



HELLENIC REPUBLIC

**H.Q.A.A.**

HELLENIC QUALITY ASSURANCE AGENCY

FOR HIGHER EDUCATION

## **EXTERNAL EVALUATION REPORT**

DEPARTMENT: Dental School

UNIVERSITY: Aristotle University of Thessaloniki

July 8, 2011

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### External Evaluation Committee

The Committee responsible for the External Evaluation of the School of Dentistry of the Aristotle University of Thessaloniki consisted of the following five (5) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005 :

1. **Thimios Mitsiadis** DDS, PhD (Coordinator)  
Professor, Institute of Oral Biology, University of Zurich, Zurich, Switzerland
  
2. **Petros Papagerakis** DDS, PhD  
Assistant Professor, School of Dentistry, University of Michigan, Ann Arbor, MI, USA
  
3. **Panos N. Papapanou** DDS, PhD  
Professor, Columbia University College of Dental Medicine, New York, NY, USA
  
4. **Eleni Roussa** DDS, PhD  
Professor, Institute of Anatomy and Cell Biology, Albert-Ludwigs-University, Freiburg, Germany
  
5. **Dimitris N. Tatakis** DDS, PhD  
Professor, College of Dentistry, The Ohio State University, Columbus, OH, USA

**N.B.** The structure of the “Template” proposed for the External Evaluation Report mirrors the requirements of Law 3374/2005 and corresponds overall to the structure of the Internal Evaluation Report submitted by the Department.

The length of text in each box is free. Questions included in each box are not exclusive nor should they always be answered separately; they are meant to provide a general outline of matters that should be addressed by the Committee when formulating its comments.

## **Introduction**

### I. The External Evaluation Procedure

- Dates and brief account of the site visit.
- Whom did the Committee meet?
- List of Reports, documents, other data examined by the Committee.
- Groups of teaching and administrative staff and students interviewed
- Facilities visited by the External Evaluation Committee.

The External Evaluation Committee (EEC) site visit to the Dental School of the Aristotle University of Thessaloniki (DST) took place on June 8-10, 2011. A brief outline of the encounters of the EEC is summarized below:

In an introductory meeting, the Deputy Vice Chancellor of the Aristotle University of Thessaloniki reaffirmed the emphasis placed by the University leadership on the evaluation process but, in the opinion of the EEC, did not offer a concrete institutional strategy that epitomized the University’s support to the DST. Next, the Dean (President) of the DST and the members of Internal Evaluation Committee presented an overview of the internal evaluation process and the state of affairs at the DST. During a subsequent two day period, the EEC met individually with every Division (Laboratory) head of the DST and a number of faculty members with key roles in the educational, research and clinical missions of the school; received a briefing by the coordinating committee of the graduate programs; met with the entire body of administrative and support staff; had a group meeting with junior and mid-career members of the faculty; had individual meetings with representatives of the undergraduate and graduate students; visited all the educational, clinical, laboratory and research facilities of the DST as well as selected facilities located at the Medical School where education of dental students takes place (Histology, Biochemistry and Physiology laboratories); visited an off-site hospital (Papanikolaou Hospital) where a substantial part of the clinical training in Advanced Maxillofacial Surgery takes place; and had a final concluding meeting with the Dean and members of the Internal Evaluation Committee at the conclusion of the entire visit.

The EEC found the site visit schedule to be well-organized and thought out. It was further much appreciated that the host institution made every effort possible to accommodate changes to the schedule according to EEC requests expressed on-site. Nevertheless, the schedule was extremely tight and several individual meetings had to be concluded prematurely to accommodate subsequent commitments.

Three documents were made electronically available to the EEC in advance of the site visit. These included: (i) an internal evaluation report of the DST for 2008-2009 (308 pages); (ii) an internal evaluation report of the DST for 2009-2011 (360 pages); and (iii) a narrative description of the DST for 2006-2011 (1,283 pages). Various additional printed materials were provided on site and included abbreviated and full-extent versions of both the old and the new Curricula; documents describing the DST Table of Organization, aggregate Faculty listings by academic rank, and infrastructure information as it related to DST services; an overview description of the Research Activities at the DST; and material provided by individual Divisions (Laboratories) describing various aspects of their educational portfolios, clinical procedural guidelines and scientific output.

## II. The Internal Evaluation Procedure

*Please comment on:*

- *Appropriateness of sources and documentation used*
- *Quality and completeness of evidence reviewed and provided*
- *To what extent have the objectives of the internal evaluation process been met by the Department?*

The EEC had some difficulty in evaluating the quality of the internal evaluation process beyond what is reported in the Internal Evaluation Report. This is because there was little opportunity to dwell into specific aspects of data collection (e.g., the accuracy and validity of the presented aggregate statistics with respect to student evaluations of curricular aspects, faculty assessment, etc.) during the site visit. Nevertheless, the EEC found that the format of the pre-submitted reports was not effective in communicating key messages. The documents were extremely long, provided details of uneven focus, lacked concrete executive summaries and did not appear to parallel the requirements of the External Evaluation Report. Although the EEC appreciated the time and effort that the host institution invested in the preparation of these documents as well as the fact that this was the first evaluation of its kind at the DST, the structure of the documents must be thoroughly amended in future evaluations to closely reflect and parallel the key elements of the external evaluation.

Nevertheless, it became increasingly clear during the site visit that the process of the internal evaluation that was reportedly initially received with caution and even suspicion by a number of DST faculty and students was finally embraced as a constructive process whose ultimate goal is to improve quality across the mission spectrum of the DST. This became clearly evident by the large number of faculty, students and staff that participated in the site visit meetings and discussions and by their willingness to express their views and share their experiences. In that respect, the **EEC is of the opinion that the DST has largely met the key objectives of the internal evaluation process.**

## **A. Curriculum**

*To be filled separately for each undergraduate, graduate and doctoral program.*

### **APPROACH**

- *What are the goals and objectives of the Curriculum? What is the plan for achieving them?*
- *How were the objectives decided? Which factors were taken into account? Were they set against appropriate standards? Did the unit consult other stakeholders?*
- *Is the curriculum consistent with the objectives of the Curriculum and the requirements of the society?*
- *How was the curriculum decided? Were all constituents of the Department, including students and other stakeholders, consulted ?*
- *Has the unit set a procedure for the revision of the curriculum?*

The curriculum for undergraduate studies aims at providing education and training of individuals as general dentists. In addition, it aims at providing the background for graduate studies and involvement in research.

The DST has intentionally set its missions and goals to be in line with the standards of dental education derived from concepts focussed on "odontology" rather than "stomatology", following international standards and guidelines set out by the Association for Dental Education in Europe (ADEE).

The modification of the curriculum has been the main instrument to achieve the educational objectives of the school at the undergraduate level.

The goals of the graduate programs are to train dentists in specialized disciplines/topics, including the clinical and research aspects of each discipline, again following specialty-specific international standards and guidelines.

