

**KING SAUD UNIVERSITY
COLLEGE OF DENTISTRY
Riyadh, Saudi Arabia**



Association for Dental Education in Europe

SCHOOL VISITATION

28th - 31st May 2011



ADEE Visitors' Comments

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Basic Information

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Prologue

The visitors are extremely grateful to the King Saud University and in particular it's College of Dentistry for their wonderful welcome and hospitality during the ADEE visit.

We wish to thank, Prof. Khalid Al Wazzan Dean of the College of Dentistry, Dr. Hassan Halawany, Vice Dean for Quality & Development and all the staff and students at King Saud College of Dentistry for the honesty and enthusiasm of their participation during the visit.

The self-assessment document prepared for our visit was of an extremely high standard and contained great detail throughout. This enabled the visitors to maximise discussions with the staff and students. All authors who contributed to the Self Assessment Document should be commended.

The faculty were highly focused on what they wanted to achieve and were justifiably proud of their school and its activities.

The school benefits from the international experience which many of the faculty have enjoyed.

The visitors hope that this ADEE review process has helped staff and students to acquire a better overview of the curriculum and this in turn should help interdepartmental integration.

The observations are those of a team of four individuals from different countries, different backgrounds and perspectives. The visitors' comments are offered for consideration and debate in the school.

The discussions were open and while the document served as a basis for these discussions, the subject matters addressed encompassed many related issues in addition to those mentioned in the document.

It is important to remember that this ADEE visitation process is not part of any formal accreditation process. One of the main goals of ADEE is to promote convergence towards higher standards in Dental Education and it is hoped that this peer review process will contribute towards this convergence.

The ADEE visitors used the Profile and Competence document (ref Cowpe, J., Plasschaert, A., Harzer, W., Vinkka-Puhakka, H. and Walmsley, A. D. (2010), *Profile and competences for the graduating European dentist – update 2009. European Journal of Dental Education, 14: 193–202*) as a reference and were pleased that the host school considered this document in many aspects of their curriculum.

Finally the visitors would like to thank most sincerely, Dr. Hassan Halawany, who, together with his team co-ordinated the visit on behalf of the school; all their endeavours and hard work both before and during the ADEE visit is greatly appreciated.

Visitors Comments - Chapter 1 - INTRODUCTION

The King Saud University (KSU) is to be commended on their College of Dentistry. The recent developments in dental education and research are of a high standard and the College of Dentistry is privileged to have the full support of the University for these Developments.

The visiting panel from the Association of Dental Education in Europe (ADEE) would like to commend the College of Dentistry on a well produced, detailed and extensive ADEE self-assessment document. The obvious teamwork and preparation of the College of Dentistry in the production of this document for the ADEE visit is very much appreciated.

This self-assessment document, followed by the visit of the ADEE panel, contributed to a greater understanding of the College of Dentistry itself, an understanding of the role of the College of Dentistry not only within the King Saud University and the Kingdom of Saudi Arabia but also within the entire Gulf Region.

The ADEE visitors were impressed with both the current academic and general administrative governance structures at KSU. The organisation is in its early stages of evolution, but gives the Colleges both autonomy and possibilities for cooperation.

In May 2008 KSU began the ambitious project of redefining the strategic direction of the University, resulting in the New 2030 Vision and Mission that guides KSU on its way to the continuous search for excellence.

In accordance with the Arabic culture, the College of Dentistry contains separate male and female campuses. In terms of programme, curriculum and awarded degrees, both centres are fully integrated resulting in high standards for both. This is a good example of the unified policy setting governance within KSU to ensure equal opportunities for both the male and the female population.

The female campus, Deriyah is expected to move within closer proximity to the male campus, Malez and the KSU campus (in 2013). The changes as a result of this move will allow further integration of the management structure and provide the opportunity to revise curricular strategies. Following 2013 both the male and female campuses will be in an ideal location next to the other Health Colleges. This will encourage the integrated education of all health care providers.

It would be ideal also to have the Dental Hygiene Programme permanently located within the new Dental College building. This would further facilitate the team approach of the oral health professional and will more accurately reflect their future professional life.

The panel of visitors acknowledges that the College of Dentistry recognises the oral health care needs of the population of the Kingdom of Saudi Arabia.

The support of the Ministry of Health of the provision of free healthcare facilities and privileges to all Saudi citizens throughout the country is unique and highly commendable. However, the Dentist: Population ratio in the country is less than optimal for the oral health care needs of the entire population. In order to improve the oral health situation of the country, the collaboration of all the oral health care professionals should be utilised to implement an extensive and nationwide prevention programme.

