European Convergence in Dental Education, the DentEd III project

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Abstract

Aim

This aim of this paper is to disseminate the experiences of developing a dental network to achieve convergence in dental education within Europe in the framework of the Thematic Network Project DentEd III, funded under the EU Directorate General of Education and Culture.

Methods. **Six taskforces were established with the objective to draft reports and to obtain feedback and input from more than 200 dental schools and other relevant organisations in Europe. These reactions served as input for redrafting the documents. The documents were put forward for approval to the General Assembly of the Association for Dental Education in Europe.**

Results. **Approved documents were published as separate papers in the European Journal of Dental Education**

Conclusions. **The outcomes of this project promote convergence towards acceptable standards in dental education, training and service to the ultimate benefit of patients.**

Key words: **dental education, Europe, DentEd.**

Introduction

The platform to discuss and decide upon the content of the curriculum for the undergraduate dental student in the European Union (EU) has been the Advisory Committee on the Training of Dental Practitioners (ACTDP). In 1995, the ACTDP published the document on proficiencies for the practice of dentistry in the EU [1]. This committee comprised representatives from universities, ministries of health and national dental associations from all the EU member states. In 1997 the European Union's Directorate for Education and Culture funded the first *DentEd* project (1998-2000). This project was initiated by a group of dental educators mainly from the Association of Dental Education in Europe (ADEE). *DentEd* was designed to facilitate convergence towards higher standards in dental education and professional training [2].

DentEd was followed by a second TNP *DentEd Evolves* (2000-2003) [3]. One of the outputs of *DentEd Evolves* project was the document *Development of Professional Competences* [4]. *DentEd* and *DentEd Evolves* paved the way for expanding the

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network and making an inventory of the existing curricula for dental education in Europe.

In 1999 the Ministers for Education of 29 countries in the EU signed the Bologna Declaration, formally known as the European Higher Education Area. The ultimate aim of this agreement is to establish a European Higher Education Area by 2010 in which staff and students can move with ease and have recognition of their qualifications. One of the objectives is "to tune" the curricula in terms of structures, programmes and actual teaching in order to make the programmes more comparable.

The impetus of the Bologna Process, under the auspices of the EU governments, has raised enormous expectations. It is expected to be the most important educational change in Europe in the last 50 years and the focus from universities, learned societies and thematic networks has shifted to this process, with the aim of developing and achieving European wide convergence in Higher Education.

With this objective, the Association for Dental Education in Europe (ADEE) together with the DentEd thematic network obtained further funding from the European Commission for a third thematic network project, *DentEd III* (2004-2007). The aims of the project were to develop a curricular model in dentistry which is fully compliant with the principles of the Declaration of Bologna, as well as following the methodology and actions defined by the Tuning Project. It also aimed to harmonise the various dental curricula and to transfer all expertise and activities, including the site-visitation and quality assurance systems, to ADEE. One of the requirements under the EU funding was that the *DentEd III* project should make arrangements to ensure that the efforts towards convergence continue after the EU Commission funding ceased in 2007. ADEE is a standing organization since 1975 that now represents some 150 schools out of about 200 schools in Europe. It has also recently established a permanent office in Dublin and has grown its membership over the last few years. It is, therefore, legitimate that ADEE has an official role in representing the dental schools in Europe and continues the role of DentEd in the future.

In all three *DentEd* projects the approach to achieving the outputs has been to involve dental educators across Europe outside the EU as well as within. Working groups and task forces have met regularly to deliberate and formulate draft documents which were then widely circulated for feedback and amendment. The final versions were approved at the General Assembly of ADEE.

The first step (Taskforce I) in this challenge was to agree a professional profile with a defined set of generic and specific professional competences for the new dental graduate. The next step (Taskforce II) was the development of a model of curricular structure in dental undergraduate education organized in modules according to the European Credit Transfer System (ECTS).

Taskforce III has provided a framework for the development of a pan-European approach to quality assurance in dental undergraduate education. This will help to ensure that dental education is delivered across Europe to consistently high standards and with patient care and protection being of paramount importance.