The undergraduate curriculum is generally consistent with most of the objectives of the Curriculum. The revised curriculum appears to meet most of the stated objectives, however the timing of both the implementation of the changes and the EEC site visit precludes any meaningful assessment in this regard. Sensitizing the undergraduate students concerning the need of basic research as an integral part of dentistry is an important issue that has not been adequately addressed. The curriculum of the graduate programs is generally consistent with the stated goals. However, and with the exception of Orthodontics, it is not feasible to assess how well the graduate programs meet the stated objectives in the absence of national or European specialty Boards.

A new curriculum was implemented for the academic year 2010/2011. Accordingly, at the time of the site visit, a transitional phase, two cohorts of undergraduate students were identified: first and second semester students following the new curriculum and students at higher semesters following the old curriculum.

The Curriculum was discussed, modified, and proposed by The Dental Education Committee (Curriculum Committee) of the DST, and approved by the General Assembly (GA). Both faculty and students are represented in the Curriculum Committee and the GA. Other stakeholders such as community representatives and dental associations were apparently not involved in the process. The DST has made a great effort to improve the curriculum according to European standards (ADEE) and to make it comparable to that of several

prominent foreign dental schools.

The revised curriculum for undergraduate students includes 75 compulsory courses (i.e. 15 medical courses, 14 general dental, and 46 specific dental) and 9 elective courses. The main changes from the old curriculum include: a robust reduction of basic medical courses from 23 to 12; reassessment of teaching topics; redistribution of curriculum hours by clinical discipline; and introduction of elective courses. Procedures to revise and improve the curriculum are well-established. The curriculum is continuously discussed and modified when appropriate.

The curriculum of the graduate programs was decided based on available international and national guidelines and standards of the respective disciplines. It appears that other stakeholders (e.g., specialist groups or societies, dental association, graduate students) were not consulted in constructing the curriculum of the graduate programs.

It was not clear to the EEC whether a set procedure was established to continuously assess needs for curricular changes in the graduate programs. The recently established Program Evaluation by the graduate students should help identify curricular strengths and weaknesses. The Graduate Program Coordinating Committee is the primary organ of the DST that coordinates and manages the graduate programs. In November 2006, the DST invited three outside experts (all former recipients of honorary doctorates from the DST) to assess the graduate programs. The three outside evaluators identified strengths and weaknesses of the graduate programs, in terms of curriculum, structure, clinical training, and outcomes. The DST also performed an Internal Assessment of the graduate programs in 2007; this assessment identified needed curricular revisions.

#### *IMPLEMENTATION*

- *How effectively is the Department's goal implemented by the curriculum?*
- *How does the curriculum compare with appropriate, universally accepted standards for the specific area of study?*
- *Is the structure of the curriculum rational and clearly articulated?*
- *Is the curriculum coherent and functional?*
- *Is the material for each course appropriate and the time offered sufficient?*
- *Does the Department have the necessary resources and appropriately qualified and trained staff to implement the curriculum?*

The goals of the DST have been mostly adequately implemented by the curriculum.

The DST has recognized that the internal and external evaluations are extremely helpful for reappraisal and if necessary, revision of the new undergraduate curriculum.

The curriculum of undergraduate studies compares well, for the most part, with universally accepted standards for the specific area of study. However, it should be noticed that there are thematic areas that are not adequately represented.

The graduate program goals are, in general, served well by the graduate core curriculum and the specialized graduate curricula.

The graduate program curricula are generally comparable with international standards of the specific areas; however, the existence of graduate programs in disciplines that are not universally (or in any other country, for that matter) recognized or considered as clinical

specialties (e.g., Operative Dentistry) makes any comparisons impossible.

The undergraduate curriculum has been thoroughly planned. The structure of the curriculum is coherent and has good chances to be functional. The functionality of the new curriculum cannot be evaluated and determined to date due to the transition phase.

The graduate program curricula are rationally structured and clearly articulated. There is overall consistent relationship between length of graduate program (number of semesters) and ECTS. However, previous evaluations (see IMPROVEMENT below) have identified specific curricular weaknesses for specific orientations (specialties).

The overall structure of the graduate program curricula appears coherent and functional, although adequate evaluation of these aspects of the curricula will require ongoing internal assessments, including student feedback and outcome assessments.

The didactic material for each undergraduate course appears appropriate and up-to-date. The time offered for basic medical courses is compact and leads to enormous learning load. The time offered for clinical courses is sufficient, but the problems during the clinical courses due to limitations in resources (see teaching) will likely remain as they are. The teaching staff is definitely qualified to implement the curriculum.

The DST teaching staff is appropriately qualified and trained to implement the graduate program curriculum. The distribution of available resources (e.g., staff, infrastructure, supplies) is severely uneven among the various graduate programs. It appears that the resources available (especially support staff, clinical supplies, research supplies) are not sufficient for several of the graduate programs, although for some programs (e.g. Orthodontics) resources are apparently sufficient. There is particular concern for the graduate program in Pediatric Dentistry, in terms of the availability of only one full-time staff member.

There is also overall concern for the adequacy of human resources (teaching staff), especially for Divisions (Laboratories) with heavy undergraduate teaching load (e.g., Operative Dentistry, Periodontology) because of the soon to be increased demands on staff clinical teaching time, due to the upcoming implementation of the Comprehensive Care Clinic.

## RESULTS

- *How well is the implementation achieving the Department's predefined goals and objectives?*
- *If not, why is it so? How is this problem dealt with?*
- *Does the Department understand why and how it achieved or failed to achieve these results?*

The DST undergraduate curriculum is in a transitional phase, in fact it is in the early stages of such a transition, which makes proper assessment of goal achievement impossible. Only continuous Internal Evaluations, especially as the current 1<sup>st</sup> year students reach their 4<sup>th</sup> and 5<sup>th</sup> year in the School, will allow the DST to obtain answer to this question.

The implementation of the curriculum of the graduate programs appears to meet, overall, the predefined goals and objectives of the School. However, adequate determination of this aspect of the programs cannot be made until an outcomes assessment process is implemented and outcomes data can be analyzed. Such an outcomes assessment process should include: a) exit interviews of graduate students who have completed their program, and b) surveys of

recent graduates. The recent introduction of graduate student assessment (questionnaires) is a positive step in this direction.

#### *IMPROVEMENT*

- *Does the Department know how the Curriculum should be improved?*
- *Which improvements does the Department plan to introduce?*

The DST just recently executed a lengthy and well-reasoned effort to improve the undergraduate curriculum, which resulted in a new curriculum that introduced several improvements as outlined above. The impact of introduced changes on the quality of education remains to be determined. The academic staff is fully aware of the likely future need to re-revise the curriculum and is highly motivated.