The visitors strongly emphasise the importance of the *process* of the production of the self -assessment document to the College of Dentistry and the entire College of Dentistry community. This actual process of self-assessment is the most important aspect of the ADEE review of the College of Dentistry. It is through the self-assessment exercise itself that the College of Dentistry can learn and advance the undergraduate programme towards excellence. The visitors recommend that the College of Dentistry itself should repeat this self-assessment process periodically involving the entire faculty in the process. This would be beneficial for all.

The visitors commend the King Saud College of Dentistry for what it has achieved. The overall view of the ADEE visitors is that the College of Dentistry is highly committed to the education of competent graduates. The College is on a par with many dental schools in Europe and better than most of those visited thus far. The King Saud College of Dentistry is privileged to have the unstinting support of the University, with its strong leadership and highly committed faculty, staff and students. Much can be learned from the exemplary practices observed by the visitors in the King Saud College of Dentistry. The comments of the ADEE visiting panel set out in this document focus on areas where suggested improvements can be made and on issues which are worthy of further consideration and discussion. Many other elements of the programme provided by the College of Dentistry greatly impressed the visitors and were discussed onsite. These are not covered in detail in this document.

The production of this ADEE self-assessment document and the support for the document shows the commitment of KSU and the desire of the College of Dentistry to lead in the education of dental professionals within the Kingdom of Saudi Arabia and the entire Gulf Region.

Visitors Comments - Chapter 2 - CURRICULUM

Please see Visitors Comments related to Chapter 2 '*Curriculum*' at end of Chapter 3 (*Curriculum Content and Methods*).

Visitors Comments - Chapter 3 - CURRICULUM CONTENT AND METHODS

The New 2030 Vision and Mission of KSU is

“To provide students with a quality education, conduct valuable research, serve the national and international societies and contribute to Saudi Arabia’s knowledge economy through learning, creativity, the use of current and developing technologies and effective international partnership.”

The mission of the Dental College is adapted in line with the KSU mission

“To develop competent dental professionals and contribute to research and community service: through an environment that stimulates acquisition, dissemination and production of oral health knowledge, adopting technology and building local and international partnerships”

The vision and mission clearly express the values of the College and are well incorporated within the normal functioning of the College. The King Saud University and the College of Dentistry is to be commended on this vision and mission and the principles of this should continue to be central to all the future plans of the College.

In their curriculum, the KSU College of Dentistry are guided by the proposals and the philosophy set out in the ADEE Profile and Competences document (PCD) (Cowpe J, Plasschaert A, Harzer W, Vinkka-Puhakka H and Walmsley AD: Profile and Competences for the graduating European dentist-update 2009. Eur J Educ 14:193-2010). The panel of ADEE visitors welcomes this inclusion. It is also noted that the College of Dentistry do not copy the competences from the PCD-document as such but have adapted the interdisciplinary Domains and Competences to align with the national Arabic culture and thinking.

The curriculum of the KSU College of Dentistry is well-formulated; it includes course objectives which are referred to as learning outcomes. Learning outcomes detail what a learner will know/understand and be able to demonstrate at the end of the learning experience (for example - what the teacher will teach). Learning outcomes are attempts to make academic judgement more explicit for the student.

An overview for the benefits and problems related to learning outcomes can be found in the article: Kennedy D, Hyland A, Ryan R: Writing and Using Learning Outcomes: A Practical Guide. Available online only <http://www.bologna.msmt.cz/files/learning-outcomes.pdf>

The semesters for the dental curriculum are relatively short but are well compensated by the year of internship.

The College of Dentistry has six academic Departments which administer all core courses related to the curricula of the undergraduate and postgraduate programmes.

Dental disciplines are combined into the departments in the manner that is logical and also can lead to good cooperation between dental disciplines due to excellent integration of the departments by way of the vice-deans responsibilities. This structure offers a significant opportunity to open departmental boundaries further in order to implement a more integrated approach especially in clinical dentistry.

The panel of visitors welcomed some development away from didactic (instruction based) teaching to the provision of learning by the introduction into some modules of more modern student-centred teaching methods (for example problem based learning, case based learning and on-line learning). The use of such methods to integrate courses would be highly desirable.

The visitors expressed the belief that the new facilities (available in 2013) will provide a golden opportunity to explore and to put into practice additional student-centred, self-directed educational methods.

The interest of the staff in innovative educational methods is obvious and the provision of support for further educational training (“teaching the teachers”) should be encouraged. This educational training should be in line with core values and the educational philosophy of the College of Dentistry and the preparation for the life long learning of the future Dental Professionals.

The College of Education of KSU might be interested in providing professional help in the pedagogic matters of teaching the teachers.

An article on medical education gives ideas for the role of modern higher education teacher (*Harden RM and Crosby J: AMEE Guide No 20: The good teacher is more than a lecturer – the twelve roles of the teacher. Medical Teacher, 20:334-347, 2000*).