Taskforce IV was given the task of preparing for a Global Congress on Dental Education in Dublin on 6-8 September 2007. The aim of this congress was to launch a global network in dental education.

Taskforce V was set up to ensure that the work of DentEd continues when the EU funding ceased. This was a key requirement of the EU grant and to this end a permanent office for ADEE was set up in the Dublin Dental School & Hospital along with a drive launched to increase the membership across Europe.

Taskforce VI Student involvement was another key requirement of the EU Commission and while DentEd has had a strong history of student involvement in previous projects, in DentEd III this position was formalised with a student taskforce.

Profile and competences

During the annual ADEE meeting held in Dresden in 2003 working groups discussed a document *Modularisation of European Dental Education*. The reports from these working groups served as input for Taskforce I to draft the first version of a document entitled 'Profile and Competences for the European dentist'. In the spring of 2004 this draft was sent to all European dental schools, both by surface mail and e-mail with the request to note those areas where there was agreement and, if there was disagreement with any statement, to provide criticisms or suggestions for improvement. Reaction was received from 63 dental schools and other dental educational associations and processed in the revision of the document. All comments, suggestions and criticisms were discussed and amended where appropriate by the taskforce The final Profile and Competences (PCD) document [5] was unanimously approved by the General Assembly of ADEE in Cardiff 2004 and thereby accepted by the European dental schools as the leading document in national and internal debates on the profile and competences of the undergraduate dental curriculum. All dental schools have been asked to take care of and coordinate the (authorized) translation of the document into the local language. Since then translations of the document have been made available on the ADEE website in Estonian, Finnish, French, German, Greek, Hungarian, Polish, Romanian, Russian, Slovak, Spanish and Turkish (http://adee.org/ec/repository/TF1-translations/).

The PCD is accessible on the DentEd III & ADEE websites (http://dented.learnonline.ie http://www.adee.org). This document was also sent to national dental associations, European dental associations in the various disciplines and ministries of health and welfare with the request to provide feedback on the document in terms of approval or amendment. These reactions will be used in the revision of the document that will start in 2007 in order to complete the process by the autumn of 2009.

It is envisaged that this document will:

- Act as a leading document in curriculum revisions in European dental schools in harmonizing and converging towards a European Dental Curriculum while respecting national and regional socio-economic and cultural differences
- Assist deans of dental schools in internal and national discussions
- Be used by curriculum coordinators, teachers and students in dental schools in Europe
- Help to facilitate staff and student exchange within Europe
- Be used in global meetings on dental education in order to converge globally
- Help to raise the quality of the dental care provided by dentists educated in the European context
- Serve as basic document on activities towards benchmarking and best practice

In order to train dental students to become general dental practitioners, European educators have agreed on the following **profile** of the graduating dentist:

The new graduating European dentist should:

- **Have had a broad academic and dental education and be able to function in all areas of clinical dentistry;**
- **Be trained sufficiently in dental science;**
- **Be able to work together with other dental and health care professionals in the health care system; should have good communicative skills;**
- **Be prepared for life-long learning and continuing professional development;**

● **Be able to practice evidence-based comprehensive dentistry based on a problem solving approach, using basic theoretical and practical skills.**

Competences and Domains

Dentists are expected to cooperate in the achievement of the total health of the patients through oral health management. A dentist must have acquired this ability through the achievement of a set of competences - abilities essential to begin independent, unsupervised dental practice. This should be achieved by the time he or she obtains the first professional degree. This level of performance requires some degree of speed and accuracy consistent with patient well-being but not performance at the highest level possible. It also requires an awareness of what constitutes acceptable performance under the changing circumstances and a desire for self-improvement.

Competences support integration and merging of all disciplines, which should benefit students and also patients who are receiving treatment. Their definition will give schools a benchmark with which to (1) review, redefine, and restructure the undergraduate curriculum; (2) review and improve student evaluation processes; and (3) establish and apply outcome measures to assess the effectiveness of the undergraduate programme. Competency statements can also be used as a reference in accreditation processes.

