The second cycle must lead to the attainment of either a Master or a Doctorate degree.
- The establishment of a common credit system, such as the ECTS, as a means to promote student mobility.
- The promotion of European co-operation in order to assure a quality level for the development of comparable criteria and methodologies.
- The promotion of the necessary European dimensions in higher education with particular emphasis on curricular development, interinstitutional collaboration and integration of studies, training and research.
- The promotion of mobility and the removal of barriers to the free use of mobility by students, teachers and administrative staff from Universities and other higher education institutions.

unions, and from university forums to thematic networks, a wide variety of different interest groups is now moving towards attaining *'The European Area of Higher Education'*. The Bologna movement therefore is both a consequence of, and a contribution towards *'The Europe of Citizens'*, its ultimate core objectives being to increase:

- Mobility, both of students and of graduates.
- Employability. The Bologna Declaration recognizes various ways in which first degrees can be 'relevant to the European labour market'.
- Competitiveness/attractiveness of Universities, particularly aiming at non-European students.

In March 2001, in Salamanca, the Bologna Process was evaluated under the scrutiny of the European Universities represented by the European Association of Universities (EUA).

Two years after the signing of the Bologna Declaration, 32 European Ministers for higher education met in Prague (May 2001) to review progress and set directions for the coming years, and to reaffirm the objective

of establishing the European Higher Education Area by the year 2010. They welcomed the Report of the follow-up group (2) and found that the goals of the Bologna Declaration had been widely accepted and adopted by most signatories and by higher education institutions (HEIs). They also included the EUA and the National Unions of Students in Europe (ESIB) in the follow-up group for consultation. The Ministers strongly encouraged universities and HEIs to enforce the Bologna objectives (Box 2).

Furthermore, Ministers emphasized the following points:

- Lifelong learning as an essential element of the European Higher Education Area.
- The involvement of both HEIs and students as constructive partners in shaping the European higher education area.
- The importance of enhancing the attractiveness of European higher education world-wide.
- The commitment to continued co-operation, based on the Bologna objectives.

A new follow-up meeting was scheduled for the second half of 2003 in Berlin, with representatives from all signatories and the European Commission.

## **Tuning dentistry into the Bologna Process**

The key issues for accommodating any subject area into this Bologna Process are:

- The establishment of a common but flexible frame of qualifications.
- The generalized use of European Credits in the framework of Dental Curricula.
- The implementation of the Diploma Supplement.
- The introduction of an agreed system of quality assurance and accreditation at the European Level.

### *Titles and degrees*

The Bologna Declaration requires two consecutive cycles to obtain the full professional degree, with the minimum duration of the first cycle being 3 years. Moreover, the degree obtained during the first cycle must be relevant in the European labour market. However, as Dentistry is one of the professions regulated by means of a Sectoral Directive (EC/78/687), the minimum training requirements of both duration and curricular content are already specified. It is therefore envisaged that there be a continuation of a prolonged simple tier curricula in dentistry of at least 5 years. This exception to the principles of the Bologna Declaration has been accepted for Medicine and its Allied Sciences

(Nursing, Dentistry, Veterinary Medicine and Midwifery) and is not considered contradictory to the whole process (3).

Thus, the dental curricula should be structured into one long single-tier cycle of at least 300 European credits. There is a strong recommendation to consider both the results of learning (learning outcomes) as well as the clear definition of the professional competencies needed to be acquired at the end of this period.

### *The generalized use of European Credits in the framework of dental curricula*

The current version of the European Credit Transfer System (ECTS) is mainly a system for co-operation and mobility in higher education. Its additional use for credit accumulation at HEIs could boost the potential in Europe for more flexibility, diversity and efficiency. It would also make European higher education more understandable for students and employers from elsewhere. Over time, the widespread use of ECTS would have clear advantages (Box 3).