The form and content of assessments have a strong influence on student learning and the success of the educational programme (e.g. *Manogue, Kelly, Masaryk et al. Evolving methods of assessment. Eur J Educ. 6, suppl 3:53-66, 2002*).

The matter of the “hidden curriculum” has been known to reflect the behaviour, knowledge and performance that students infer to be important (*Snyder BR: The Hidden Curriculum, Knopf, New York, 1971*). Teachers need to be aware of the existing “hidden curriculum” in order to prevent the unwanted development alongside the official curriculum.

In the past the value of assessment in dental education has not in the past been given the credit it deserves. In the current competence based curricula clearly expressed learning outcomes addressing a wide variety of skills and knowledge areas have highlighted the need for more emphasis on the assessment methods.

Assessment methods should be developed to include active learning, for example, Objective Structured Clinical Examinations (OSCE’s), Case-scenarios etc. It would be desirable to integrate the assessment of various courses, assessing less often perhaps but integrating courses (subjects) by assessment methods. For example, in OSCE’s the predetermined assessment criteria would ensure objectivity (*Meta Schoonheim-Klein: The use of Objective Structured Clinical Examinations (OSCE) in dental education. PhD Thesis, ACTA, 2007*). It is recognised that assessment drives learning (*A New Predoctoral Endodontic Module: Evaluating Learning and Effectiveness. Friedlander and Anderson J Dent Educ..2011; 75: 351-359*). (*Teaching Clinically Relevant Dental Anatomy in the Dental Curriculum: Description... Obrez et al. J Dent Educ..2011; 75: 797-804*)

An extensive review and introduction to the literature of different assessment methods can be found e.g. *JEN Albino, SJ Young, LM Neumann, GA Kramer, SC Andrieu, L Henson, Br Horn and WD Hendricson: Assessing Dental Students’ Competence: Best Practice Recommendations in the Performance Assessment Literature and Investigation of Practices in Predoctoral Dental Education, Journal of Dental Education, 72: 1405-1431. 2008*

The article was commissioned by the American Dental Education Association Commission on Change and Innovation in Dental Education (ADEACCI) but the article is an independent document by the authors.

A continual programme of educational training of the teachers would also advance the assessment of the curriculum.

The Core Values of KSU are to be highly commended and are very much central to the education of the KSU students. These same values are ideal in the education of the Dental professional. In the discussion with students the ADEE panel became convinced that the graduates of both male and female campuses have professional attitudes that facilitate effective and appropriate interaction with patients and other health care professionals. The students present as capable and well disposed to contribute to social and communal well-being and advancement in the Kingdom of Saudi Arabia.

The College of Dentistry have introduced several new modules into the curriculum to respond to the advance in many areas of dentistry. This shows that the dental curriculum is dynamic. With the vast

increase of knowledge in dental diagnostics, materials and methods over the past 30 years there is a great danger of overload if the entire curriculum is not reviewed and edited on an ongoing basis to achieve balance.

Overloaded curricula may prevent students from learning especially in a situation such as at the KSU College of Dentistry where students participate in teaching sessions almost without exceptions.

In well balanced programmes the active participation of the students in the learning process will ensure that on completion of the degree programme students are equipped with the necessary skills for their profession and associated life long learning.

The development of the curriculum mapping including the competences is welcomed as it facilitates the integration of the curriculum both horizontally (within the academic year) and vertically (throughout the entire programme).

The application, selection and enrolment of students ensure that exceptionally qualified students are accepted into the dental programme. The College of Dentistry should perhaps consider an initial acceptance to Dental College at enrolment in the preparatory year in order not to isolate good students focused on a dental profession who may chose not to apply to KSU because of the rather heavy enrolment and selection process.

Visitors Comments - Chapter 4 - FACILITIES

The King Saud College of Dentistry is privileged with its planned new facilities. The visitors were impressed with the plans for the new building and recommend taking advantage of the new facilities by the introduction of more modern educational methods central to the curriculum. This would provide a more integrated undergraduate programme, promoting integrated clinical care and facilitating small group, interactive learning.

The existing facilities were relatively good and the general cleanliness within the school was impressive.

- Clinics have excellent chair-to-student ratio with clearly expressed guidelines and procedures. The ratio of supervisor to student in DUC and MUC should be harmonised.
- Libraries give ample access to the recent publications both in paper and in electronic form for all the students and faculty.
- Training laboratories are well maintained and organised applying a comprehensive set of technical and administrative guidelines (ISO 9001) <http://www.iso.org/iso/catalogue.htm>
- Research laboratories are well equipped with the latest generation machinery and dedicated, enthusiastic staff.