The document is structured from the general to the more specific for every section. Seven domains have been identified that represent the broad categories of professional activity and concerns that occur in the general practice of dentistry. They are interdisciplinary in orientation:

I Professionalism
II Communication & interpersonal skills
III Knowledge base, information handling and critical thinking
IV Clinical information gathering
V Diagnosis and treatment planning
VI Establishment and maintenance of oral health
VII Health promotion

Major competences:

Within each domain, one or more "Major Competences" is identified as relating to that domain's activity or concern. A major competency is the ability to perform or provide a particular, but complex, service or task. Its complexity suggests that multiple and more specific abilities are required to support the performance of any major competency.

Supporting competences:

The more specific abilities could be considered subdivisions of the "Major Competence" and are termed "Supporting Competences". Achievement of a major competency requires the acquisition and demonstration of all supporting competences related to that particular service or task. A suggested provisional list is included to be used by individual schools or countries to complete and modify in order to meet particular national or regional needs.

In making this subdivision into major and supporting competences, ADEE envisages that all European Schools will adhere to the major competences as described in this document, but the supporting competences may vary in detail between schools.

As an example for Domain I 'Professionalism' the major competence on 'Professional behaviour reads as follows: 'On graduation, a dentist must have contemporary knowledge and understanding of the broader issues of dental practice, be competent in a wide range of skills, including research, investigative, analytical, problem-solving, planning, communications, presentation and team skills and understand their relevance in dental practice'. The full text of the Profile and Competences document is available in

Romanian language (http://adee.dental.tcd.ie/ec/repository/TF1-translations/Profile%20and%20Competences%20for%20the%20European%20Dentist%20(Romanian).pdf).

In the framework of the Tuning Project a methodology has been designed to understand curricula and to make them comparable. Five lines of approach have been distinguished to organize the discussions in the subject areas:

1) Generic competences or transferable skills,

2) Subject-specific competences,

3) The role of ECTS as an accumulation system

4) Approaches to learning, teaching, and assessment and

5) The role of quality enhancement in the educational process (emphasizing systems based on internal institutional quality culture).

DentEd III and ADEE have together developed key documents to address these five lines of approach. The first document, Profile and Competences for the European Dentist has relevance for all organisations and institutions in the dental health care system since it is training the 'end-product' of the dental school programmes, the graduate dentist who will provide oral health care in society.

Tuning

Although this document was approved by European dental schools that are DentEd and ADEE members, we realised that the document would be of more value if it had been shared with, adopted and/or agreed upon, by Ministries for Health and/or Education, the competent authorities, national professional associations, and specialist associations. To that end this document was sent in December 2005 to all these organisations and associations. The small response led to the decision to organise an advisory tuning/validation conference in Dublin on 13-14 April 2007.

Again representatives from ministries, national professional associations and European specialist associations were invited. Some 55 delegates from 22 countries in Europe met during two half days and had intense discussions. Valuable suggestions were made on how to revise the document. There was general support for the document in the various organisations. There was also general agreement on the seven domains and several good suggestions were given on how to improve the major and supporting competences

The revision process will be continued by asking all dental schools for feedback and having discussions on the draft revised document at the annual ADEE meeting in 2008. The ADEE General Assembly will then decide on the revised version in September 2009.

We must however realise that in the discussions sometimes language and cultural differences have created barriers to understanding. These barriers have always existed but have became apparent and have resulted in learning to understand, which in itself is also a process of convergence and harmonisation. It means that this should be an ongoing process. Therefore the revision of the document every five years is essential to keep the subject on the agenda and again and again up-date and improve the commonly shared document by learning from best practices and from experiences.

The Global Conference on Dental Education as part of the DentEd III project together with ADEE, ADEA and IFDEA was the platform to disseminate the EU document to partner associations all over the world and to learn from them how we further can improve our thinking and action for the education of future dentists in our countries, in Europe and in the world to serve better those who need dental health care.