With respect to the curriculum of the graduate programs, the School has received feedback from (i) three external experts (2006), (ii) the internal assessment (2007), and (iii) the recently obtained graduate student evaluations. These three separate assessments have identified programmatic and specific curricular weaknesses and proposed changes.

Some of the proposed programmatic changes (e.g., incorporation of the Orthodontic graduate program into a single program of graduate studies in Dentistry; combination of Removable and Fixed Prosthodontic programs into a single Prosthodontic program; introduction of 2-year Master of Science programs in Basic Sciences) have been apparently introduced in the new (2010-2011) listing of the graduate programs. However, the EEC could not identify any specific aspects of the individual curricula of the graduate programs (specialties) that were modified in response to the above three separate assessments.

## **B. Teaching**

### **APPROACH:**

*Does the Department have a defined pedagogic policy with regard to teaching approach and methodology?*

*Please comment on:*

- *Teaching methods used*
- *Teaching staff/ student ratio*
- *Teacher/student collaboration*
- *Adequacy of means and resources*
- *Use of information technologies*
- *Examination system*

The objective of the School, as stated on page 14 of the Internal Evaluation report, is the continuous improvement of the quality of undergraduate and graduate education, in harmony with the standards of dental education derived from internationally accepted concepts. However, a defined pedagogic policy (educational strategy) is not readily identifiable.

With respect to undergraduate students, the teaching methods used are generally appropriate based on lectures, seminars, practical and clinical courses. The traditional teaching methods (lectures) are the main way used to impart knowledge. Although problem-based-learning and evidence-based-learning have not yet been actively incorporated into teaching, the teaching staff members expect to do so in the future. Such interactive methods of teaching would allow students to actively participate during the courses and, most importantly, would improve critical and independent thinking.

Teaching material and resources seem to be adequate. Hard copy teaching material includes free textbooks. Blackboard is in use and welcome by DST students, while e-learning implementation is in progress.

The teaching staff /student ratio based on the official numbers of full-time teaching staff is by no means satisfactory. However, the de facto teaching staff/student ratio is adequate because of the use of graduate students in clinical teaching. Both undergraduate and graduate students welcome this interaction.

With respect to the graduate programs, several traditional teaching methods (lectures, seminars, clinical practice, and/or laboratory training in conjunction with research activities) are being used. The lack of interactive and self-directed teaching methods was a concern consistently voiced by the graduate students.

The teaching staff/student ratio in didactic and laboratory courses appears appropriate for the graduate programs. However there are workload concerns when one takes into consideration the increased demand on staff time. The teaching staff/student ratio in the clinical setting is adequate for most graduate programs; the physical separation of some graduate clinics (e.g., Prosthodontics) in distinct and non-adjacent locations (separate floors/buildings) presents a concern for the maintenance of an adequate teaching staff/student ratio without overtaxing the already burdened teaching staff.

The graduate students expressed their overall satisfaction with the collaboration with the teaching staff, although the results of the written graduate student assessment

(questionnaires) identified uneven results by program.

The patient pool available for the graduate programs is adequate, although graduate students expressed concerns that potential fee increases, and the availability of inexpensive dental care in nearby countries with lower cost-of-living, could diminish patient availability.

The graduate students expressed, in general, strong dissatisfaction with the lack of certain resources. Specifically, the overwhelming majority of the graduate students were very dissatisfied with the lack of clinical support staff (dental assistants), the relative lack of clinical supplies and the fact that they had to pay for the clinical supplies they used; there were notable exceptions (Orthodontics) to this rule. In some disciplines (e.g., Endodontics) the graduate students were strongly critical of the lack of adequate number of chairs, which translated in reduced clinical experiences. Given the fact that the graduate students pay a not-insignificant tuition fee, the lack of such resources is troubling; coupled with the fact that 40% of the tuition paid by the graduate students and collected by the School is directly used to support the undergraduate program of the School, the current model could lead to the collapse of the graduate programs and the loss of an extremely important resource that supports all aspects of the School (teaching, research, finances). The School and the individual Divisions (Laboratories) need to address this issue in a timely manner; the Orthodontics program could serve as an example of graduate student support (in terms of clinical resources) by a program.

Information technologies are used in several teaching aspects of the graduate programs (lecture halls, seminar rooms, laboratories, clinics), although utilization is uneven among clinical specialties. The lack of computer access and connection of certain clinics with the centralized electronic patient file needs to be addressed in an expedited manner. The DST learning resources (library, reading room) and information technology support (computer room, wireless access) are excellent and serve the graduate students well.

Various traditional examination methods are used for assessing student knowledge and progress.

#### *IMPLEMENTATION*

*Please comment on:*

- *Quality of teaching procedures*
- *Quality and adequacy of teaching materials and resources.*
- *Quality of course material. Is it brought up to date?*
- *Linking of research with teaching*
- *Mobility of academic staff and students*
- *Evaluation by the students of (a) the teaching and (b) the course content and study material/resources*

In the undergraduate program, teaching materials, as well as equipment used in basic medical courses, have been brought up to date and fully correspond to internationally accepted standards. The quality and adequacy of teaching materials and resources for the clinical courses appear to be more problematic, mainly due to significant variation among clinics. It is clearly inadequate, and unacceptable, that students have to partly finance not

only materials for their clinical training but also forced to carry part of patients' fees in order to assure completion of the minimum number of procedures necessary to fulfil the requirements for a given clinical course.

The link between research and teaching is lacking. However, most teaching staff members acknowledge the necessity to implement use of research findings in teaching and improve and promote students' critical thinking and understanding of translational dentistry.

In the graduate programs, the situation is similar, in that teaching materials appear to be of adequate quality and up-to-date. However, the available resources, especially in certain clinical specialties, appear to be inadequate, given that graduate students have to finance materials and procedures out of pocket. Unlike the undergraduate students, the graduate students have to have a good understanding of research and to execute original, for the most part, research projects, which ties in well with their overall learning experiences.

The mobility of academic staff and students is rudimentary. Only a very small number of undergraduate students have used the ERASMUS exchange program to spend time in a foreign dental school and benefit educationally and culturally from the experience of learning and living in another European country. The students, apparently motivated to pursue such exchange programs, expressed significant concerns and fears regarding the willingness of specific DST academic units to support or even allow them to pursue such opportunities; e.g., students were told that they might be charged with absences while attending an ERASMUS program. This is not conducive to the mobility of the students and the educational and cultural enrichment of the future oral health care providers of the country. The new curriculum, more in line with other European programs of study, should encourage the faculty to support student exchanges.

Graduate student mobility also appears to be minimal. Staff mobility appears to be minimal as well, based on personal contacts and not institutionally organized.

There are mechanisms in place for undergraduate and graduate students to evaluate their teachers, course content, and study material/resources. Student participation in the evaluation processes is high. By nature, evaluations considerably vary between courses. The students expressed the need and desire to be able to evaluate all the teaching staff on an individual basis (as opposed to a Division-wide basis), to receive feedback and to be able to identify the results or changes stemming from their evaluations. The EEC could not identify an established process used by the DST to meaningfully utilize the student-provided evaluations to improve teaching by the staff.