The panel welcomed the future plans for the dental hospital to have its own operating theatres and facilities for in-patient care.

The expansion of the Special Care Dentistry clinic was especially welcomed for the growing number of people with special needs.

The visitors believe that it would be appropriate to build stronger links with the dental technician educators and students who are located at a different campus.

Visitors Comments - Chapter 5 - ORGANISATION

The full support of the Rector, Vice-Rectors, the faculty members and department heads ensures a stable environment for the improvement measures proposed by the Dean and his team.

The panel believe that the College of Dentistry is fortunate to have such a skilful and forward thinking Dean and his team with a very dedicated academic and administrative staff.

The College of dentistry comprises two campuses. The male students are based at Deriyah University Campus (DUC) and female students are educated at Malaz University Campus (MUC). While it might be expected that the dual location would cause complexity in administration and educational delivery, the visitors perceived the structure to be very well managed by the College Community. The periodic review of the college organisational structure is welcomed to ensure continued success.

The major activity of the Student Support Unit is to support student's extracurricular activities, such as sport, social, cultural, art and other activities. Students seem to value extracurricular activities which have a balancing effect during stressful study periods. Such activities are important for mental and physical wellbeing.

The dental profession is physically very demanding, consequently dental students and practitioners should be conscious of appropriate ergonomic practice. More emphasis should be placed on this topic in the undergraduate curriculum. The panel recommends a review of the ergonomic habits of the students, perhaps by the physiotherapists (or physiotherapy students).

Student involvement with the planning process of the curriculum and their learning experiences will also help direct the education towards a more student-centred, active process.

Visitors Comments - Chapter 6 - STAFF

The review panel, drawn from different backgrounds and cultures, found the clinical, academic and administrative staff at the College of Dentistry to be welcoming, positive, enthusiastic and open-minded and were of the impression that the staff were highly qualified dental professionals, who, in addition, have respect for each other, are truly interested in the future of dental education in the Kingdom of Saudi Arabia and the entire Gulf Region. The panel were very impressed by the honesty, warmth and admirable cohesion apparent during the visit. The leadership and teamwork is to be highly commended and would be the envy of many institutions.

The College of Dentistry has an excellent relationship with the international scientific community through extensive libraries, web pages and personal communication and friendships. In-house research is developing but in addition to the three established lines of research the panel recommend a focus on the community and population needs.

The opportunities for the staff to progress in their academic career are well structured. This augurs well for the future of the College of Dentistry, since well-planned human resource management is essential for the future of every Dental School. (*P.Ferrillo, I Jonas, S. Gundersen et al.: Human Resource Management. Eur J Dent Educ: 6 (Suppl 3): 107-114, 2002*)

The good work of experienced and young academics should be encouraged to continue, especially if the research work fits well with the existing research chairs. However, on occasion it is also rewarding to support good work generated in other areas which can create innovative paradigms. Consequently the visitors suggest that innovative research projects could also be encouraged.

The visiting panel welcomes the application for the higher scientific qualification through a Doctorate thesis. That would further enhance faculty development, research and international recognition.

The panel also envisages future development towards a PhD programme in Dentistry. This might be of some importance to the staff of the College even though good and well-conducted research is always good research regardless of the academic standing of the person who has undertaken the research.

Visitors Comments - Chapter 7 – BIOLOGICAL SCIENCES

For comments on Chapter 7 Biological Sciences please refer to the integrated comments that follow Section 8 Medical Sciences.

Visitors Comments - Chapter 8 – MEDICAL SCIENCES

The dental education programme of KSU covers the core knowledge to sustain the competences of the dental professional as described in the EU directive 2005/36/EU of the European Parliament and of the Council for the Recognition of Professional Qualifications section v.3. Dental Practitioners. (<http://eurlex.europa.eu/LexUriServ/?uri=OJ:L:2005:255:0022:0142:en:PDF>)

The panel of visitors were impressed with the integration of the biological sciences horizontally but would recommend the further extension of this integration in particular by assessment methods. Further integration vertically throughout the curriculum would also be recommended. However the visiting panel would also caution the overloading of the curriculum. The current students accepted into the College of Dentistry are of high intellectual ability. Such intellects require time for self-directed learning, reflection and also recreation. Overloading the program demands passive learning of less relevant detail. A focus on the essential requirements for a dental student is recommended. This is a common finding in many of the Dental Schools visited.

Iacopino, AM; Taft, TB; Core Curricula for Postdoctoral Dental Students: Recent Problems, Potential Solutions, and a Model for the Future *J Dent Educ.* 71(11): 1428-1434 2007

Dawson, A. G., Bruce, S. A. M., Heys, S. D., Stewart, I. J. Student views on the introduction of anatomy teaching packages into clinical attachments. *Clin. Anat.* 22(2): 1098-2353; 2009;

Panzarella, Karen J.; Manyon, Andrea T. A Model for Integrated Assessment of Clinical Competence. *Journal of Allied Health,* 36, 3, pp. 157-164, 2007.