Curriculum Content, Structure and ECTS

Following the same procedures as Taskforce I, Taskforce II developed two documents on curriculum content, structure and ECTS for EU dental schools. Part 1 concerned aspects relating to outcomes, content and structure of the European Dental Curriculum for the undergraduate dental student, including guidelines and recommendations regarding student exchange and ECTS. Part 2 dealt with methods of learning and teaching, assessment procedures and performance criteria. It also provided examples of some curriculum models currently in use in Europe. These documents were approved at the annual meetings of ADEE and DentEd III in Athens, September 2005, and Krakow, September 2006. Both documents are available on the DentEd III and ADEE websites and have been published in the European Journal of Dental Education [6, 7]

The requirements and recommendations that accompany the text as well as the examples of curricular models provided may be useful in setting the agenda for revisions in European dental schools in order to further converge European dental education in the years ahead.

The Framework for a Dental Programme Suggested by ADEE

ADEE is keen to preserve diversity in order to give universities and learners real choice in their dental education. However, choice should be accomplished within a common framework and with a high level of transparency, in order to achieve cohesion in dental education within Europe. This suggested ADEE framework should stimulate the discussion necessary to provide young Europeans with tertiary educational structures that have a genuine European, rather than a purely national, background.

Although the Bologna *recommendation* introduces the '3-5-8' model (Bachelor-Master-Doctor) for tertiary education, there are specific professions, mainly professions in the health sector, that are regulated by sectoral directives that define not only how titles and degrees are recognised across borders, but that also define the minimum educational requirements for obtaining such degrees. The European Parliament has recently approved the common directive on recognition for professional qualifications (Brussels 2005/36/EC). The directive includes the educational requirements concerning the mutual recognition of diplomas, certificates and other evidence of the formal qualifications of practitioners of dentistry. Under this new general directive, freedom of movement and the mutual recognition of the evidence of formal training of doctors, nurses responsible for general care, dental practitioners, veterinary surgeons, midwives, pharmacists and architects must be based on the fundamental principle of automatic recognition of the evidence of formal qualifications on the basis of co-ordinated minimum conditions for training. Therefore, under this provision, the professional activity of the dental practitioner must be carried out by those qualified as dental practitioners, as defined in the directive. This establishes that dental education and training shall comprise a total of at least five years of full-time theoretical and clinical study, given in a university, or an institute of higher education that is recognised as being of an equivalent level or under the direct supervision of a university.

A bachelor's degree in dentistry that would follow the model of The Bologna Declaration, i.e. of 3-4 years duration (180-240 European credits), and yet provide a qualification relevant to the European labour market, poses a significant problem since it conflicts with the European Directive which states*: "Member States must ensure that the training given to dental practitioners equips them with the skills needed for prevention, diagnosis and treat-*

ment relating to anomalies and illnesses of the teeth, mouth, jaws and associated tissues and must fulfil the minimum training recommendations defined in the Directive". In dentistry, therefore, such a bachelor's degree could be an academic award only and it would not qualify the graduate to engage in the practice of dentistry in any form. Students could, for example, take a bachelor's degree at one dental school and undertake a master's programme of two further years of education at another. It could also be possible for students who realized they did not wish to become a dentist to leave after three years and yet obtain a bachelor's degree, which could be followed with study at the master's level in another subject area. Based on these legal provisions, the proposed ADEE /DentEd programme will be comprised of 5 years of full time education, equivalent to 300 ECTS credits and leading to a dental master's degree.

Curriculum Content

Each school and each country may have different approaches to education and training influenced by structures, cultures and resources. However, all aspire to achieve the highest possible standards in educational outcomes and appropriate clinical competences. This is best achieved by agreeing a set of requirements, guidelines and recommendations to set the agenda for curriculum revisions in European dental schools in order to further harmonize European dental education in the years ahead. ADEE envisages that all European schools will adhere to the requirements stated below, but that guidelines or recommendations may be followed in a more flexible way. As to the curriculum content the following 6 requirements and 9 guidelines and recommendations were agreed upon.

Requirements

1. The content of the dental curriculum should directly be related and contribute to the Profile and Competences for the European Dentist;

2. Schools should adopt the approach that evidence-based dentistry should be integral in the curriculum;

3. Electives should form an integral part of the undergraduate curriculum.

4. Early contact between patients and dental students should take place. In particular, it is thought necessary for all first and second-year dental students to have some contact with patients.

