

DentEd School Visit Report



Faculty of Dental Medicine
University of Witten/Herdecke
Germany

April 10-14 1999

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Visitors Comments

DentEd visit to the University of Witten/Herdecke

Faculty of Dental Medicine

April 10-14 1999

Final Report

Section 1

1.1 Introduction

The University of Witten/Herdecke is a relatively new institution. The dental school was opened in 1983. The university is a private foundation, thus the dental school is the only private dental school in Germany.

The visit to Witten/Herdecke was carried out under auspices of the *DentEd* Thematic Network Project funded by DGXXII of the European Union and the Association for Dental Education in Europe. These visits are intended as an opportunity for the host school first to carry out a process of self-evaluation and then discuss the outcome with a group of peers from other European countries; thus providing an opportunity to gain a better understanding of the different educational approaches taken in the different regions of Europe and assist each other through pooling innovations, ideas and intellectual resources. The international visitors are not there to judge or impose their own systems or perceptions of what is or is not appropriate. However they are there to express opinions

on different methods of education and identify best practices. It is hoped that this in turn will promote continuous quality assessment and development. The programme will help to understand each other's aspirations including the inevitable constraints imposed by our resources, our environment and our ability to make decisions and implement change. Behind this effective system of personal communication and exchange there is the broader aspect of *DentEd* whose aims are spelt out below.

The Association for Dental Education in Europe is a partner in this venture as well as many hundreds of dental academics in Europe who are prepared to share their innovations and to promote the fundamental principle of convergence towards higher standards in dental education and oral health. This must be achieved without attempting to impose a single educational approach or to impose a system of accreditation.

It is important to state at the outset of this report that the University of Witten/Herdecke provides an excellent, innovative and interesting course in dentistry and that both staff and students can be proud of their achievements. Any comments in this report should be taken in that context. Although confidential to the school the authorities in Witten/Herdecke have given permission to disclose the contents of the report

ACKNOWLEDGEMENTS

The visitors would like to express their appreciation for the warm welcome and hospitality they received. In particular they wish to note the clear and extensive

documentation provided for the visit and the understanding shown by both staff and students of the purpose of the visit.

We wish to express our special thanks to the Dean, Professor Peter Gängler, the local contact person Ms Dagmar Koch and to Professor Wolfgang Arnold who co-ordinated the preclinical part of the visit. We also wish to thank President Schily for his courtesy in sparing time to meet us to discuss the relationship between the faculty and the university.

1.2 The aims of DentEd are:

- a. Establishment of a European Network in dental education
- b. Convergence towards higher standards
- c. Better understanding of each other
- d. Agreement on common competences in Primary Health Care
- e. Promotion of evidence-based teaching/treatment
- f. Sharing of peer-reviewed interactive programmes
- g. Sharing of innovations and good practices
- g. Creation of an electronic bulletin board for exchange of information

1.3 Visitors to Witten

Professor Björn Klinge, Karolinska Institutet, Stockholm, Sweden, *Chairman*

Dr Bernard McCartan, Trinity College Dublin, Dublin, Ireland, *Rapporteur*

Professor Lassi Alvesalo, University of Oulu, Oulu, Finland

Dr Valérie Roger, University d’Auvergne, Clermont-Ferrand, France

Dr William Allen, British Dental Association, United Kingdom

Section 2

Facilities

In this section we consider the following **Facilities**

2.1 Clinical

2.2 Teaching and Learning

2.3 Teaching Laboratories

2.4 Research Laboratories

2.5 Library and other Learning Facilities

2.6 Information technology

2.7 Planned developments

2.1 Clinical Facilities

There were 28 dental chairs available in the dental hospital for student training (30 students qualify per year). These chairs are available for student use on 47 weeks per year on a 24 hour per day basis if required. The Accident and Emergency Department operated 5 chairs in separate rooms on a 24-hour basis thereby providing considerable additional time for students to carry out emergency treatments. This ranged from treatment of acute pulpitis, swelling and bleeding to facial trauma and fractures.

The clinic design is surgery based with a staff student ratio of 1:9. The equipment is standardised and new and well maintained. Cross infection control procedure are in line with internationally accepted guidelines.

The school recognises that the number of clinical chairs is currently inadequate. There are plans to enlarge the dental clinic by 10 chairs in the near future.

Comment

The visitors did not consider that the existing clinical facilities were completely adequate to provide the desirable level of student experience in clinical dentistry. Nevertheless, students achieve a high level of clinical competence but this requires attendance outside 'normal hours'. The addition of the new chairs should solve this problem.

2.2 Teaching and Learning Facilities

As the Faculty of dental medicine is physically integrated into the main university building, all teaching facilities, apart from clinical medicine and surgery, are close to hand. There are two lecture theatres which are not tiered. Seminar space for small group teaching is limited.

Comments

The learning facilities available to the students were adequate and appropriate in size with the exception of the number of seminar rooms which could usefully be increased.

2.3 Teaching Laboratories

The dental teaching laboratories were designed to provide maximum clinical simulation. In common with other German dental schools, students spend a considerable proportion of their courses in propaedeutic courses in these laboratories. Four handed dentistry is practised with students working in pairs. These excellent large rooms are well maintained and equipped with “state of art” equipment.

Comments

The use of these facilities was impressive and it was apparent that the students actively participated in this as well as other facets of involvement in the running and maintenance of the dental hospital. The use of more audio-visual aids is to be encouraged.

2.4 Research Laboratories

There are two laboratories comprehensively equipped for biological research.

Comments

Provision of research laboratories for non biological research is inadequate. However, the planned provision of additional research facilities is to be welcomed.

2.5 Library

There is a single library for the use of all students of the university. The collection of dental textbooks and reference books is good. Twelve key journals relevant to dentistry are taken, in addition to appropriate medical journals.. The is extensive use of the internet for information retrieval and it is possible for students to order reprints from journals not held in the library.

Comments

The library is adequate for the purposes of the undergraduate dental course although we would have preferred to see a wider range of journals available.

2.6 Information technology

There are terminal for IT present in the library. In addition each student is expected to possess their own computer which is used to access the university network. Students make extensive use of this facility.

2.6 Planned Developments

The important planned developments have been referred to above. We were reassured by a statement from Dr Schily, President of the University, that the university would continue to invest in the school of dental medicine.