Samy A. Azer · Norm Eizenberg. Do we need dissection in an integrated problem-based learning medical course? *Perceptions of 1st- and second-year students, Surg Radiol Anat (2007) 29:173–180*

The integration of the Oral Biology and Oral Pathology courses in the “Oral Diseases of Bone and Soft Tissues” is to be commended since it provides a holistic approach to this core knowledge. Furthermore, the Dental Transplant and Osseointegration Research Chair provides an excellent opportunity to integrate the latest developments in Bone and Oral Biology through collaboration with the research staff in the teaching of these courses (i.e. in form of seminars or literature reviews).

Visitors Comments - Chapter 9 – PUBLIC DENTAL HEALTH AND BEHAVIOURAL SCIENCES

The College of Dentistry is strongly committed to the oral health care needs of the population in the Kingdom of Saudi Arabia.

The visitors were advised by the staff at the College of Dentistry that there is an urgent need to address the currently oral health situation in the Kingdom. An action plan to improve oral health for the future generations requires active co-operation with all the medical and oral health care providers and stakeholders.

The College of Dentistry currently organises student-community activities and projects in order to engender in the students the necessity to serve the community in their professional capacity. The visitors strongly believe that it is imperative that a more proactive public dental health programme be developed in conjunction with state agencies.

The visitors recommend an Oral Disease research, information and prevention campaign under the leadership of the College of Dentistry as a pilot study supported by the Ministry of Health.

The aim of the pilot study should be to gain the expertise to create a nationwide network for the Kingdom of Saudi Arabia focused on the prevention of oral diseases, starting with the expectant mothers, and continuing through all age groups in the educational system at least up to the age of 18 years. In order to achieve this objective the cooperation of all the oral health professionals is required. The programme would preferably be integrated with an overall health and well being programme combining medical and dental expertise.

An increased partnership between the College of Dentistry and the Applied Medical Sciences Dental Hygiene Program is essential for the prevention programme mentioned above but also for the oral health care and wellbeing of the adult and elderly population.

As mentioned previously it would be ideal to have this Dental Hygiene Programme located within the new College of Dentistry building. Such integration would not only facilitate public health initiatives but also is essential for the development of a team approach by dental professionals in relation to the health care needs of the population.

One example of a prevention method developed in Finland is given: Xylitol

There are more than 500 publications on a sugar free chewing gum and oral health. Tens of studies carried out in different countries show that habitual consumption reduces counts of *mutant streptococci* and the amount of dental plaque which are both risk factors of caries.

In clinical studies (*KA Ly, P Milgrom and M Rothen: The potential of dental-protective chewing gum in oral health interventions. JADA, 139:553-563, 2008*).

The consumption of a particular sugar free chewing gum reduces caries occurrence and its effect is superior to sugar-free gums in general. Interestingly, consumption of certain sugar free gums, (which are recognised as superior within the dental profession) by mothers reduces both the transmission of Streptococci Mutans as well as caries occurrence in their offspring (*Laitala, 2010, Dental Health in Primary teeth after prevention of mother-Child Transmission of Mutanc Streptococci, A Historical Cohort Study on Restorative Visits and Maternal Prevention Costs, Annales Universitatis Turkuensis, Ser D-Tom 913,2010*).

Behavioural sciences start as early as the selection process, in the preliminary year and core values seem to be a part of the Islamic culture and hence they are well incorporated throughout the curriculum. This behavioural knowledge should be utilised to advantage in the above mentioned prevention programme in which much can be gained by integrating oral health awareness into daily life and worship.

It is worth noting that the Kingdom of Saudi Arabia is not unique in having a high level of dental car

ies. We refer for example to the article by *Bagramian RA, Garcia-Godoy F and Volpe AR: The global increase in dental caries. A pending public health crisis. American Journal of Dentistry 21:3-8, 2009*. The good work done on the prevention of caries in the past seems to have reversed in many countries and dental caries continues to be a major health concern for several populations.

The World Health Organisation (WHO) has formulated new oral health goals for the Year 2020 as part of the WHO Health 21 policy for Europe: 80% of 6-year-olds should be caries free.

In many European countries this WHO goal requires oral health promotion and oral disease prevention programmes at communal level. (*WHO Global Oral Health PE Petersen: Changing oral Health profiles of children in Central and Eastern Europe- Challenges for the 21st century*).