5. A research project should be an integral part of the dental curriculum;

6. The (bio) medical subjects should be learned in an integrated way.

Guidelines and Recommendations

1. Vertical and horizontal integration of biological and basic sciences in the dental curriculum is advocated;

2. Integrated patient care should be included in clinical education;

3. The inclusion of study of medical and other disabling conditions that have relevance for dental students in their treatment of patients should be strengthened.

4. Education in the behavioural and social sciences is advocated in order to help dentists to contribute more effectively in community dental services after graduation with adequate coverage of behavioural sciences, dental public health and preventive and community dentistry;

5. An integrated approach to education in ethics and professional conduct is recommended;

6. Resuscitation training should be compulsory, practical and repeated;

7. Infection control should be highlighted

8. Communication skills, practice management, and information and computer technology (ICT) should be an integral part of the curriculum;

9. There should be increasing emphasis on team work.

Structure and ECTS

The curriculum of a dental school in a given country reflects the history, culture and policy of that country. It should contribute to the oral health needs of the local population. The structure of the school will also reflect these conditions. It should have independence but at the same time have a strong link with or be part of a university and medical faculty, or a more broadly based healthcare studies faculty, to be an effective higher education institution. The dental school should have authority in the development of an independent dental curriculum within the context and parameters of the university or health faculty. Following the Bologna recommendations, the dental curriculum should be organized in a modular form. These modules should aim to integrate knowledge around problems, conditions or preventive and therapeutic goals.

The enormous explosion of knowledge requires an approach from teachers and students that moves away from merely learning facts to a more problem-solving attitude. The vast resources made available through the internet necessitates development of methods of dealing with this information in terms of selection and prioritizing based on appropriateness and quality. A modern dental curriculum needs to be based on these educational principles.

European Credit Transfer System (ECTS) attributes credits to learning time. One ECTS credit unit counts for some 28 hours study time, including contact hours and self-study time. With the Lisbon Recognition Convention ECTS guarantees academic recognition of studies abroad through providing a way of measuring and comparing the volume of a student's learning achievement through the award of credits reflecting the quantity of work. The quality of the work may also be compared through the use of the ECTS grades. Whilst the performance of a student can continue to be documented by a local/national grade, ECTS encourages the additional use of its grade scale as this enables trans-national comparison. Use of ECTS makes study programmes easier to read and to compare for all students, local and foreign, and facilitates mobility and academic recognition. The scheme could be of help for schools organising and revising their study programmes. It has the capacity to make dental education in Europe more attractive for students from other countries.

Learning and teaching

Dentistry is a profession that requires a broad understanding of a spectrum of healthcare and basic sciences together with specific education in oral sciences. In preparation for graduation, students must demonstrate a variety of acquired learning outcomes, which in turn demand variety in learning and teaching methods. In order to educate a dentist to become competent, learning and teaching methods should be based on educational need.

Teaching should be student-centred and flexible, supporting a variety of learning styles, yet keeping a balance between the educational needs of the student and the absolute requirement that the learning objectives are attained. All courses or teaching units should have their aims, learning outcomes and assessment methods clearly stated. They should be quality assured and updated regularly. In a non-modularised system, credits may or may not be attached to each course or unit. If credits are used, the total credits for each academic year usually amount to 60. In a fully modularised system, course units/modules have a fixed number of credits, 5 credits for example, or a multiple of this number. The use of modularised systems in designing dental curricula may facilitate student exchange.

Traditional teaching has mostly been teacher-directed and intended as a method of transmitting knowledge from the teacher to students. Regrettably, this does not

always encourage reflection on student learning or consider in which ways learning is associated with teaching. Lectures are the classical method of traditional teaching, and are considered to be cost-effective in that the content is delivered to a large group of students at one time. However, if academic staff considers lectures to be a way of transmitting knowledge and student learning as a process of merely acquiring new knowledge, this method may not facilitate the achievement of the learning outcomes.

Lectures can stimulate learning and can be methodologically enhanced with student interactivity and feedback. "Lectures on demand", where students decide the content of the lecture depending on their questions, "e-lectures" saved and archived in multimedia format and subsequent web-casting have been proposed as good examples. An increased insight into the learning process has led to discussions on alternative educational philosophies as well as methods and tools to achieve learning outcomes.