Section 3

Organisational and Administrative Structures

3.1 Organisational Structures

3.2 Administration

3.3 Finance and Budget

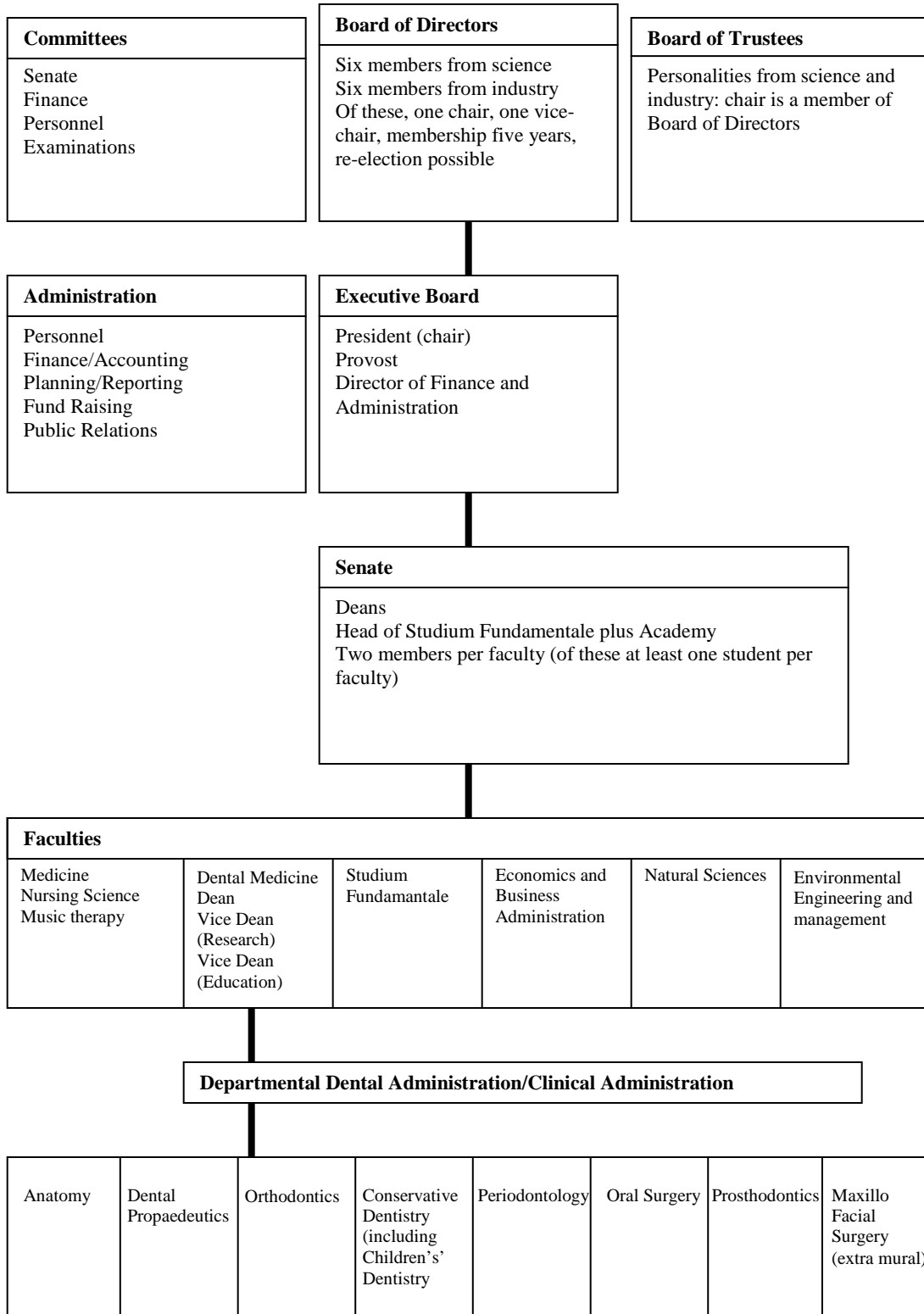
3.4 Relationship to University and its Faculties

3.5 Relationship with General Hospital Services

3.6 Other relevant information for this section

3.1/3.2 Organisational and Administrative Structure

The organisational structure of the university is shown in the following figure.



The President of the University, Dr Schily, outlined for us the philosophy of the founders of the University of Witten/Herdecke. Arising of the considerable political and military turmoil which affected Germany in the middle years of this century, and which all the founders had experienced, they wished to create new social structures to prevent recurrence. They felt that a free system of culture was essential for this purpose as was human centred science and medicine. Because of changes in German law regulating universities it was possible for the first time in 600 years to contemplate then establishment of a free university . However, they encountered great difficulties initially in persuading the public authorities to finance the new university and subsequently in recognising the equal status of the university with the state universities. Now, however, the University of Witten/Herdecke is recognised widely as one of the pioneers of rational university funding in Germany.

3.3 Finance and Budget

The total annual budget is 9 million DM of which payment for patient services provides 6.5M DM> The university's contribution of 2M DM is to be increased in the interim to 2.6M DM and discussions to raise this to 3M DM are in hand.

3.4 Relationship to University and its Faculties

The dental school in Witten/Herdecke is organised in a separate faculty of Dental Medicine. The staff believe that, paradoxically, this permits better co-operation with the

medical school. The department of maxillofacial surgery is based in the medical school but relations with the department of oral surgery in the Faculty of Dental Medicine appear to be very good.

3.5 Relationship with general hospital services

Apart from the attendance of students in at a general hospital for some instruction there is no special relationship with any general hospital services.

Section 4

Academic and other staff

The dental school has a young, committed and well motivated staff. The numbers may not be sufficient to sustain any expansion in teaching activity or research.

There does not appear to be a structured approach to staff development, with no formal training, appraisal, particularly in teaching methods. The staff were included in institutions development and proud of their place in pioneering a “freedom” in this private university. There are meetings to discuss problems and university affairs occurred in a weekly basis; this is enhanced by a forum with other faculties in the university. The staff are enthusiastic supporters of the integrated approach but there seems to be some conflict between “fundamentalism” and “pragmatism”. The staff are clearly overworked; research has to be carried out outside their contracted time and they are committed to organising and running the state dental examination.

Clinical academic staff statistics (in whole time equivalents)

Professors	10
Senior non-professorial staff	8
Non-senior full time staff	21
Part-time staff	12
Non-senior non-clinical academic staff	14.5

Administrative/secretarial	4
Nursing staff	27
Technical staff (extra-corporate)	2

Professors

Arnold, Wolfgang, Prof. Dr. Med.

Bertram, Hans Peter, Prof. Dr. Rer. Nat.

Bockemühl, Michael, Prof. Dr. Phil.

David, Eduard, Prof. Dr. Phil.

Deitmer, Thomas, Prof. Dr. Med.

Gängler, Peter, Prof. Dr. Med.

Grimm, Wolf-Dieter, Prof. Dr. Med. Dent.

Hinz, Rolf, Prf. Dr. Med. Dent.

Hoeven, Van Der, Hans, Prof. Dr. Rer. Nat.

Ischebeck, Werner, Prof. Dr. Med.

Labitzke, Reiner, Prof. Dr. Med.

Lampson, Elmar, Prof.

Landmesser, Helga, Prof. Dr. Med. Dent.

Lippe Zur, Prinz Rudolf, Prof. Dr. Phil.