Visitors Comments - Chapter 10 – RESTORATIVE DENTISTRY

Restorative dentistry covers sixteen courses on Biomaterials, Clinical Operative dentistry, Endodontics and Prosthodontics. The panel of visitors admired the communication between the course directors but would encourage much more integration in the teaching and learning of these courses and also integration through integrated assessment of the courses.

The impact of Research Chairs of Dental Caries, for the catalysts and bone building and for Dental Transplant and Osseointegration can be seen in the planning of all of these courses. They are also in line with current treatment modalities.

Undergraduate students are also introduced to Advanced Prosthodontics.

Laboratory facilities to support the restorative courses are ample and are well maintained.

The review panel suggests two aspects for discussion related to restorative dentistry:

1. The total volume of the restorative dentistry is 1775 contact hours. This alone is about the study volume of one year counted in the European Transfer Credit System (ECTS). In addition, students require many hours for self-study of those topics. All the issues taught during these courses are central to the programme and well integrated in the everyday clinical practise. Better integration of the theoretical courses would help students in the clinics and the number of contact hours could be reduced. A review of contextual learning in relation to this course would be of benefit.
2. All of the restorative procedures have potential to change occlusion, the relationship between the temporomandibular joint (TMJ), the muscles between the mandible and the skull and the occlusal contacts. The dynamic aspect of the TMJ physiology should be an integral part of all the restorative procedures. In the current curriculum the TMJ is included in the context of oral diseases where the more severe problems associated with the TMJ are addressed.

Prevention and Public Health needs should be integrated throughout Restorative Dentistry Programmes in the current oral health situation in the Kingdom of Saudi Arabia.

In addition to the responsibility of the dental professional to develop the discipline of dentistry, the dental professional has the responsibility of the oral health of the general population.

The review panel highly welcomes the new Dental Caries Research Chair and its ambition to run epidemiological and economic studies on dental caries in children.

There are several methods of prevention of caries in children as discussed earlier in this report. Only through national research is it possible to discover the most suitable method for prevention both on an individual level at chair-side and on population level in the entire country

Visitors Comments - Chapter 11 – ORTHODONTOCS AND PAEDIATRIC DENTISTRY

The volume of Orthodontics and Paedodontics in the curriculum is 435 contact hours. These contact hours equal about a volume of one term if counted against the European Credit Transfer System (ECTS). This volume is comparable and in many cases greater than time allotted in other undergraduate programmes.

Good orthodontic skills are required in general practise especially in relation to orthodontic assessments and the timing of orthodontic intervention in a country with a shortage of Orthodontic Specialists. In orthodontic patient care the treatment is extended over eighteen months to two years consequently, it is important that orthodontics is introduced early in an undergraduate dental programme to permit students to experience the duration of treatment in a range of cases.

Orthodontic aspects need to be taken into consideration for the prognosis of the prosthodontic reconstructions where they relate to advanced prosthodontics such as implantology etc..

The review panel recommends the integration of Orthodontics and Paedodontics into the Comprehensive Patient Care programme. The introduction of orthodontics earlier in the programme would facilitate this integration.

The future programme in Paedodontics should be delivered in close collaboration with Public Dental Health and include a very strong emphasis on Public Oral Health. Expectant mothers and children are the most effective target groups for the prevention of diseases of Oral Health. (*Laitala, 2010, Dental Health in Primary teeth after prevention of mother-Child Transmission of Mutanc Streptococci, A Historical Cohort Study on Restorative Visits and Maternal Prevention Costs, Annales Universitatis Turkuensis, Ser D-Tom 913, 2010*).

Visitors Comments - Chapter 12 - ORAL DISEASES OF BONE AND SOFT TISSUE

Oral Disease of Bone and Soft Tissues combines five divisions:

1. Oral and Maxillofacial Surgery (270 contact hours)
2. Oral and Maxillofacial Radiology (180 contact hours)
3. Oral Medicine/ Diagnosis (240 contact hours)
4. Oral Pathology (120 contact hours)
5. Oral Biology (75 contact hours)

The total number of contact hours therefore for Oral Diseases of Bone and Soft Tissues is 885 hours. This totals the volume of one entire term if counted in European Transfer Credit System (ECTS) without the student's self-study time. In the ECTS system it is recommended that in the course with an exam in the end, for every hour of lecture at least one hour should be counted for student's self-study. Self study time refers to the workload that an average learner might be expected to complete the required learning outcomes.

A good integration of Oral Biology into clinical disciplines allows the students to apply basic knowledge to their clinical activity both in the undergraduate and postgraduate programmes. The assessment should support this integrated view by including more advanced methods of assessment, for example OSCE as discussed earlier in this report.

Panzarella, Karen J.; Manyon, Andrea T. A Model for Integrated Assessment of Clinical Competence. Journal of Allied Health, 36, 3, pp. 157-164, 2007.