Today, many educational approaches, principles and methods are applied in dental education. Regardless of the approach, the goal is to encourage the development of learning characteristics such as critical thinking, self-directed learning and problem-solving. To promote a strategy of independent student-centred learning a list of recommended sources of information (text books, journals, and high quality web pages) should be provided to the students. These approaches overall are commonly characterised as student centred and student activating.

The last decade has demonstrated exponential growth in information availability including publication of new research work and medical and dental information in general. The internet has assumed an important role in storing new information, but has also contributed to a significant amount of unnecessary and invalid information. Students and academic staff must learn to utilise this resource wisely and benefit from the resource with a variety of sensible search strategies and recognition of good evidence-based material and their websites.

Assessment Procedures and Performance criteria

All assessment procedures should be timely, meaningful and appropriate. They should be based upon the learning outcomes of the individual programme or course, so that academic and clinical student activity is directed towards those desirable outcomes. It is a truism that assessment drives learning, so all dental schools should be encouraged to articulate clearly their assessments in a transparent manner, so that students and staff are fully informed of the purposes and processes adopted. The goal of an effective assessment strategy should be that it demonstrates effective assessment throughout the programme of study, that students and staff are fully engaged in the development and realisation of assessments and that the outcome of assessment provides the springboard for students to adopt a positive approach to effective independent practice and reflective and life-long learning after graduation.

The rapid growth in knowledge demands a critical view to be taken of the whole programme and of assessment in particular. It is simply not possible for 'everything' to be covered or assessed. Schools must work towards the clear definitions of the core elements of assessment that all students must pass.

Attention should be given to the issue of staff development and the limitation of inter-assessor variability, through training opportunities and acknowledgement that inconsistencies should be minimised. The Objective Structured Clinical mode of examination (OSCE), for example, whilst no panacea for clinical assessment in dentistry, has many attributes that recommend its adoption for certain elements of activity

[8, 9, 10].

As more dental curricula become revised to show integration in design, so assessment practices should change to reflect that nature. It is not good practice to encourage integrated learning through thematic delivery, only to assess according to pre-existing subject domains. In other words, the assessments should be matched to the content, and to the learning outcomes overall.

Quality Assurance and Benchmarking: an approach for European Dental Schools

The European Union has set out guidelines for quality assessment and quality assurance in higher education [11]. In addition, in many countries, national systems, institutions and procedures have been set up to consider and take a lead on quality in higher education [12, 13]. Quality improvement in dental education is required for a number of reasons [14]. Quality is an essential component of any service and production process. In order to be accountable to consumers, public and government, acceptable procedures on evaluation and quality assurance are necessary. Quality is an important external measure of an organization's performance. International cooperation requires greater insight into the quality of graduates and standards of the teaching programmes.

In addition, the resultant progression to a consistent quality assurance (QA) approach across Europe can only assist in a variety of other areas, for example: the development of student mobility; consumer protection (protection of the public) and the generic aim of making the profession more internationally based.

In 2001 the European Ministers for Education meeting in Prague invited the European Association for Quality Assurance in Higher Education [15] to collaborate in establishing a common framework of reference for quality assurance, which would directly work towards the establishment of the European quality assurance framework by 2010. There are now 45 signatory countries in Europe to this process. Subsequently, the Berlin communiqué confirmed and mandated the Prague decision and further, at the Bergen summit in 2005, Ministers adopted agreed standards and guidelines for quality assurance within the European Higher Education Area (EHEA)(2005)

In dentistry, considerable information was gathered from the first DentEd Thematic Network Project visits to dental schools both in the existing EU countries and in those that joined in 2004. Through these visits a template for a "dental school visit" was created and a 'catalogue of good practice' was generated for dissemination to members of ADEE [2].