Maerker, Reinhard, Prof. Dr. Med.

Morgner, Harald, Prof. Dr. Rer. Nat.

Müller, Klaus-Michael, Prof. Dr. Med.

Pfüller, Uwe, Prof. Dr. Rer. Nat.

Pullmann, H, Prof. Dr. Med.

Rosswall, Bernt, Prof. Dr. Phil.

Rüsen, Jörn, Prof. Dr. Phil.

Sartory, Gudrun, Prof. Dr.

Scholten, Theo, Prof. Dr. Med.

Wintermeyer, Wolfgang, Prof. Dr. Rer. Nat.

Wolff, Manfred H, Prof. Dr. Rer. Nat.

Lecturers

Amend, Michael, Dr. Med.

Behrend, Christian, Dipl-Biochem.

Berndsen, Sabine

Bertram, Gerhard, Pd Dr. Med.

Beyer, Rolf

Bocksch, Wolfgang

Braasch, Volker

Brockmann, Michael, Pd Dr. Med.

Busche, Eckhard

Cichon, Peter, Pd Dr. Med. Dent.

Crawford, Leslie

Deimann, Heike Tamara

Eifler, Rudolf, Dr. Rer. Nat.

Fisseler-Eckhoff, Annette, Pd Dr. Med.

Gängler, Sabine, Dr. Med.

Gaßmann, Georg

Gerhards, Ute, Dr. Med. Dent.

Hartmann, Sabine, Dr. Med.

Heise, Markus, Dr. Med. Dent.

Herzberg, Steffen, Dr. Med. Dent.

Ingensiep, Hans Werner, Pd Dr. Rer. Nat.

Jackowski, Jochen, Dr. Med. Dent.

Jöhren, Peter, Dr. Med. Dent.

Kamann, Walter, Dr. Med. Dent.

Kaufmann, Michael, Pd Dr. Med. Dent.

Keppeler, Elke

Klinger, Claudia,, Dipl-Biol

Kommerell, Blance

Landers, Melanie

Lietz, Thomas, Dr. Med.

Lösgen, Harald, Pd Dr. Med.

Martini, Angela, Dr. Phil.

Naurath, Hans-Joachim

Nehse, Günter, Pd Dr. Med., Dr. Med. Dent.

Oberbrodhage, Jens, Dr. Rer. Nat.

Palatka, Peter

Pfeiff, Bernhardt, Dr. Med.

Pfotenhauer, Michael, Dr. Med.

Plenge, Andrea

Reihl, Ingoernst, Umd

Rezwani, Tina, Dr. Med. Dent.

Schard, Wolfgang, Pd Dr. Rer. Nat.

Schierenberg, Martin, Dr. Med.

Sienknecht, Meike

Stalling, Roland

Staufer, Kirsten

Tarsaev, Oleg, Dr.(Su)

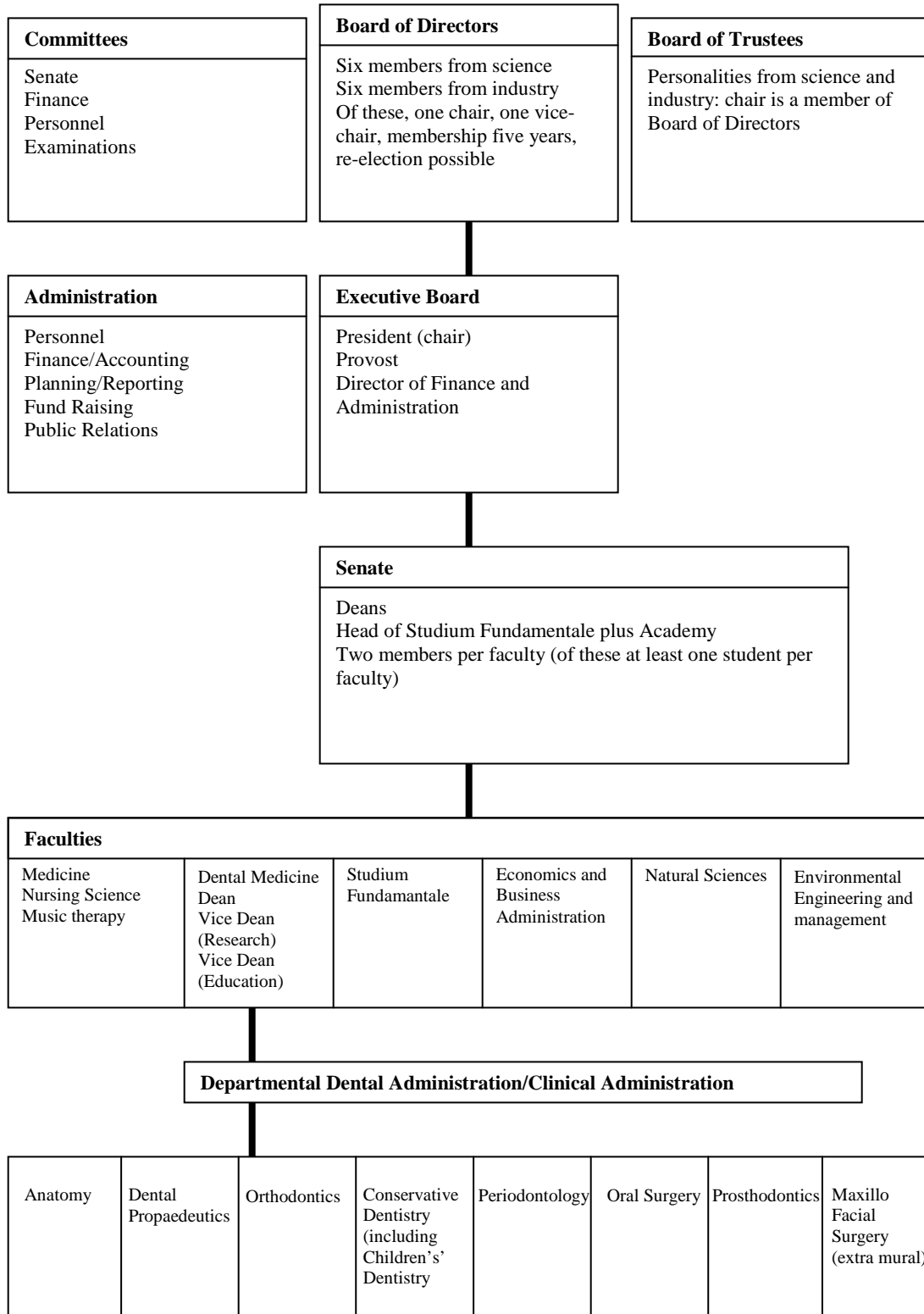
Völzke, Volker

Wöntz, Claudina

Zafiropoulos, Gregor-Georg, K., Pd Dr. Med. Dent.

Ziffling, Peter, Dr. Med.