Kieser , J, Herbison, P. Student learning and the teaching-research nexus in oral biology. European Journal of Dental Education Volume 5, Issue 2, pages 60–62, May 2001

Last, KS, Appleton, J, Stevenson, H. Basic science knowledge of dental students on conventional and problem-based learning (PBL) courses at Liverpool. European Journal of Dental Education, Volume 5, Issue 4, pages 148–154, November 2001

The implementation of the digitisation of diagnostic imagery will not only diminish the risks of radiation but will facilitate integration in electronic patient records both present and historic.

The collaboration of the Oral Surgery Team with the appropriate disciplines in the Medical College and Outreach Programmes is to be highly commended. *M. Smith, MA Lennon, AH Brook, FA Blinkhorn, AS Blinkhorn and PG Robinson: A randomized controlled trial of the effect of outreach placement on treatment planning by dental students British Dental Journal 201, 27 - 31 (2006) doi:10.1038/sj.bdj.4814069).*

The integration of Periodontology and Community Dentistry benefits from its focus on prevention of oral health problems in the community. However this action is directed more towards the adult population.

The research activities included in the undergraduate programme increase the students' awareness of current advancements in Oral Health globally and nationwide. In a similar manner, an eventual collaboration with the Research Chairs would provide the students with a solid knowledge of their

specific scientific research methods, and also of the evidence-based needs for oral health of the KSU population.

The Department of Periodontology and Community Dentistry should work in partnership with the Dental Hygiene Programme planners. Thorough daily oral hygiene and instruction at regular intervals from Dental Hygienists the prevention of periodontal diseases and the maintenance of good oral health, much can be gained.

Visitors Comments - Chapter 13 – SCIENTIFIC EDUCATION AND DEVELOPMENT

The preliminary year is innovative and supports the dental education programme.

With the preliminary year, the BDS course and the Internship year the College of Dentistry has a total of seven years of undergraduate dental education. Many countries do not have enough resources for such an extended dental educational programme.

The time devoted to studies, the active participation of students at the teaching sessions and the high success rate of KSU dental students in state regulated examinations all clearly show the high quality of dental professionals who graduate with a Bachelors of Dental Surgery from King Saud University.

The mission: *'to educate the art and science of dentistry for competent students and to contribute significantly to scientific research and be committed to community services'* is well fulfilled.

The entire internship period and research projects are well structured, with overseas placements in some cases which form an excellent preparation for academic advancement.

The College of Dentistry would benefit from advanced training in education and educational research. This is a common finding in many Dental Schools.

It is true that dental education has many elements in good coordination with advanced educational methods for example, simulation laboratories where learned theory is applied directly in settings close to the clinical situation. The changed focus from teaching to learning has shown that learning depends on the context in which it is applied. (*E Falk-Nilsson, D. Walmsley, M. Brennan et al.: Cognition and learning. Eur J Educ 6 (suppl 3) 27-32, 2002*). Cognition may be cultural and language dependent consequently, international research needs to be supported by local research.

Visitors Comments - Chapter 14 – INTEGRATED DENTAL CARE

This well organised and structured comprehensive course mimics practice for the future dentist, giving the students an holistic perspective into dental care. This approach could however be reinforced earlier in the curriculum by the integration of disciplines and also by integrated assessment methods, such as OSCE etc.

M. Schoonheim-Klein, A. Muijtens, L. Habets, M. Manogue, C. Van der Vleuten, J. Hoogstraten, U. Van der Veld: On the reliability of a Dental OSCE, using SEM: effect of different days. European Journal of Dental Education, Volume 12, Issue 3, pages 131-137 August 2008

Visitors Comments - Chapter 15 – STUDENT AFFAIRS AND OTHER INFLUENCES

The Dentist : Population ratio in the Kingdom of Saudi Arabia is low.

To improve this Dentist : Population ratio requires an increase in the number of graduating students from all Dental Schools of the Kingdom of Saudi Arabia.

The self-assessment report clearly indicated that an increase of the undergraduate dental student numbers cannot be achieved without the parallel increase of resources in order to maintain

quality. With this in mind KSU and the College of Dentistry leadership have action plans to improve governmental funding before increasing the number of students.

The current students interviewed by the review panel were extraordinary students. The visiting panel were highly impressed with the groups of students from both DUC and MUC and found them to be extremely motivated, enthusiastic and open-minded with excellent communication skills. The interviewed student groups are to be highly commended. The panel were also very impressed with their teamwork, faculty engagement and social awareness.

Further engagement of students in the planning of the courses would bring the students' views into planning and would facilitate a more student-centered curriculum.