It should be borne in mind that dental schools are part of a university and, in some countries, form part of a larger medical faculty. In these countries, the QA management systems imposed by these institutions would obviously have priority. An essential part of QA management is evaluation and accreditation. Both, external and internal evaluation/ accreditation systems are available. Furthermore, programme evaluation/ accreditation (e.g. for dentistry) or process evaluation/accreditation (e.g. for the process of internal evaluation/accreditation within a university) can be performed. There is even the possibility that different modes are combined; for example, external process evaluation/accreditation and internal programme evaluation/accreditation. It is the sole responsibility of the individual university to specify, under the specific national regulations, which of these evaluation/accreditation systems they employ. This document does not give any priority to any one of those systems.

The document written by Taskforce III of DentEd III provides a guide to assist in the

harmonisation of dental education quality assurance systems across the European Higher Education Area (EHEA). Obviously quality assurance and benchmarking have an important part to play in the European Higher Education response to the Bologna Process.

It is recognised that quality assurance in dental schools has to co-exist as part of established quality assurance systems within faculties and universities, and that schools also may have to comply with existing local or national systems. Fourteen 'requirements' for the quality assurance of dental education in Europe are given in the Taskforce III document. These, together with the document and its appendices, were unanimously supported by the ADEE at its General Assembly in 2006 and published in the EJDE [16].

A number of appendices are made available on the ADEE website (17). These provide a series of 'toolkits' from which schools can 'pick and choose' to assist them in developing QA systems appropriate to their own environment. Validated contributions and examples continue to be most welcome from all members of the European dental community for inclusion at this website.

It is realised that not all schools will be able to achieve all of these requirements immediately, by definition, successful harmonisation is a process that will take time. At the end of the DentEd III project, ADEE will continue to support the progress of all schools in Europe towards these aims.

The matters discussed in this document should not, to any large extent, be seen as being contentious. To have a process of quality assurance and improvement in place is a fundamental requirement in any modern organisation. Of course, dental education cannot be an exception to this necessity. In any event, comparable QA measures are deemed to be necessary in all areas of higher education as a requirement of the European Union as first defined by ministers of the member states in Prague in 2001 **(**Quality Assurance in Higher Education).

In order to achieve a continuous improvement in dental education, a proper quality management system needs to be in place that includes both internal assessment and review, different evaluation/accreditation systems with the university and, where applicable, the medical faculty. The text of this paper is also available on the DentEd III and ADEE websites (http://www.adee.org).

Global Congress and 14 Working Groups

Taskforce IV planned and organised a global conference in Dublin, September 2007. Fourteen working groups had prepared documents on their specific themes. The outcome of this conference will be published in the European Journal for Dental Education. The following themes were addressed:

1. Profile of a dentist in the oral health care team in countries with established economies.
2. Profile of a dentist in the oral health care team in countries with emerging economies.
3. Adapting the curriculum to changes in information technology, students' needs and learning styles
4. Adapting to changes in the biomedical sciences and biotechnology.
5. Implementing evidence based dentistry and research in the curriculum.
6. Inequalities in access to education and health care.
7. Quality assurance, benchmarking, testing and assessment and mutual transcontinental recognition of qualifications.
8. Staff recruitment, development and global mobility.
9. The academic environment: the students' perspective.
10. Leadership and governance in dental

education – new societal challenges.

11. Exploring partnerships with business, government and entrepreneurial institutions.

12. Balancing the role of the dental school in teaching, research and patient care including care for underserved areas.

13. Balancing the role of the dental school in teaching, research and patient care including care for underserved areas.

14. A Global Network in Dental Education – This WG was complementary to Taskforce IV and shared the tasks assigned.

As a result of this expanded role IFDEA is now envisioned as "The Global Network in Dental Education." This new vision is the result of a number of opportunities for the Federation to grow and to become inclusive of dental education worldwide.

Establishment of the Permanent Office

One of the key requirements of the funding for the DentEd III project was that structures were to be put in place to continue the progress towards convergence in dental education when the EU funding finished. ADEE has agreed to take on this role into the future and in order to do so a permanent office and an expanded membership are central requirements. The members of the Executive & Planning Group made the decision early in the DentEd III project that the establishment of a permanent office for ADEE and appointment of a project manager were very high priority so as to ensure the success of the project.