Zöllner, Axel, Dr. Med. Dent.



Section 5

5.1 Biochemistry

72 hours of lectures and practical classes in the 3rd and 4th semesters.

Aims: To provide a basic understanding of biochemistry.

Assessment: examined at end of 5th semester.

Comment

This course should be re-examined by the school to ensure the specific relevance of the material to the course in dental medicine.

5.2 & 5.3 Biology and Genetics

84 hours of lectures and practicals in the 1st and 2nd semesters.

Aim: A basic understanding of the biology underlying oral biology and to create an interest in life sciences to balance the technological aspects of dentistry.

Assessment: examined at end of 2nd semester..

Comment

This is a well structured course which is well liked by students. The principal teacher, Dr Schad, has been voted best teacher by the student body. The practical course is new and is well designed. Students choose by means of an email discussion the topics which are to be covered in the practical class. One visitor sat in on a practical session and was very impressed by the commitment of the teacher and the enthusiasm of the students.

5.4 Chemistry

144 hours of lectures and practical in the first two semesters.

Aims: To prepare students for dental propaedeutics

Assessment: examined at end of 2nd semester.

Comment

This course could usefully be integrated under the auspices of the biochemistry department.

5.5 Physics

168 hours of lectures and practicals in 1st and 2nd semesters.

Aims: A basic knowledge of physical terms relevant to dental medicine.

Assessment: examined at end of 2nd semester..

Comment

This course should be re-examined by the school to ensure its relevance to the course in dental medicine.

Section 6

6.1 Anatomy and Histology

230 hours of lectures and practical classes in the 1st, 2nd, 3rd, 4th, and 5th semesters.

Aims: A comprehensive knowledge of anatomy for clinical purposes and the practical basis of microscope and histology techniques

Assessment: examined at end of 5th semester.

Comment

This course is provided by a dentally trained anatomist. Probably as a result of this it concentrates on anatomy relevant to dental medicine. There is a CD-ROM of histology preparations available to the students. There is good integration with the other preclinical studies and the head of this department obviously acts as the key link between preclinical and clinical dentistry.

6.2 Physiology

168 hours of lectures and practicals in 3rd, 4th and 5th semesters.

Aims: All aspects of normal function, especially interaction of man with the environment.

Assessment: examined at end of 5th semester.

Comment:

This course appears to operate without obvious collaboration with biochemistry and anatomy. The teacher wishes to see more vertical integration within the dental school and believes that all aspects of physiology should be covered, not merely those relevant to dental practice. The practical classes operate on a problem solving approach.

6.3 Dental propaedeutics

1330 hours of lectures, seminars and practicals form the 1st to the 6th semester.

Aims: The theoretical, practical and methodological preparation for the clinical training programme.

Assessment: examined at end of 5th semester, with some intermediate examinations.

Comment:

This course follows the conventional German model whereby students are expected to achieve a high standard in laboratory simulation before having access to patients. While this ensures that patients are less likely to be damaged by students, and that students will approach operative procedures on patients with greater confidence, we suggest that the school might consider greater involvement of preclinical students in those aspects of dental care which are not irreversible, as is the model in some other countries.

The instruments, materials and techniques used in the course are agreed with the clinicians to ensure uniformity when student pass to the clinics.

General comment on Section 6:

The biological and human sciences taught in the preclinical years show close integration in some areas and relative isolation in others. We would suggest that the school should develop a topic based, integrated course in human biology relevant to dental medicine. This might be achieved through the appointment of a preclinical director or co-ordinator to formalise what Professor Arnold has been trying to achieve informally.

Section 7

7.1 Pharmacology

56 hours of lectures and practicals in the 6th and 7th semesters

Aims: to provide the essential basics of pharmacology within a “holistic” system.

Assessment: examined in final examination at end of 10th semester.

Comment:

The teacher has an interesting and novel style of teaching which was well received by the students (“teacher of the year”). The course lacked any practical aspects (no animal experiments). Links were made to the studium fundamentale. In discussion the links to clinical application particularly emergency treatment were suggested as possible future developments.

7.2 Microbiology

28 hours of lectures and practicals in the 3rd semester.

Aims: A general knowledge of organisms plus specific understanding of the oral flora and related diseases

Assessment: examined in final examination at end of 10th semester.

7.3 General Pathology

56 hours of lectures and practicals in the 6th and 7th semesters

Aims: An understanding of general and specific (oral and dental) pathology.

Assessment: examined in final examination at end of 10th semester.

Comment:

There would seem to be a need for a specific oral and maxillofacial pathologist.

General comment on Section 7:

As with biological and human sciences, there might be merit in adopting a topic based, integrated course in human disease, to include the subjects in Section 8. This would be greatly facilitated by the appointment of a staff member with this specific brief. (See comment at end of section 8)

Section 8

8.1 General Medicine (including Dermatology)

196 hours of seminars and clinical (“bed side”) teaching in 7th and 8th semesters.

Aims: To provide general theoretical and practical knowledge.

Assessment: examined in final examination at end of 10th semester.

Comments:

This course is provided by a faculty member dedicated to teaching dental students only. The case discussion approach using “bedside” patients is to be commended. Students work in small teams and deliver presentations in “their” case to the whole years students. The course is very student centred and closest to experimental learning. Patients are seen and diagnosed, then students have time to reflect, think and plan before presenting their case. There are plans to introduce some structured treatment in emergency cases and intensive care units.

8.2 General Surgery (including Otorhinolaryngology)

90 hours of clinics and lectures in 7th and 8th semesters.

Aims: To provide general and theoretical knowledge.

Assessment: examined in final examination at end of 10th semester.

Comments:

The manner in which general surgery and otorhinolaryngology are taught as separate subjects illustrates, perhaps, the fragmentation of teaching of human diseases seen by the visitors.

8.3 Anaesthesiology

Integrated into the courses in otorhinolaryngology and oral surgery.

Assessment: examined in final examination at end of 10th semester.

General comment on Section 8:

As stated in section 7, there might be merit in adopting a topic based, integrated course in human disease. As there is already has a dedicated teacher of medicine, this should facilitate integration should the school decide to implement it.

Section 9

9.1 Orthodontics

274 hours of lectures and clinics in 7th, 8th, 9th and 10th semesters.

Aims: To learn and understand treatment concepts with emphasis on indications and potential treatment results.

Assessment: examined in final examination at end of 10th semester.

Comments:

Students do not treat patients but merely observe treatment of specific cases over one or two years. The school might consider giving students practical experience in the management of cases with fixed and removable appliances.

9.2 Paediatric Dentistry

This is included in the integrated dental course.

Comment

The availability of sufficient and appropriate child patients was problematical. A first seminar between orthodontics and paediatrics assisted co-ordination of approach to children's treatment.

Section 10

10.1 Public Oral health and Preventive Dentistry.

172 hours of lectures, practical classes, clinics and kindergarden attendance from the 1st to the 5th semester.