Berlin communiqué, 2003 online:

([http://www.ond.vlaanderen.be/hogeronderwijs/bologna/documents\(MDC/BerlinCommunique1.pdf\)](http://www.ond.vlaanderen.be/hogeronderwijs/bologna/documents(MDC/BerlinCommunique1.pdf))

The second follow-up meeting of the Bologna Declaration (1999), online:

<http://eu.daad.de/imperia/md/content/eu/bologna/bolognadeclaration.pdf>

This document recognises students as full partners in higher education governance and calls on institutions and students organisations to identify methods of increasing actual student involvement in higher education governance.

Visitors Comments - Chapter 16 – RESEARCH AND PUBLICATIONS

The KSU should be highly commended for its strong support of research activities. The panel is impressed by the quantity and evolving quality of publications.

The visiting ADEE team recommend that the research should be directed towards addressing the oral health needs of the inhabitants of the Kingdom of Saudi Arabia. .

Visitors Comments - Chapter 17 – QUALITY MANAGEMENT

The panel congratulate the quality management team for their tremendous work and extraordinary achievements. They admire the focus on continuous improvement of the quality of dental education, research, patient care and oral health in KSU to the ultimate benefit of the Kingdom of Saudi Arabia.

In the review visit and interviews it became clear that all faculty members, student and staff recognise and greatly appreciate that the management focus within King Saud University and the College of Dentistry are structured to benefit development and encourage self-reflection by active feed-back mechanisms.

Visitors Comments - Chapter 18 - OVERALL ANALYSIS AND COMMENTS

SWOT Analysis

1. Strengths

- Excellent support from the University
- Dynamic atmosphere within the University and the Dental School
- Strong and forward-thinking leadership
- Highly educated staff with international experience
- Committed, enthusiastic and loyal staff
- Admission of distinguished students
- Well-resourced campus
- Well constructed Strategic Plan
- Openness to change
- Eager to improve curriculum and incorporate modern educational methods
- Open feedback from students and staff
- Good availability of patients
- Structured faculty development and support
- Strong research ethos

2. Weaknesses

- Prevention and Public Health not prioritised sufficiently in the curriculum i.e. at an appropriate level to address the community oral health care needs
- Low participation of faculty in educational training
- Over-emphasis on lecture-based teaching methods
- Inter-departmental integration not ideal
- Patient care in early years not integrated

3. Opportunities

- To change the patterns of oral health care provision nationally
- Ideally positioned as a role model for other schools in the Gulf Region
- University management pursuit towards development and scientific research promotion
- Potential for more collaboration with other schools
- New facility under construction
- Facility for small group student-centred learning planned
- Graduate education
- Global trends towards multi-disciplinary research
- Increase quality of publications
- Technological advancements

4. Threats

- Extremely fortunate not to have many external threats
- Difficulty of attraction and retention of faculty members
- Difficulty of balancing local population needs with desire to maintain an international profile
- Overloading curriculum
- Pressure to increase student numbers

The visitors were satisfied that the King Saud University College of Dentistry was an excellent dental school and compared well with most European Dental Schools previously visited by DentEd/ADEE.

The Faculty of Dentistry is 30 years old and presents faculty, staff and students who are enthusiastic, loyal and highly-motivated. Leadership within the school is strong and there is a clear vision for the future. They are extremely fortunate to have good relationships with the University and its full support. They are also very well resourced.

The school is keen to develop its educational base and would like to incorporate more modern student-centred learning methods. This would require not only faculty and staff training but also greater inter-departmental collaboration. Along with potential changes in educational methods, student assessment could also be developed. There would be merit in utilising more modern methods of integrated student assessment.

In view of the current dental health needs of the population, greater emphasis could be placed on Public Dental health and disease prevention. The school is aware of this requirement and the current Dean is committed to obtaining the highest and most appropriate education for the students. In tandem with this, the school is aware of the need to continue to deliver in terms of research and graduate education.

The visitors were most impressed with the positive attitude of all the faculty, staff and students. Their determination to strive for excellence is to be highly commended. The school leaders are aware of the need for constant dynamic curriculum review and the need to advance the educational skills of the faculty. Their vision for a new building creates an atmosphere for change and with this the endless possibilities to advance and incorporate new student centred educational methods into the delivery of this dynamic curriculum.

The visitors would like to commend the King Saud University and its College of Dentistry on the standard of the dental education provided; from an ADEE perspective, the philosophy of which is not based on inspection but rather on exchange of ideas and on harmonisation of standards in dental education, the King Saud College of Dentistry can be proud of its undoubted achievements. The ADEE visitors wish all of the staff and students continued success.

Once again the visitors would like to express their thanks to the King Saud University and the Dean, Faculty, Staff and Students of the College of Dentistry for their faultless co-operation in the preparation and execution of this visit.

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