## RESULTS

*Please comment on:*

- *Efficacy of teaching.*
- *Discrepancies in the success/failure percentage between courses and how they are justified.*
- *Differences between students in (a) the time to graduation, and (b) final degree grades.*
- *Whether the Department understands the reasons of such positive or negative results?*

The DST undergraduate students enter the school through a National Entrance Examination system, which results in the selection of students that are well motivated and intellectually

highly capable. Therefore, the student body should be able to embrace and thrive in a self-directed teaching approach that is not sufficiently utilized in the curriculum at the present time.

The data made available to the EEC for evaluating examination systems and failure rates in courses were quite limited and heterogeneous: (i) a table (Table 13, and its corresponding Fig. 22 at page 87 and 112, respectively, of the internal evaluation report) providing student grading in 12 practical courses for the time period 2002-2007, and (ii) a table (Table 5 at page 71 of the internal evaluation report) displaying numbers of students who passed the written examination in 38 individual study topics in the academic year 2007-2008. Examination systems are generally appropriate and failure rates in courses mostly ranged within acceptable values. However, in three practical courses failure rates exceeded 30% (35% failure rate in the Course of Stomatology, and 31.5% in both the Course for fixed Prosthodontics and Basic Dental Sciences, and in the Course of Preventive Dentistry, Periodontology and Implant Biology). However, the failure rates in the exams for Stomatology V and Preventive Dentistry for the academic year 2007-2008 (53% and 76%, respectively) were alarming. These data, together with the observation that the number of students that took part in these exams was significantly higher in comparison to other study fields, strongly implicate that these failure rates are not accidental but rather representative for these study topics and need to be addressed.

The graduate students of DST are a strongly motivated, energetic, and well-informed group. The graduate students voiced their overall satisfaction with their respective graduate programs while, at the same time, universally expressed the desire for more self-directed and interactive learning opportunities, which would replace and/or enhance the traditional lecture approach that currently seems to dominate the didactic portion of the graduate programs.

The graduation rate for undergraduates is high. However, and consistently over the years, at least a third of the students graduate more than a year later (>12 semester) than the 5-year length of the curriculum. The graduation rate is low for some of the graduate programs (specialties), and for the Doctoral program. If the DST has a good understanding of the reasons behind the low graduation rate for graduate students, this was not articulated in the internal evaluation reports. Although the DST has articulated the intent to evaluate and discuss examination systems in conjunction with the new curriculum (page 25, lines 3-4 internal evaluation report), it is unclear whether these data have been systematically utilized in decision making or planning processes so far.

#### **IMPROVEMENT**

- *Does the Department propose methods and ways for improvement?*
- *What initiatives does it take in this direction?*

The introduction of student evaluations and the implementation of internal and external evaluations are strong initiatives and even stronger opportunities to improve the teaching of both undergraduate and graduate students. The DST has an undeniable asset in its human capital (both teaching staff and students) and could become a beacon of dental education. For this potential to materialize, the DST must implement processes to adequately utilize the multitude of data and reports it has obtained towards the benefit of improved teaching outcomes. Given the existing constraints (legal framework, organizational structure, decision-making processes, financial and infrastructure limitations), strong will and consistent collaborative spirit among Divisions will be necessary to achieve improvements and realize the overarching goals set out in the Strategic plan.

## **C. Research**

*For each particular matter, please distinguish between under- and post-graduate level, if necessary.*

### **APPROACH**

- *What is the Department's policy and main objective in research?*
- *Has the Department set internal standards for assessing research?*

The DST policy is to encourage research activities in all academic units and by all the faculty and post-graduate students. However, no programmatic, focused research theme has been articulated. Research activities appear to depend heavily on individual faculty member preferences and on their access to resources and funds. As a result, several research projects have been inactive for several years or remain incomplete due to lack of human and financial resources.

Currently active research projects identified by the EST include:

- Properties and potential clinical use of dental mesenchymal stem cells.
- Virtual patient project.
- Dentin repair mechanisms.
- Evaluation of dental material quality and market standards.
- Implant integration and biological reactions.
- Clinical research on craniofacial and dental pathology and orthodontics.

In addition, several smaller-scope projects are undertaken depending on the needs and interests of post-graduate students including:

- Microbiological studies of dental caries risk and prevention.
- Biomaterial research.
- Salivary gland tumour research.
- Clinical research in periodontology.

Standards set by the DST to evaluate research output include the number of peer-review publications with impact factor, the number of MS and doctorate theses supervised.

However, the EEC could not identify stipulated criteria through which assignment of theses supervision is allocated among eligible members of the teaching staff, or an established process of self-assessment throughout the DST at the Institutional, Divisional and individual faculty level. This partly reflects the lack of an established research culture but also the apparent lack of a formal research mentorship process of junior faculty by their more senior colleagues.

### **IMPLEMENTATION**

- *How does the Department promote and support research?*
- *Quality and adequacy of research infrastructure and support.*
- *Scientific publications.*
- *Research projects.*
- *Research collaborations.*

The DST encourages and promotes research at the post-graduate level (MS and doctorate degrees). The participation of undergraduate to students to research activities appears to be very limited. The EEC identified very limited evidence of research collaborations across Divisions within the DST, and a relatively small number of inter-school collaborations within the University of Thessaloniki, or with foreign Universities.

There is a glaring lack of programmatic research leadership at the DST and this affects the allocation of resources, the development of meaningful and competitive research projects, and ultimately the scientific output of the DST as a whole.

Significant research infrastructure exists at DST, but it is fragmented by Divisional boundaries and is clearly not conducive to the development of a critical mass of research-oriented faculty. An outstandingly equipped Biomaterials laboratory exists with several state-of-the-art, expensive instruments. However, the EEC was disheartened by the glaring lack of activity at this facility for a period of several years (notably, one of the most expensive pieces of equipment has apparently never been used and runs the risk of becoming obsolete); the obvious lack of research leadership in the laboratory; the absence of support staff; the virtual absence of ongoing research projects and of any clearly articulated future research plans; and the difficulty to attract competitive research grants nationally or internationally. A second laboratory at an adjacent floor of the same building, equipped with new cell culture infrastructure, regrettably remains unused. At the same time, at least two additional cell culture facilities have been identified at other parts of the DST main building: one in the Department of Oral Pathology, with culture hoods and incubators that were currently not utilized, seemingly due to lack of any ongoing research project; another at a clearly unsuitable location within the Clinic of Fixed Prosthodontics that is currently functional, productive and staffed with post-graduate students. It is worth noting that cell culture facilities also exist in the nearby Medical Faculty (Department of Anatomy), where dental students have access. The above observations clearly illustrate that a centralized, non-territorial approach to research is absolutely required and a re-arrangement of the research leadership at the DST is needed. With respect to the additional articulated programmatic research areas, the EEC found evidence of good research efforts in the area of dental stem cells, tissue engineering and tooth repair mechanisms as well as limited evidence of current research activity in dental informatics and biostatistics.