Aims: Understanding of ergonomics and general and oral hygiene, knowledge of different oral hygiene techniques

Assessment: examined in final examination at end of 10th semester.

Comment:

Student involvement in the university kindergarden is to be commended. There does not appear to be an identifiable course in public health (community) dentistry in the internationally accepted sense.

Section 11

11.1 Restorative Dentistry

1276 hours of lectures and clinics (including integrated dental care) from the 6th to the 10th semesters

Aims: A general understanding of restorative dentistry and prosthodontics.

Assessment: examined in final examination at end of 10th semester.

Comments:

Students have total responsibility for their patients in all aspects of diagnosis and care. As such restorative and prosthodontics are part of this clinical treatment. Students spending about 850 hours treating patients in the clinic and a similar number of hours acting as dental nurse (assistant). A lecture based course studies the balance between technical and biological aspects of restorative dentistry. Standardised materials are used with emphasis on amalgam, composites and conventional crowns and bridges. Unusually gold first restorations are still taught. No specific lectures are given on comprehensive care but a careful and one-to-one discussion of cases occurs before the student starts treatment on the patient. The opportunity to review successes and failures is promoted by a recall system for the patient. There is some doubt as to the full integration of periodontal therapy into this comprehensive care. The visitors have some concerns about the official school policy which greatly restricts the range of dental materials available to

While there are methods of ensuring that students undertake a wide range of restorative treatments in adequate numbers to an adequate standards, there appear to be no mechanisms to ensure the same for those other aspects of primary care dentistry which are carried out in the Integrated Patient Care Clinic. Thus it might appear that such treatments are only assessed when carried out in the specialist clinics. The school must be careful not to give the impression that is not concerned to ensure that such treatments are carried out and assessed to ensure adequate quality and to provide true whole patient care.

Section 12

12.1 Periodontology

224 hours of lectures, seminars and clinics from the 6th to the 10th semester

Aims: a general knowledge of gingival and periodontal disease and treatment

Assessment: examined in final examination at end of 10th semester.

Comment:

A comprehensive course which might benefit from integration into the course in conservative dentistry and prosthodontics. The visitors were surprised to see a continuing emphasis on surgical periodontal procedures and recommend that the school should give more emphasis to modern concepts of non-surgical, conservative techniques of periodontal therapy.

Section 13

13.1 Oral surgery (including oral and maxillofacial surgery) and Emergency Care

328 hours of lectures, seminars, clinics and evening emergency clinics. Maxillofacial surgery is delivered as a separate but parallel course.

Aims: A general knowledge of the surgical management of oral pathology.

Assessment: examined in final examination at end of 10th semester.

Comment:

The block small group teaching used for some of the clinical instruction (2 students for a week) is to be commended. The attachment students of to a 24 hour emergency service is one of the finest features of the Witten/Herdecke course. The visitors appreciate that the German system means a separation of the teaching of oral and maxillofacial surgery but we were impressed by the level of co-operation and mutual respect between the two disciplines, involving as it did departments in two separate universities. As with most school in advanced societies, there are difficulties in obtaining sufficient experience in simple extractions. The use of laboratory simulation in the dental propaedeutics course might go some way to reducing this problem. The distribution of time between oral surgery and oral and maxillofacial surgery seems to be weighted disproportionately in favour of the letter.

13.2 Oral and Dental Radiography and Radiology

112 hours of seminars and practical training in the 6th and 7th semesters.

Aims: An understanding of the principles of ionising radiation, the techniques of radiography and the interpretation of dental radiographs.

Assessment: examined in final examination at end of 10th semester.

Comment:

This was the only area within the school where the visitors had serious concerns about the equipment and facilities. It is recommended that the school should provide more dental radiographic units (both intra-oral and panoramic) and should consider the appointment of a dedicated staff member. At present the oral surgery staff have to undertake this teaching in addition to their already extensive duties.

Section 14

14.1 and 14.2 Oral Medicine and Oral Pathology

These subjects are integrated into the teaching of related disciplines including pathology and oral and maxillofacial surgery.

Comment:

The need for a specific oral and maxillofacial pathologist has already been highlighted. Such an individual, if appropriately experienced, could also provide oral medicine teaching (as clinical oral pathology, on the U.S. model).

Section 15

15.1 Integrated patient care.

This has already been described under restorative dentistry and prosthodontics. In total 1080 hours are devoted to this.

Comment:

We have made a number of comments earlier on the development of the integrated care clinics. We firmly believe that integrated care by students, after obtaining basic skills, is the most effective method of training primary care dentists. Given the rigid division of the course into preclinical and clinical we recommend that the school might consider the introduction of dental teams comprising students from one than one year. This might permit preclinical students to play a part in a comprehensive treatment plan by carrying out simple procedures in which they have already demonstrated competency in laboratory simulation.

15.2 Dental Emergencies

This has been covered under oral surgery.

Comment:

As stated previously, we regard the involvement of the students in a 24 hour dental emergency clinic as one of the highlights of the course.

15.3 Care of special needs patients

112 hours of lectures, seminars and clinics in the 6th, 7th, 8th and 9th semesters.

Aims: To know the theoretical basis and special features of oral disease in the disabled and the therapeutic dental possibilities.

Assessment: examined in final examination at end of 10th semester.

Comment:

The school has a specific department looking after special needs patients. The students receive specific instructions in this discipline and assist in the clinic.

The broad philosophy of teaching the students that it is the “responsibility of a dentist to treat and care for all of society” is well demonstrated in the enthusiastic approach to this subject. Lectures cover the range of the subject and proposals for the future inclusive extension of the theory and more practical clinical opportunities. This important area of dentistry is not always fully covered in dental schools and the school in Witten/Herdecke is to be commended.

Section 16

16.1 Practice management and communication.

This subject is presently taught within a number of other courses, There is a short course in business management which includes ethics and legal requirements.

Comments:

We would recommend the elaboration of a specific course or courses to cover practice management, communication with patients, dental ethics, legal considerations for the practice of dentistry and the obligations of dentists to society.

Section 17

Assessment and Examinations

The two principal examinations are the preclinical examination after the 5th semester and the final examination after the 10th semester. In addition, students who have passed the final examination must subsequently sit a state examination before licensure. The state examination is carried out by members of the faculty in Witten who are specifically appointed by the state for this purpose. It is regarded in Germany as an integral part of ones university duties to carry out such administrative functions for the state.

98% of all students complete the course within ten semesters. This is in contrast with a mean time in Germany dental schools of 13.5 semesters to complete.

In addition to these examinations students have assessments based on the content of specific courses at the completion of those courses. In the German tradition, these are mostly oral examination, including presentation of projects. There is no external validation of the examinations; this is provided by the state examination.