The Dublin Dental School & Hospital agreed to host the ADEE permanent office and staff member. Joanna Holly was appointed as Project Manager in the summer of 2004 and Jessica Keogh replaced her in April 2005. The role of the Project Manager has been to provide all the vital administrative support for DentEd III and ADEE.

To truly claim to represent dental education in Europe ADEE needed to increase its membership and so Carl Moynihan, Mairead Graham and Lisa Kinsella of Meagher Moynihan have played a vital role in the management of the DentEd III finances as well as devising approaches to expanding the membership of ADEE. With sound financial and administrative structures in place ADEE is well positioned to carry on the work of DentEd III into the future.

Student Involvement

The European Dental Students Association (EDSA) was founded in Paris in November 1988. EDSA represents over 40,000 dental students in the European region.

Involvement of students in the DentEd III project has ensured that there is feedback from those most affected by the educational changes. Students provided input and feedback for all the DentEd III documents. A strong working relationship has developed between the European Dental Students Association (EDSA) and the DentEd III project. EDSA held a general meeting immediately before each annual DentEd III-ADEE general meeting which allowed sufficient time for students to discuss the relevant DentEd III documents and then facilitated a number of students' participation in the working groups at the DentEd III meeting. EDSA also holds an annual scientific meeting each April at which further discussion of the DentEd III documents has taken place. Electronic exchange of views has taken place outside these meetings. By definition EDSA members are transient and it is notable that a past-president of EDSA has become a member of the Executive Committee of ADEE and in this way provides some continuity in the relationship between the two organisations.

EDSA greatly appreciates the opportunity to have contributed to the DentEd III Thematic Network Project and it looks for-

ward to continuing the strong relationship with ADEE. The students group use the following website to communicate with each other across Europe http://www.edsa.globaldent.c

General Conclusions

The main reason to converge the dental curricula of the EU dental schools and to agree on the curriculum structure, the ECTS, methods of learning and teaching, assessment procedures and performance criteria, is to facilitate student and staff mobility in the European context. The exchange of dental students over the last 20 years, since the launch of the Erasmus project has grown substantially. Most dental schools in Europe have a student exchange programme in place giving dental students the opportunity to study for a period of on average 3 months in another European dental school. Networks of Erasmus/Socrates partners have been established and students in general very much appreciate the given opportunities. They experience these exchanges as a life changing event in their personal development as student. They learn to understand cultural differences, the importance to master at least two European languages and of course to appreciate the differences in knowledge, skills and methods as far as clinical dentistry is concerned.

However in order to further converge or harmonise the curricula to facilitate easy exchange, not only students but also academic staff has to exchange. The annual ADEE/DentEd meetings are the only structured activities in this respect. The European Journal of Dental Education also serves this purpose well. Authors share their experiences in dental education with the readers by which we all learn and can select topics for innovation in our own dental school. It is for the first time in the EU history that during the last ten years through DentEd and ADEE dental curriculum issues have been discussed so widely and in such depth. These discussions and their outcomes as presented here contribute substantially to more cohesion in dental education in Europe in line of the Bologna Declaration.

The following conclusions can be drawn:

1. The documents as developed in this project have and still are serving its purpose as leading documents in the discussions at all levels to further converge and harmonise dental education in the EU.

2. The documents have to be used not as a static but as evolving documents to be amended on the basis of new developments, experiences and insights and growing convergence by all those whom are involved in dental education.

3. One of the side-effects is that ADEE will now take over the role, initiated by DentEd to be the European platform for dental education, representing all European dental schools;

4. The Bologna Declaration, signed by all ministries of education in Europe has been an important driving force in this convergence process for dental education in Europe

5. It is considered to be essential to also involve regularly the European Dental Student Association in all these activities.

6. DentEd III and ADEE have taken full responsibility and shown leadership for the further development, improvement and convergence of dental education in Europe by also involving all organisations and institutions that directly or indirectly are stakeholders in relation to the Profile and Competences of the EU-dentist.

7. The discussions held at all levels within dental schools, at annual meetings of DentEd and ADEE, in all institutions and associations at the European and National level have to be continued as the most important movement to learn and improve, to converge and harmonise dental education in order to provide the best possible dental health care to the populations in and outside European countries.

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