Considerable research activity occurs at the Master of Science level as part of the mandatory research requirement at the graduate (specialty) level, although its quality is highly variable. Uniform criteria for what constitutes an eligible project for an MS thesis are lacking.

Although only a small percentage of MS thesis was solely based on literature reviews, and the vast majority of MS projects required collection of original data, there was a notable heterogeneity in the quality of the research projects with respect to the relevance of the scientific questions, the methodology used and the overall scope of the project. In addition, both the presentation delivered by the Co-ordinator of the Graduate Programs and the ECC interview of the graduate students revealed substantial variation in the quality and the opportunities provided among the different divisions at the DST: while some units incorporate their graduate students in well-planned projects, the ECC learned of disturbing reports of cases where graduate students had to contribute themselves to the financing of the expenses of their research activity. In reported instances, projects had to be hastily

redesigned due to lack of adequate funds, with obvious detrimental consequences on the quality of the final research product. The reportedly strongly uneven distribution of MS project supervisory assignments among Divisional faculty limits opportunities to expand research involvement and hampers faculty development.

Likewise, the EEC noted a substantial variability of scientific production among the various faculty members. While certain individuals and groups showed a consistent publication flow in respectable peer-reviewed journals, this was by no means consistent and any use of parametric summary statistical methodology was deemed unsuitable to summarize the scholarly output of the faculty. The EEC was provided with an exhaustive list of publications by DST academic staff over the past years that included that citation record of each individual publication. With very few exceptions, the DST record of publications with respect to quality and international visibility is not satisfactory, especially when considering research that originated from and was largely carried out at the DST.

### **RESULTS**

- *How successfully were the Department's research objectives implemented?*
- *Scientific publications.*
- *Research projects.*
- *Research collaborations.*
- *Efficacy of research work. Applied results. Patents etc.*
- *Is the Department's research acknowledged and visible outside the Department? Rewards and awards.*

While a notable increase in publications at DST has been observed in the past years, the EEC noted a lack of strategic planning and adequate research collaboration/integration among the different units at the DST. The EEC recognizes the value of intellectual independence and acknowledges the importance that each Division (Laboratory) may wish to pursue its own scientific questions. Nevertheless, the DST needs to articulate a strategic plan and develop a unique scientific niche based on critical mass and excellence in selected research area(s). By so doing, it will be able to attract external funding to cover research project costs and develop additional state-of-the art infrastructure, and will expand the research opportunities for a larger number of the DST academic staff.

As mentioned above, the research infrastructure and support is adequate for some laboratories and very limited for others. The EEC found no evidence for a plan to share infrastructure between laboratories. Likewise, the quality and visibility of publications generated over the past few years is highly variable, with substantial discrepancies between Divisions and among individual teaching staff. A large variety of small projects is currently being undertaken, many of which run the risk of not resulting in publications in international journals with impact factor. Although the EEC realizes the value of research for training purposes of graduate students, the DST may be better served by conducting a lower number of more streamlined projects, by encouraging groups of scientists to work synergistically, thus increasing the probability of higher quality scientific output. Such an approach would further facilitate collaborative projects with EU Universities and have the potential to generate research funds.

A limited number of collaborations beyond the DST boundaries were identified and include (i) a joint project with the School of Veterinary Medicine involving animal models for *in vivo* osseointegration and dentin repair; (ii) a collaboration with the School of Engineering for testing the biomaterial properties using electron microscopy and other methodologies; and (iii) a collaboration with a German University in the field of dental mesenchymal stem cells.

#### *IMPROVEMENT*

- *Improvements in research proposed by the Department, if necessary.*
- *Initiatives in this direction undertaken by the Department.*

The EEC feels that there is a strong need to create more synergistic research relationships within the DST but also with the Medical School and other Departments at the University of Thessaloniki (e.g. Biochemistry Department, Anatomy Department, Physics Department). The EEC strongly recommends that the DST develops a long-term strategic plan and identifies a limited number of programmatic research areas that will allow consolidation of research efforts at the DST level. The plan should aim at strengthening scientific collaborations between the DST and foreign institutions, and enhancing participation of DST academic staff in EU research consortia and exchange/mobility of students at the graduate and doctorate level between EU Universities. The process may be facilitated by the creation of a Research Committee consisting of both internal (DST) and external members that will oversee and monitor the DST's research strategy in the short-, mid-, and long-term.

## **D. All Other Services**

*For each particular matter, please distinguish between under- and post-graduate level, if necessary.*

### **APPROACH**

- *How does the Department view the various services provided to the members of the academic community (teaching staff, students).*
- *Does the Department have a policy to simplify administrative procedures? Are most procedures processed electronically?*
- *Does the Department have a policy to increase student presence on Campus?*

In order to support the activities of the DST, which encompass all aspects of didactic and clinical teaching, learning, patient care, and research, several ancillary services are needed.

The **DST and its leadership recognize the need for such ancillary services** in order to achieve and maintain at the highest possible level the oral health care provider education and the oral health care services to the immediate community of Thessaloniki and environs and the broader region of Northern Greece.

These ancillary services include administrative/secretarial support, technical support, library, information technology support, clinical equipment, patient services (clinical records, scheduling), procurement and distribution of clinical supplies and maintenance of clinical and research equipment.

The DST has established most of these services and in the last few years has made excellent advances by launching the Central Supply facility and by implementing the Financial Services Oversight Committee. In this manner, the **DST has succeeded in streamlining and simplifying certain administrative services**. Although some administrative procedures are processed electronically, **significant unmet needs remain** in order to expand the range of procedures and to fully encompass all DST procedures.

Some of these services are fully established and well functioning (e.g., DST library) while others are still in the process of being fully implemented (e.g., electronic patient records). Other services are significantly hampered by the **severely limited human resources** allocated to such services, such as the financial services unit and the technical support dedicated to the maintenance of clinic units (chairs). Other services, e.g., administrative support for research activities, have **yet to be established**.

Although most of the above ancillary services are geared towards both undergraduate and graduate students, the DST efforts appear to be focused on serving undergraduate education first.