There is limited use of “modern methods” , e.g. MCQs, MSAs, OSLEs and OSCEs, as might have been expected in a more problem based/experimental teaching approach.

While we appreciate that students must be prepared for the German state examinations, we feel that the school could be more innovative in its own examination process. Analysis of the questionnaires on competences completed by 5th year students showed that a significant number felt themselves to be deficient in apical surgery, surgical

extractions, biopsy, periodontal surgery, adhesive bridgework, minor orthodontic procedures, placement of orthodontic bands and cardiopulmonary resuscitation.

Section 18

18.1 Regional oral needs

A shortage of specialist practitioners in the surrounding region has meant that the school plays an important part in specialist treatment provision in the Ruhr area. In addition, the school supplies a special needs service to the local dental profession.

However, the visitors had an impression that there was not close liaison in general between the school and the local profession.

18.2 Evidence based treatments

Students are expected to discuss their treatment plans in the light of scientific evidence. This must necessarily be limited by the lack of satisfactory evidence for many types of dental treatment.

18.3 Involvement in other university activities and sport

A feature of the school is the Winter Academy to which all students are invited. This academy concerns itself with topics such as decision making in dentistry and ethics but the greatest emphasis is on sport.

Students are actively involved in sport; sailing and soccer are the principal sports.

18.4 Recreation

Many students are actively involved in university cultural activities, such as drama and orchestra. It is the visitors impression that the Studium Fundamentale contributes greatly to this interest in cultural recreation.

18.5 Student Selection Procedures

Prospective students are selected by a team of three staff and one student. The entrance requirements are the “Arbitur” or equivalent with demonstrable social competence, intellectual flexibility and practical ability. There is an interview and a practical test. While the school is private and fee paying, the students’ association organises a system of student loans for fees, equipment and material. These loans are paid back on qualification at a fixed proportion of salary. This ensures that those who wish to enter relatively un-remunerative areas of dentistry such as overseas development work are not burdened with large repayments.

18.4 Studium Fundamentale

It would be impossible to make any realistic assessment of the course in dental medicine without describing the Studium Fundamentale and its humanising effect on the curriculum.

The Studium is the basic concept which makes Witten/Herdecke different to any other dental school. A wide curriculum in humanities and the arts is taken by all students, throughout the dental course. This course is common to all faculties and schools. Students

undertake one day per week in the Studium in attendance at a minimum of one course per semester. The courses include philosophy, history, science of art and aesthetics, literature, phenomenology of music, forming and representing art and music and natural sciences. The study is based on five emphases: review of scientific basics, development of a crucial awareness, deepening of perception property, meeting and differing actions of different disciplines and development and education of creative abilities. It is clear that the students of dental medicine appreciate the values which this course gives them although their commitment to the Studium appears to reduce when they enter the clinical years.

Section 19

Student Affairs

We met the students who expressed confidence in the school and did not appear to have any significant criticisms of the school or the curriculum. They were concerned to ensure that their qualification was not seen as inferior to those from state dental schools and in that context they were prepared to accept certain aspects of the course which the university has the freedom to change but which it has chosen not to do for this reason. The students do feel that they are empowered by the school structures and that their voices are listened to by the Dean and the staff.

Section 20

20.1 Number of Publications in Referred Journals

1. W. H. Arnold, G.H. Sperber and G. A. Machin

Anatomy of the circle of Willis in three cases of human fetal synophthalmic holoprosencephaly.

An. Ana. 178 (1996), 553-558

2. W. H. Arnold, G. H. Sperber, G. A. Machin

Cranio-facial skeletal development in three human synophthalmic holoprosencephalic fetuses.

Ann. Anat. 180 (1998), 45-53

3. W. H. Arnold, T. Rezwani, I. Baric

Location and distribution of epithelial pearls and tooth buds in human fetuses with cleft lip and palate.

Cleft Lip Palate Craniofac. J. 35 (1998), 359-365

4. W. H. Arnold, P. Ganegler, L. Kalkutschke

Three-dimensional reconstruction of approximal subsurface caries lesions in deciduous molars.

Clin Oral Invest (1998)2, 174-179

5. P. Cichon, L. Crawford, W.-D. Grimm

Early-onset periodontitis with Down's Syndrome.

Ann Periodontol 3 (1998), 370-380

6. H. Eufinger, N. Gellrich, D. Sandmann, J. Dieckmann

Descriptive and metric classification of jaw atrophy. An evaluation of 104 mandibles and 96 maxillae of dried skulls.

Int J Oral Maxillofac Surg 26: 23-28, 1997

7. P. Gaengler and Muir Martin

What influence should specialists dental societies, including ADEE, have on the dental curriculum and how should they best achieve it?

Eur. J. Dent. Educ. 2 (1998), 88-99

8. W. -D. Grimm, P. Cichon, L. Crawford, T. Lorey

Klinische Längsschnittstudie zur gesteuerten Gewebsregeneration mit resorbierbaren Membranen (GORE RESOLUT Regeneratives Material)

Parodontologie 3 (1996), 237-245

9. J. Jackowski, P. Jöhren, N. Hartmann, W.-D. Grimm, K. Wentz

Wertigkeit der Computertomographie in der präimplantologischen Diagnostik schwieriger anatomischer Situationen

Zahnärztl Implantol 13 (1997), 83-87

10. J. Jackowski, T. Dirschka, A. Müller

Clinical and Histological Evaluation of Oral Manifestations in Systemic Sclerosis.

Clinical and Experimental Rheumatology, Vol. 16 no. 3 (1998), 380

11. H.J. Jansen, J.S. van der Hoeven

Protein degradation by *Prevotella intermedia* and *Actinomyces meyeri* supports the growth of non-protein-cleaving oral bacteria in serum.

J Clin Periodontol 24 (1997), 346-353

12. P. Jöhren, J. Jackowski, A. Jordan, H. Landmesser

Kariesbefall bei unkooperativen Kindern- Konsequenzen und Behandlungsstrategien.

Oralprophylaxe 19, 3, 1997

13. P. Jöhren, I. Ehrlicher, J. Jackowski, und P. Gängler

Untersuchungen zum Effekt der transkutanen elektrischen Nervenstimulation (TENS) auf die Schmerzperzeption.

Dtsch. Zahnärztl. Z. 53 (1998), 21-25

14. P. Jöhren, H. Landmesser, J. Jackowski, A. Jordan

Kariesbefall bei unkooperativen Kindern

Oralprophylaxe 19 (1997) 3, 141-145

15. W. Kamann, P. Gängler, I. Schmitz und K.M. Müller

Rasterelektronenmikroskopische Untersuchung zur Wirkung von
Kofferdamklammern auf die Zahnoberfläche

Endodontie 4 (1996), 277-287

16. W. Kamann, C. Lusebrink, I. Schmitz, K.M. Müller, P. Gängler

Der Kontakt von Goldhämmerfüllungen mit Goldbuß-Keramikrestaurationen

Dtsch Zahnärztl Z 41, 1996, 602-604

17. W. Kamann, D. Sandmann

Zur Konstruktion und Klassifikation von Artikulatoren Teil 1.