In the ECTS, one credit is equivalent to 25–30 h of student workload (including lectures, seminars, practical sessions, tutor, study and evaluation time). Sixty ECTS credits measure the workload of a typical student during 1 academic year (40 weeks of full-time study or 1600 h). Hence, 1 week of workload is equivalent to 1.5 credits. The number of hours of student work typically required to achieve a given set of learning outcomes (on a given level) depends on the student's ability, teaching

and learning methods, resources, curriculum design, etc. These can differ both between universities and between countries. Calculation of workload credits is largely discipline related, and should always be determined by academic staff.

Using this measurement unit, the organization of curricula into blocks or modules follows naturally, allowing all kinds of integration. Subject areas should be described not only by the number of credits but also by their content, threshold levels (if required), objectives and learning outcomes, as well as their methods of learning and assessment. The Bologna Declaration makes a strong recommendation to universities to address teaching and learning (TL). Universities must transfer not only knowledge but also a variety of 'general' abilities. Hence, they must explicitly develop a novel mix of approaches to TL in order to encourage valuable qualities, such as capacity for analysis and synthesis, independence of judgement, curiosity, teamwork and communication. Changing TL approaches and objectives requires corresponding changes in assessment methods and criteria for evaluating performance. These should encompass not only knowledge and contents but also general skills and competencies.

### *The implementation of the Diploma Supplement*

The Diploma Supplement is an agreed model of normalized information (Box 4) that adds information to the title through a detailed description of the nature, level, context and content of the education received. It is expected that all European countries will adopt this system by the year 2007 so as to increase transparency in academic and professional acknowledgement.

### *The introduction of an agreed system of quality assurance and accreditation at the European Level*

The European dimension in quality assurance foreseen in the Bologna Declaration is a vital aspect of any system of easily readable and comparable degrees as

#### *Box 3. Advantages of ECTS:*

- To facilitate transparency in order to understand and compare the different educational systems.
- To facilitate acknowledgement of professional qualifications and provide the system with better opportunities of training in the EU/EEA countries.
- To facilitate regional mobility, national and international with complete acknowledgement of studies carried out.
- To facilitate the development of a wide diversity of highly structured as well as more free-choice curricula.
- To increase the collaboration among universities and the convergence of educational structures.
- To facilitate learning in any time during life and in any country of the EU and with any type of training (4).
- To facilitate the credit system generalization to the rest of the world.

#### *Box 4. Joint Commission on the Diploma Supplement content information:*

- Student information.
- Title (content area) and information on the Institution.
- Level and duration of the programme.
- Detailed content of the programme and qualifications (academic gradings – European Credits).
- Possibility of accessing further studies.
- Degree certification.

well as for Europe's attractiveness and competitiveness in the world. Although most European countries have some kind of quality assurance mechanism in place, they differ significantly in purpose, focus and organization. The creation of the European Quality Assurance Network (ENQA) allows the participation of most EU/EEA countries and the establishment of agreed guidelines. Thus, quality assurance should be by external agencies and be mostly based on outcome rather than on inputs such as curricula and resources. These external agencies should deal with specific programmes, rather than whole institutions, for which 'benchmarking' for particular disciplinary or professional areas is becoming ever more important.

Accreditation, defined as the public confirmation by an external body that certain standards of quality are met, is not a tradition in most European countries. Therefore, the ENQA with its notion of a European 'platform' or 'clearing house', based on criteria to be met by quality assurance/accreditation agencies and on mutual acceptance of their conclusions, could be the way forward for the European Higher Education Area. This process would definitively enhance quality and transparency (and thereby also mobility within Europe) as well as readability and acceptance (and thereby also attractiveness in the world). In the Bologna Process follow-up meeting in Prague, all signatories agreed on full accreditation of higher education institutions by the year 2010.

In summary, the process emanating from the Bologna Declaration is a crucial opportunity to introduce the

necessary changes in our university structures that will allow the real development of the Europe of Citizens. Dentistry, as a discipline with a high professional profile, and with a long history of developing innovative models in education and training, should also take this opportunity to develop a model following these Bologna guidelines. Without curtailing the necessary diversity and autonomy they will allow mobility, title transferability, interinstitutional collaboration and quality assurance across borders. Naturally the Association for Dental Education in Europe should take the lead in this process and aim to reach the broadest consensus among all interested players.

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