The needs for additional DST services are commensurate with the number of students and patients being served. The significantly increased number of admitted students places increased demands on the School to provide such services. At the same time, limitations in such services result in limited clinical activity, i.e., reduce the number of patients that can be treated at any given time. Therefore, **in order to maximize the potential of DST to provide oral health care services to the community it serves,**

**it is imperative to ensure that DST ancillary services are fully supported, in terms of financial and human capital.**

The DST does not have a policy to increase student presence on campus. The number of admitted undergraduate students through the competitive National Admission Examination process has been reduced over the years to a steady number of around 70, from over 110 in previous years. However, the final number of students enrolled at any given year remains elevated (at about 120 students per year); the additional students belong to select categories, such as military, exceptional athletes, expatriates and disabled. The increase of enrollment by such a proportionally high number of students is happening despite the consistent, over the years, request of the DST to limit to the total number of enrolled students to 50 per year. This increase is due to the legal framework under which the DST has to operate. **The highly inflated number of new students enrolled annually severely hinders the teaching mission of the School.** The total annual entering DST class enrollment should not exceed 70 students.

#### *IMPLEMENTATION*

- *Organization and infrastructure of the Department's administration (e.g. secretariat of the Department).*
- *Form and function of academic services and infrastructure for students (e.g. library, PCs and free internet access, student counseling, athletic- cultural activity etc.).*

The organization and infrastructure of the DST administration are typical of a Greek academic unit, with a Dean (President), a Vice-Dean, and the Heads of 4 Sections and 11 Divisions (Laboratories). Several committees exist (Information; Financial Planning and Oversight; Internal Evaluation (self-assessment); Curriculum; Student Affairs; Graduate programs; Ethics (Deontology); Library; Infection Control; Public and International Relations; Student Activities; Strategic Planning) to discuss and propose changes to various aspects of the School that are then taken to the major decision-making body, the General Assembly. Secretarial support is provided for all functions of the School. The workload of the administration appears to be heavy (the majority of the administrative staff is reported to carry a heavy workload). The administrative structure deals with matters of teaching, clinical training, undergraduate and graduate programs, finances, maintenance, personnel assessment, student activities, library, etc.

Students are provided with clinical facilities and core materials. There is significant disparity between Divisions (Laboratories) in the quality and functionality of clinical facilities, with several dental units being over 25 years old. Undergraduate students reported having to pay for clinic materials themselves, although this situation has admittedly improved after implementation of the nominal clinic fees in undergraduate clinics. Graduate students in most clinical specialty program also reported having to purchase materials and equipment themselves; this happens despite the existence of both graduate tuition fees and graduate clinic fees. In most clinics, support staff is allocated to instrument handling and sterilization. There are no dental assistants to support the clinical activity of students. The availability of digital radiography supports the clinical service and training missions of the DST, however, access to the

digital radiography files has not been fully implemented for all clinics within the DST.

Computer access and free internet wireless access (WiFi) are provided to the students. A computer cluster room is available for all students. The WiFi access facilitates the use of University resources from any location within the DST.

The DST library is very well equipped with many books (both Greek and foreign) and subscriptions to numerous scientific journals (hard copies). The DST library is electronically connected to the central University library and to the consortium of Greek academic libraries, the Hellenic Academic Libraries Link (HEAL LINK), thus providing access to many additional e-journals and e-books. Required textbooks, which are provided free of charge to undergraduate students, are supplemented by electronically provided course materials (Blackboard) , but this varies by Division.

A Student counselor (tutor) is in place for educational advice, guidance and resolving problems.

The DST student community has access to the available athletic infrastructures of the University and the town of Thessaloniki. However, the intense study program severely limits the opportunity to participate in extracurricular activities for most students.

#### **RESULTS**

- *Are administrative and other services adequate and functional?*
- *How does the Department view the particular results.*

Most of the services provided by the DST appear adequate, for the most part, to support clinical and teaching activities. However, administrative resources to support research activities appear to be lacking; e.g., the DST has no dedicated personnel to support and monitor research grant applications. Furthermore, it was evident from the EEC discussions with support staff that the workload for administrative and technical support personnel was heavy. In some aspects, the available support personnel (e.g., dental unit maintenance) is clearly inadequate to properly sustain the DST activities.

A number of renovations have been made in the clinics with the replacement of old dental chair units. This helps improve clinical efficiency and reduces the need for ongoing maintenance. However, the majority of DST dental chairs are aged over 15 years, with many aged over 25 years. These units need to be replaced to further facilitate the educational and clinical service missions of the School. Similarly, the facilities of the affiliated Hospital (Papanikolaou General Hospital) are in need of updating.

There is a need for a centralized sterilization facility, which is an ongoing project. Similarly, there is a mounting need to introduce the centralized electronic patient record, including digital radiographs, to all clinical facilities of the DST. As the implementation of electronic patient records is generalized, along with the increasing

reliance on information technology for education purposes (e-learning), there will be an immediate need to increase the technical support personnel for this purpose. The clinical activity, particularly of graduate students, could be better supported by the availability of dental assistants; this would improve clinic revenue and increase the number of clinical experiences for the graduate students.

#### *IMPROVEMENTS*

- *Has the Department identified ways and methods to improve the services provided?*
- *Initiatives undertaken in this direction.*

The DST and its leadership are cognizant of the improvements needed in the services provided, especially regarding human resources (support personnel) and infrastructure (clinical facilities, including dental chairs). These restraints stem from the financial and legislative framework under which the School operates and are compounded by the large number of students enrolled.

The DST consistently and systematically requests the decrease of the total number of students from 120 per year to 50-70 per year. Such a decrease would make it feasible for the existing support personnel to provide adequate services.

Hiring of additional technical personnel, especially in key areas (unit maintenance, computer support, clinic assistants) would facilitate clinical teaching, patient care, and research activities.

The DST currently works in planning the virtual lab platform to improve teaching in the various preclinical laboratories. In addition, the planned central instrument sterilization facility will improve support of DST clinical activities.

The anticipated full implementation of the electronic patient record, the move towards greater use of e-learning, and the future virtual lab, point to the need for increased computing capacity.

#### *Collaboration with social, cultural and production organizations*

*Please, comment on quality, originality and significance of the Department's initiatives.*

The DST initiatives to collaborate with social, cultural and production organizations appear satisfactory in the area of scientific meetings/Continuing Education. According to the Internal Evaluation report (2009), the DST has collaborated with the Hellenic Dental Association for the organization of the annual Pan-Hellenic Dental Congress, local Dental Societies in Northern Greece for the organization of scientific meetings, and various dental scientific societies for the organization of Continuing Education courses and other similar activities. In addition, collaborations are reportedly initiated by individual members of the teaching staff and by Divisions (Laboratories). These initiatives are important in their support of professional education.

However, there is tremendous untapped potential for more intensive, focused and productive collaborations between the DST and various local and regional organizations, especially in support of layperson education. Such collaborations, initiated by the DST, could enhance the service mission and visibility of the DST, while meaningfully supporting its educational mission. Examples of such possible collaborations, with potentially strong mutual benefits, could include structured and ongoing interactions between the DST and local/regional elementary schools (screening and preventive care of children/pediatric dentistry experiences for the undergraduate and graduate students), social centers for the elderly (oral cancer screenings and oral examinations/stomatology, geriatric dentistry and removable prosthodontic experiences for the undergraduate and graduate students), and athletic clubs (dental trauma prevention education to athletes/mouthguard fabrication experiences for undergraduate and graduate students), among other possibilities.