Zahnärztl Welt Ref 10, 1996, 553-556

18. W. Kamann, D. Sandmann

Zur Konstruktion und Klassifikation von Artikulatoren Teil 2.

Zahnärztl Welt Ref 11, 1996, 646-649

19. W. Kamann

Die befundadäquate Versorgung der Kavitätenklasse V unter besonderer
Berücksichtigung der Goldhämmerfüllung

Quintessenz 48, 1997, 219-220

20. W. Kamann, P. Gängler, I. Schmitz K.M. Müller

Klinische und mikromorphologische Nachuntersuchung von
Goldhämmerfüllungen in Kavitäten der Klasse I

Dtsch Zahnärztl Z 52, 1997, 219-220

21. W. Kamann, I. Schmitz

Standzeit von Handinstrumenten und Kondensoren in der
Goldhämmerfüllungstechnik

Zahnärztl Welt Ref 106, 1997, 106-113

22. W. Kamann

Der Einsatz von Handpräparationsinstrumenten bei der Kavitätenpräparation

Zahnärztl Welt Ref 105, 1997, 394-398

23. W. Kamann, P. Gängler

Der Turner-Zahn – ein Beitrag zur Ätiologie, Pathogenese und Klinik

Endodontie 6, 1997, 241-249

24. W. Kamann, P. Gängler, I. Schmitz, K.M. Müller

Randschußqualität von Goldhämmerfüllungen – Mikromorphologische
Untersuchungen zu den differierenden

Meßergebnissen in der Literatur.

Phillip J 14 (1997), 345-350

25. W. Kamann

Die Wurzelamputation zur Korrektur einer nicht-indizierten und inadäquat
durchgeführten

Wurzelspitzenresektion

Endodontie 4 (1997), 273-278

26. W. K. Kamann, P. Gängler, I. Schmitz, K.M. Müller
Klinische und mikromorphologische Nachuntersuchung von
Goldhämmerfüllungen in Kavitäten der Klasse II
Dtsch Zahnärztl Z 52 (1997), 813-815
27. W. K. Kamann, P. Gängler, I. Schmitz, K.M. Müller
Die "Astlochfraktur" der Amalgamfüllung – Mikromorphologie und
Folgeversorgung
Dtsch Zahnärztl Z 53 (1998), 131-134
28. W. K. Kamann, W. –D. Grimm, I. Schmitz, K.M. Müller
Die chirurgische Naht in der Zahnheilkunde
Parodontologie 8 (1997), 295-310
29. Kristof, L. Flores de Jacoby, D.N. Tatakis, G.-G. Zafirooulos
Serologie bei Patienten mit Parodontalerkrankungen
Z Stomatologie 94, (1997), 63-76
30. H. Landmesser
Apparecchi ortodontici divizione mobili e modificazioni- Una panoramica
Odonto tecnica 9 (1996), 803-812
31. L.M. Lin, P. Gaengler and K. Langeland
Periradicular currettage.
Intern. Endodont. J. 29 (1996), 220-227

32. U. Schwarz und P. Gängler

Der Einfluß des bakteriellen Microleakage an Glasionomerezementfüllungen
auf den Entzündungszustand der Zahnpulpa

Dtsch. Zahnärztl. Z. 53 (1998), 374-379

33. U. Witzel, J. Jackowski, P. Jöhren

Analyse der Spannungsverteilung im spongiösen Sinus-Augmentat nach
sekundärer Implantation mit Hilfe der Methode der finiten Elemente

Target 1/98 10-11

34. Zöllner, C. Dippel und P. Gängler

Pathohistologie der endodontalen Reaktionen an Frontzähnen mit marginaler
Parodontitis und inzisaler Abrasion

Zahnärztl. Welt Ref. 107 (1998), 340-349

35. Zöllner, P. Palatka und D. Sandmann

Möglichkeiten zur Reparatur zerstörter Keramikverblendungen

Zahnärztl. Welt Ref. 107 (1998), 457-460

20.2. Number of Textbooks Published by Staff

1. C. Holz, P. Gängler und H. Schneider

Lieber einen Zahn im Mund als Zehne in der Hand...Zahnmedizin im Spiegel
des Sprichwortes

Appollonia Verlag, Linnich 1998

2. W. Kamann

Die Goldhämmerfüllung

Carl Hanser, München, Wien, 1997

3. Zöllner

Schöne neue Zähne – Atlas zur Patientenaufklärung

Hrsg.: R. Hinz, Zahnärztlicher Fach Verlag, Herne, 1998

20.3. Numbers of Chapters in Books

1. P. Cichon, W.-D. Grimm

Die zahnärztliche Betreuung von Kindern mit Behinderungen

In: J. Einwag, K. Pieper (Hrsg.), Lehrbuch der Kinderzahnheilkunde, Urban und Schwarzenberg, Wein, Baltimore, München, 1997, 428-441

2. N. Hartmann, U. Riesemann u. R. Maerker

Lippenkonstruktion mit dem perioralen Mucomyokutanlappen

In: H. Rudolph (Hrsg.): Plastische und wiederherstellende Chirurgie, Einhorn-Presserverlag, 1997

3. JS van der Hoeven, Helderma WH van Palenstein

Microbial specificity and dental caries

In: B. Guggenheim and S. Shapiro (Eds.): Oral biology at the turn of the century, Karger, Basel, 43-56

4. J. Jackowski, J. Barth, W. Fischer Barth

Schleimhautrekrankungen

In: P. Altmeyer, th. Dirschka u. r. Hartwig: Klinikleitfaden Dermatologie,

G. Fischer, Ulm, Stuttgart, Jena, Lübeck, 1998, 548-565

5. W. Kamann

Die konfektionierte Krone

In: Maiwald, J. Nachschlagewerk Kinderzahnheilkunde

Spitta, Balingen 1998

6. R. Maerker und A. Burkhardt

Erkrankungen der Mundschleimhaut und Lippen

In: H.H. Horch: Praxis der Zahnheilkunde, Mund-Kiefer-Gesichtschirurgie II

3 Auflage, Urban & Schwarzenberger, Munchen 1998, 193-221

7. W. Sasse, J. Jackowski

Korrelation von CEA und TPA bei kolorektalen Karzinomen

In: G. Wüst (Hrsg.): Tumormarker 1986. Aktuelle Aspekte und klinische Relevanz, 60-61. Steinkopff Verlag Darmstadt.