### ***E. Strategic Planning, Perspectives for Improvement and Dealing with Potential Inhibiting Factors***

*For each particular matter, please distinguish between under- and post-graduate level, if necessary.*

*Please, comment on the Department's:*

- *Potential inhibiting factors at State, Institutional and Departmental level, and proposals on ways to overcome them.*
- *Short-, medium- and long-term goals.*
- *Plan and actions for improvement by the Department/Academic Unit*
- *Long-term actions proposed by the Department.*

The DST has articulated a four-year Strategic Plan that was approved by its General Assembly in June 2008 (described on page 49 of the 2008-09 Internal Assessment Report). This plan defines a number of educational and research goals as well as objectives related to the delivery of the oral health care. Below, we first list the stated goals thematically and append a brief comment regarding the implementation of the particular goal at the time of the site visit.

#### **Educational Goals**

1. Introduction of a new undergraduate curriculum
2. Improvement of the existing infra-structure
3. Development of a quality control educational system
4. Improvement in the quality of oral health care delivery
5. Incorporation of contemporary educational technology in the curriculum
6. Alignment of the educational objectives of the predoctoral curriculum with those of the Association of Dental European Education (ADEE)

#### ***Assessment:***

The DST has designed and is currently in the first year of transitional implementation of a

new educational curriculum. The new curriculum has been founded on the curricular structure of a number of dental schools in Europe and the US and has been adapted to the particular needs of the DST. At this time, **it is too early to assess the advantages of the new curriculum over its predecessor**. Nevertheless, the EEC noted the lack of clearly defined criteria to assess the outcomes of the new curriculum, and strongly suggests that these be defined the soonest.

With respect to the second point, it is clear that substantial improvement has occurred in the clinical facilities and infrastructure (notably in the clinics for fixed prosthodontics, orthodontics and oral surgery) as well as in certain central educational resources (e.g., library, wireless web-based access of educational material, interactive computer-assisted instruction in clinical disciplines such as Endodontics). Nevertheless, it is clear that this development is **not uniform across the DST educational units**.

Quantitative **systems for assessing quality control** in education and improvement in oral health care delivery (points 3 and 4 above) **do not appear to have been fully developed** so far. With respect to the 5<sup>th</sup> point, although modern technology has been clearly incorporated in education in some areas, **a lecture-based mode of delivery continues to be used in a substantial part of the curriculum**, even at the graduate student level.

Finally, **the new curriculum is clearly aligned with the ADEE principles**, with a notable exception of a lack of emphasis in community outreach programs or a concerted effort of underscoring the DST's broad contributions to oral public health.

### **Research Goals**

1. Introduction of research education in the undergraduate curriculum
2. Infrastructure development
3. Re-organization of the Basic Science Division (Laboratory) to (i) a Biomedical and Biomaterials Laboratory and (ii) a Laboratory of Dental Informatics and Statistics
4. Enhancement of research activity at the graduate level
5. Academic visibility of the DST faculty

### **Assessment:**

The new curriculum mentions the existence of a new, elective, research methodology course at the 4<sup>th</sup> semester. Although this is recognized as **a small first step in the right direction**, it is unlikely that it will, by itself, substantially change the current climate of conspicuous lack of involvement of undergraduate students in research activities.

Significant research infrastructure exists at DST, but it is fragmented by Divisional boundaries and is clearly **not conducive to the development of a critical mass** of research-oriented faculty. A centralized, non-territorial approach to research is absolutely required and a re-arrangement of the research leadership at the DST is needed. The EEC noted a substantial variability of scientific production among the various faculty members. While certain individuals and groups showed a consistent publication flow in respectable peer-reviewed journals, the EEC noted substantial variability across Divisions and among individual staff members.

### **Oral health care delivery-related goals**

1. Replacement of outdated dental units
2. Establishment of a new Comprehensive Care clinic
3. Establishment of a new Diagnostic Clinic
4. Establishment of a new Central Sterilization Facility
5. Acquisition of a Cone-Beam Computer Tomography Unit
6. Acquisition of simulation technology to be used in the clinical education of the dental students.

#### ***Assessment:***

A **concrete plan** regarding the location and financing of the Comprehensive Care Clinic (required to implement the new Curriculum) **was not clear** at the time of the site visit. With respect to replacement of outdated dental units, this has been accomplished in some -but clearly not all- areas. A **new Diagnostic clinic has been established** and a Cone-Beam CT has been purchased but has yet to be installed. Neither a centralized sterilization unit, nor a clinical simulation laboratory, have been established so far.

The EEC identified some key impediments in the apparent lack of realization in several of the above stated strategic goals.

Starting with the obvious, **lack of sufficient funds** to adequately finance any of the defined goals has had a detrimental impact. However, there was again a **highly variable response** to the financial strains across the DST Divisions: while certain academic units have been active, entrepreneurial and ultimately successful in attracting funds to finance their individual needs without relying on the limited or non-existing State support (e.g., Orthodontics and Fixed Prosthodontics) other units have been unsuccessful or passive.

A second, inter-related problem is the **lack of adequate teaching staff in relation to the number of undergraduate students** that the DST currently educates. While this is a clearly significant shortcoming of the existing system, the EEC had great difficulty to accurately assess the magnitude of the problem due to the **variable interpretation of what the real time commitment of the full-time faculty is**. The EEC recognizes that the current salary structure of the teaching staff almost mandates their involvement in some kind of extra-curricular clinical activity, usually in the form of a private practice involvement. However, to what extent these extracurricular activities present an impediment in realization of their faculty responsibilities (teaching, and scholarly/research activities, and intra-mural delivery of oral health care) is highly variable. The EEC learned of cases of academic full-time teaching staff with limited presence on a weekly basis, and even disturbing cases of inter-city commuting for purposes of attending to private dental offices. These are clearly unacceptable practices that disrupt the continuity of student supervision, impair the quality of education, and, most importantly in the case of high-ranked staff, serve as poor role models for other faculty. On the other hand, the EEC also learned of cases of highly dedicated academic full-time teaching staff who spend double or more than double the minimum required hours and also contribute their own personal funds to support the educational and research missions of the DST.

A third problem is the unnecessary segregation in the **DST Table of Organization** with multiple independent units that are poorly coordinated, seldom interact constructively with each other, and often have overlapping educational and scientific focus. The clinical education in implant dentistry is a case in point, with apparently four Divisions offering largely overlapping education at the post-graduate level. Other examples are the artificial segregation of Prosthetic Dentistry in Fixed and Removable, and of the educational content of Oral and Maxillofacial Surgery in two Divisions.

A fourth problem is the **lack of programmatic research leadership**, and the inability of the DST to devise a structure that will make the best use of its significant research resources and faculty expertise, will facilitate the development of clinically and scientifically meaningful research projects, will be conducive to the formation of a critical mass of researchers and students, and will ultimately be competitive in attracting research funds. The cumbersome **system of DST administration** through the General Assembly has apparently further hampered effective, bold and visionary decision-making.

## ***F. Final Conclusions and recommendations of the EEC***

*For each particular matter, please distinguish between under- and post-graduate level, if necessary.*

*Conclusions and recommendations of the EEC on:*

- *the development of the Department to this date and its present situation, including explicit comments on good practices and weaknesses identified through the External Evaluation process and recommendations for improvement*
- *the Department's readiness and capability to change/improve*
- *the Department's quality assurance.*

### **General Conclusions and Comments**

The DST has demonstrated admirable creativity, adaptation to an increasingly challenging financial environment, and problem solving capability over the past decade. Its considerable institutional strengths include: (i) the fact that the DST is the sole institution offering university-level education in Dentistry in the larger region of Northern Greece and is one of only two in the entire country; (ii) the excellent academic standing of the students admitted to its undergraduate and graduate programs; (iii) a number of talented and committed faculty and teaching staff that can form an adequate 'critical mass' under the right circumstances; and (iv) its dedicated administrative staff. Although the DST physical plant is far from ideal, there has been substantial improvement in certain aspects of the clinical facility

infrastructure. The addition of a contemporary wing currently housing research laboratories and a limited-sized clinic for graduate studies is an important asset. The undergraduate curriculum has been recently revised to correspond to that of prominent foreign institutions, and has also adopted an integrated model of clinical education (Comprehensive Clinic). However, the EEC noticed a significant contraction of basic sciences courses in the new curriculum, and a lack of an adequate evaluation process to fully appreciate the advantages of the new curriculum over its predecessor. The graduate education at the MS level appears to be thoroughly planned in a number of disciplines.

Despite the notable strengths above, the DST faces significant challenges, spanning through the entire spectrum of its educational and research activities, its overall administrative structure, and its human resources.

A major challenge stems from the fact that the full-time commitment of the DST academic teaching staff appears to roughly correspond to a half-time commitment of their peers in foreign institutions. In addition, the fact that the DST admits a far larger number of students than it has been designed for and is capable of educating effectively further undermines DST's education mission. The EEC realizes that current legislation beyond the DST's control determines the number of admitted students, but saw little evidence that these numbers are founded on an analysis of the country's (or the region's) actual needs for professional workforce in dentistry or on the availability of educational and financial resources. This increased admission flow has obvious detrimental effects on the educational experiences that can be offered, and significantly hampers the utilization of contemporary educational methodologies involving small group discussions and seminars rather than amphitheater-based lectures that appear to be the norm. The EEC also noted an absence of a culture of self-assessment in student education, a lack of integrated clinical teaching based on a holistic approach to oral health care delivery, and no meaningful research education at the undergraduate level emphasizing the continuum between basic and clinical sciences. Further, the EEC observed instances of inadequate protection against infectious risks among practicing students, and less than ideal general infection control practices.

With respect to the DST research portfolio, the EEC found that the current research production is segregated according to Divisional boundaries and does not reflect a common, strategic vision. The lack of central research leadership results in underutilization of human resources and material infrastructure, limited inter-Divisional collaboration or with other Schools at the University (e.g., Medicine, Biology, Physics, Engineering), inability to engage in innovative research activities that may attract adequate external research funding, and ultimately average, at best, scientific production. Regrettably, the structure, function and research output of the education at the doctorate level received very little attention during the site visit, but the EEC was made aware that the current financial climate that offers very limited opportunities for new employment among the teaching staff acts as a disincentive against the pursuit of a doctorate degree among junior colleagues.

The current administrative structure of the DST includes multiple, narrowly defined

academic Divisions. These are not always sufficiently distinct from each other and do not correspond to the didactic/academic units commonly found in similar foreign institutions. Furthermore, the allocation of teaching staff among the Divisions is drastically out of proportion with the assigned didactic, clinical, and research teaching load of each Division. In addition, the DST's ruling body, the General Assembly, represents a cumbersome governing system that is not conducive to timely, bold, and flexible decision-making. Lastly, a major challenge is the attrition and ageing of the teaching staff that, due to the dire financial situation of the University and the Greek state in general, is not regularly replenished by younger colleagues and is showing alarming signs of academic fatigue.

### RECOMMENDATIONS

- The EEC feels that a **thorough rearrangement of the DST Table of Organization** with fewer, larger and non-territorial academic units will constitute the basis of a more effective and flexible school that will be capable to provide better education and generate enhanced scientific output. A new legislative framework for the governance of institutions offering the highest level of education is currently pending, and the DST must seriously seize this opportunity of profound administrative reform.
- An **unequivocal definition of the expected contribution from each full-time academic staff** in terms of hours of physical presence at the University is essential for appropriately determining the DST staff needs in order to successfully fulfill its mission. In parallel, the DST must act to secure that a reasonable number of admitted students is maintained.
- The DST must embrace a **contemporary system of ongoing evaluation and quality assurance** at all aspects of its activities (education, research and patient care). The DST must institutionalize the process by which student evaluations are used to improve the didactic and clinical teaching output and the process by which faculty teaching is assessed by peers. It must further establish an outcomes assessment for the **academic promotion** of the teaching staff that must be **based on a system of undisputable meritocracy and transparency**. The criteria should include an evaluation of their supervisory role in MS and doctorate theses, and their scholarly production resulting in peer-reviewed publications.
- In the current climate of financial strain, the DST must **exploit all entrepreneurial opportunities** to increase its funding, in order to be able to make the necessary investments in its human and material infra-structure. A dialogue with all stakeholders must aim at securing a reasonable and consistent income stream from tuition fees, patient fees, research foundations and industry.
- The DST must **enhance its presence and visibility in the community**, and underscore its role both as an academic center of excellence and as a crucially important distributor of oral health services for the underserved. Establishment of an Alumni Association can assist significantly in this task.
- The DST must thoroughly rethink its research policies and proceed with a **strategic, interdisciplinary research plan** that builds on its current strengths; maximizes intramural and extramural collaborations; attracts funds from external sources; incorporates faculty and

students at all levels of education; and results in a competitive research program leading to internationally recognized scientific output.

- The DST must actively support and increasingly benefit from the existing ECTS European academic credit system. It must embrace the Erasmus program for **student and staff mobility** as a vehicle of enhancing the competence of its students and staff and increase its international visibility.

- The EEC feels that the DST should **accelerate implementation of proposed improvements** and execute within a reasonable time frame (i.e., 2-3 years) another Internal Evaluation to assess its own progress.

## The Members of the Committee

Name and Surname	Signature
1.	_____
2.	_____
3.	_____
4.	_____
5.	_____