20.4 Grants received since 1996

Project title	Received from	Responsible	Amount in DM
PhD programmes	Individual donations	Prof Gaengler	10.000
Total Quality Management	Dental Companies (var.)	O A Dr Jöhren/ Prof Gaengler	300.000
Procera	Nobel Biocare	Prof Grimm	4.000
Dentistry for Handicapped	K Morgenroth Society	Prof Grimm	3.000
ELYZOL	DUMEX	Prof Grimm	12.000
Goldtechnique	Degussa	O A Dr Zoellner/ Prof Gaengler	9.000
Malignant tumors	Westermann-Wesdorp	O A Dr Jackowski	10.000
Fluoridated milk	Borrow Dental Milk Foundation	Prof Gaengler	43.000
Embryology	Besthorn Foundation	Prof Arnold	12.000
Craniofacial Morphology (Symposium)	DFG and individual donations	Prof Arnold	15.000
Malte-Kamp Foundation	Individual donations	Prof Gaengler	55.000
Composite study	Dental Supporting Society	O A Dr Kamann/ Prof Gaengler	30.000
Gambia	Individual donations	O A Dr Lietz/ Prof Gaengler	60.000

Interceptive Orthodontics	Individual donations	Prof Landmesser	300.000
SEM	German Research Council	Prof Arnold	241.000
Gambia	Hilfswerk deutscher Zahnärzte	O A Dr Lietz/ Prof Gaengler	37.000

20.5 Number of Invited Presentations at International Meetings (Excluding Abstracts)

1. W.H. Arnold

3D computer imaging in human craniofacial malformations.

Int. Assoc. Dent. Res. Israeli Division, Kiriat Anavim, 27.-28.6.1996

2. W. H. Arnold

Pathogenesis of dental caries in deciduous and permanent molars: preventive and clinical consequences.

Germany-Israel Bi-National Conference in Clinical Dentistry, Jerusalem, 30.6.1996

3. W.H. Arnold, G.H. Sperber, G.A. Machin

Craniofacial malformations in three cases of human holoprosencephaly.

Toward a molecular understanding of craniofacial morphology. An international symposium.

NIDH, Bethesda, Maryland, November 22-24, 1998

4. P. Gaengler

The controversy of microbial impact in tooth restoration – How does the pulp react?

Int. Assoc. Dent. Res. Israeli Division, Kiriath Anavim, 27.-28.6.1996

5. P. Gaengler

Remineralization phenomena and their influence on non-invasive versus invasive caries treatment.

Germany-Israel Bi-National Conference in Clinical Dentistry, Jerusalem, 30.6.1996

6. P. Gängler

Comparative odontology – what are the consequences for prevention, pedodontics and maintenance care.

International Curricular Exchange Program “Health and Handicap” at the University of Gothenburg, Göteborg, 24.-25.9.1996

7. P. Gängler

Challenges to dentistry in the 21st century: Prevention outcomes, risk assessment and maintenance care.

17th National Congress Bulgarian Scientific Dental Ass., Sofia 10.-12.10.1996

8. P. Gaengler

Biocompatibility of dental materials and the future of Pedodontics and
Conservative Dentistry

12th Intern. Curric. Exch. Progr. “Materials and Methods in Children’s Dentistry”,
university of Gothernburg, 7.-8.10.1997

9. P. Gaengler

Basic principles of non-invasive and invasive caries treatment.

15th Jubilee “Arkövy” Congress Hungarian Dentists, Budapest, 25.-29.8.1998

10. W. Kamann

Traumatology in Pedodontics and the reasons behind.

12th International Curricular Exchange Programme, Göteborg, 7.-8.10.1997

Section 21

Quality Development

Quality management and development is focussed on: education, research and dental care.

Evaluation of all courses commenced in 1998.

International curricular exchanges take place regularly.

There is quality management in dental care and training of staff in evidence based treatment.

It is hoped to obtain ISO 9002FF certification for the dental clinic.

There will be a phased increase in the proportion of revenue deriving from the clinical departments to 79-80% of budget.

Section 22

Overall Comments on the School, by the School

Strengths

Student and patient centred curriculum with education objectives agreed by all in two-yearly curricular conferences.

Integrated preclinical training including basic sciences, preventive dentistry, psychology, epidemiology and extended clinical simulation.

Personal freedom for teaching and learning with 24 hour access to all facilities, seminar based teaching, interdisciplinary teaching etc.

Continuous evaluation at all levels.

Strong support from the university and the other faculties.

Influenced by epidemiological background and future prognoses, by considerable international advice (German scientific board, EU Directives, ADEE, AADS etc.).

Weaknesses

Curricular implementation, research duties and dental service have caused a considerable additional work load for all academic staff

Position of full professors should be extended before 2004.

Lack of space for dental service, research and personnel offices; extension of 250 m² is expected 1999/2000.

Innovations

Integrated preclinical training including joint courses of basic research and clinical disciplines.

Integrated clinical training including all dental clinical disciplines.

Long-term international activities of undergraduate students (ART Project Republic of Gambia, Student exchange U Penn, other programmes with universities worldwide).

Studium Fundamentale and mandatory examinations.

Cultural activities at high professional levels (play group, choir, orchestra, chamber music).

24 hour access to all university facilities.

Section 23

Visitors comments

The School of Dental Medicine of the University of Witten/Herdecke provides an excellent, innovative and interesting course in dentistry and that both staff and students can be proud of their achievements. Any comments in this report should be taken in that context.

We have identified through the report those areas which we have felt necessary to highlight.

Strengths

- Fresh approach to dental education
- Young, enthusiastic and innovative staff
- Strong and dedicated leadership by the Dean with the support of the President
- Modern facilities
- Holistic approach to university life, as exemplified by the Studium Fundamentale
- Empowerment of students through involvement in fundamental decision making
- Use of part-time staff
- Student opportunity to attend outside practices

- Visible provision of a service to the North-Rhine-Westphalia region
- Committed students Selection procedure for new students
- Low drop-out rate
- High success rate in state examination
- Election of student dean by students
- Within the German system you have found a way to be flexible
- “We regard students as colleagues,”
- *(Prof Peter Gängler)*

Innovations

- 24 hours access for students
- Studium Fundamentale
- Integrated clinical course (in German context)
- Use of kindergarten for teaching
- Student evaluation

Weaknesses (General to the German System)

- Time constraints in curriculum
- Lack of external validation of courses
- Heavy reliance on oral examinations
- Curriculum has to conform to German law

Weaknesses (Specific to Witten/Herdecke)

- Lack of suitable patients to provide adequate experience in certain procedures
- Lack of clearly defined career structure for staff
- Lack of opportunities for staff to train in teaching methods
- Inadequate career advice to students
- Integrated treatment clinic seems very bureaucratic with much form-filling
- Lack of opportunity for staff to develop their careers internationally
- ?Relationship to outside dental practitioners?

Concerns

- The university must continue to build on its considerable financial investment in dental medicine so as to provide more facilities
- The need to generate income from patients must not interfere in the balance between patient services, teaching, research and administration
- The need to generate income must not dictate the choice of treatment provided