TRAINING
IN
DENTAL HEALTH EDUCATION

King's Fund Centre

May 1978

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Report of Conference held on Monday 3 April 1978

CONTENTS

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Background

The introduction of a specific qualification for dental health educators, The Royal Society of Health Diploma in Dental Health Education, has highlighted some issues associated with this new period of development within this field.

Two examinations for the Diploma have now been held; the first in September 1976, the second in July 1977, and the third annual examination will be held this summer. It is open to two groups of candidates, incorporating a vast range of previous academic and service experience:- i) all dental auxiliaries, and ii) 'other interested persons'. Until August 1977, only candidates in group (ii) were required to attend a course approved by the Society; since then, this has been applicable to all candidates.

In response to the Diploma examination, several Area Health Authorities and other bodies have set up courses of training, not all of which were submitted for approval prior to August 1977. Organisation of these courses vary according to local situations, in respect of venue, for example some are held on Area Health Authority premises, others in local Technical Colleges; in respect of course content and the background of teachers. Most are run as evening courses to cater for the vast majority of students who to date have been dental auxiliaries holding full-time posts in general practice or the community services.

The introduction of any new qualification inevitably results in phases of uncertainty, development and consolidation in respect of the criteria of assessment for the examination and the organisation of the courses of training relating to it, also in respect of the subsequent role of those with the new qualification and their career prospects. For teachers, it is to be expected that the lack of previous experience and conventional wisdom as to the types of questions that may arise and the criteria of assessment used will pose special problems. This has been so for those who have been running courses for the RSH Diploma, and compounded by their isolation and the lack of precise objectives or guidance from the Society. This lack of clarification of objectives also poses problems for employers, who will have their own ideas and expectations of the role of dental health educators.

The RSH make available a syllabus and accompanying Guidance Notes; the syllabus covers a broad range of dental, educational and behavioural topics, and although eighty per cent of the syllabus relates to dental topics, the Guidance Notes appear to emphasise the importance of communicative skills. However, with the experience of the first two examinations, it appears that assessment of students' knowledge of dental facts was a priority, although teachers do not know to what extent assessment included communicative skills.

The introduction of the RSH Diploma is a welcome development in dental health education, occurring at a time of rapid development within general health education, when, accelerated by the hierarchial structure set up within the reorganised National Health Service, there is increasing pressure for professional recognition. This poses the question not only of the role and career prospects of dental health educators within dentistry, but also their relationship with general health education and its development. It was with these issues in mind that it was thought those concerned with training in dental health education would welcome the opportunity to come together, and a conference was held at the King's Fund Centre on 3 April 1978. It was hoped that at this conference, based on the experience gained in running courses for students for the RSH Diploma in Dental Health Education, participants would be able to move towards a clarification of the definition of dental health education and an outline of the skills needed in its practice, in the light of current developments within the health service.

This paper is a report of the conference. Appendix I lists those who attended the conference on 3 April, and Appendix II is a report by the two tutors concerned on the experience of running two courses for the RSH Diploma. The two tutors, Ms Diane Plamping and Ms Diana Smith, have put a great deal of effort into the running of the courses, the organisation of the conference, and finally on its report. Several supporting papers referred to in Appendix II have not been reproduced for reasons of economy, but those wishing to have access to them should contact Diane Plamping. The Fund, for its part, is grateful to them for their initiative, and in holding the conference the King's Fund Centre hopes that it will serve as a stimulus to further action in an important and neglected field of health education.

May 1978

W G Cannon
Director

Introduction

The conference was opened by Anne Birkett in the Chair, who said that it was being held at a time when there was a need to assess what was happening in health education. She hoped that the day's proceedings would raise several important questions:-

1. what are the objectives of health education?
2. who should decide the objectives?
3. who should the students be?

and subsequently

4. how do we achieve the answers agreed to the above questions?

Dilemmas in Dental Health Education and Training - Report of paper by Diane Plamping, Senior Dental Officer, Lambeth Southwark and Lewisham Area Health Authority (Teaching)

Diane Plamping had experienced considerable problems during the past two years running a course in preparation for the Royal Society of Health (RSH) Diploma in Dental Health Education. She opened by describing this confusing teaching experience as 'two years spent teaching what she thought some of the examiners thought she ought to be teaching people what to teach!' During this time she felt she had unilaterally decided the answers to some of the problems raised in the Introduction, but hoped that participants of the conference would make available their experience and opinions in an effort to resolve some of these dilemmas.

She felt the first problem area was:-

1. What are we doing in dental health education?

It was reassuring to see the scientific basis for 'facts' now being explored but information-giving remained the main activity. This impression was reinforced by the only dental health education qualification currently available, The RSH Diploma, which has four-fifths of its syllabus relating to Dental Facts. This continuing emphasis on information-giving in the face of evidence derived from testing models and theories of change in health beliefs and behaviour was worrying. She suggested that such models were not taken seriously due to the profession's scepticism of the scientific value of social sciences. Alternatively, she felt that this might be an attempt by the profession to escape the uncomfortable consequences of theories which might challenge prejudices and necessitate the profession changing their attitudes to the general public.

2. To whom are we giving dental health education?

She suggested that more thought be given to the selection of target groups. For historical reasons she claimed most community dental health education carried out had been aimed at the Community Dental Service priority groups, who provide captive audiences but that there might be no rational reasons for choosing such groups. However, an increasing amount of dental health education was being carried out in general practice on an individual basis. One should ask whether dental health education ought to be moving increasingly in this direction, but she

stressed that while individual action was important, it should not be forgotten that dental disease is a social disease.

Diane Plamping presented the difficult, but fundamental challenge of identifying commerce as an important target group. She suggested that by taking only individuals and selected groups of individuals as the target groups, the result was a 'sweeping away of the cobwebs without getting rid of the spider'.

3. Who is doing dental health education?

This is the central problem. She thought that it was implied that all dental workers were involved given the focus on preventive dentistry at the moment. To condemn dental health education was unacceptable in the present climate of opinion, although such uncritical endorsement was not given to all community health education programmes.

As the training in dental health education in undergraduate and postgraduate courses has not increased perceptibly, she asked if it was inevitable and right that dental workers should do dental health education.

She raised the issue of the motives of those taking up dentistry. The traditional public image of a dentist was certainly not one of a communicative individual. Indeed, it should seriously be questioned whether health professionals were the right people to carry out health education. The medical training produced a profession which had been described (Gottman) as one of the tinkering trades; does it follow that tinkerers will also be good communicators?

Looking at dental workers who had demonstrated their commitment by gaining the RSH Diploma, it was interesting to note that none were dentists. Despite this and the lack of development of communication skills in undergraduate courses, the RSH guidance notes suggest that people holding the Diploma should be supervised by dentists. She felt this conveyed the message that dental health educators were born rather than trained, or at least that dentists automatically acquired the skills as a result of their relationships with other dental ancillary workers.

The main problems were summarised as follows:-

1. Who should be doing dental health education?
2. What should they be doing?
3. How should they be doing it?
4. To whom should they be doing it?
5. How do you train people to achieve the goals implied by the answers to these questions?

Discussion

In response to the reference to the 'tinkering' of the medical profession, Mr I Maddick felt that the profession must be prepared to tinker and that historically medicine had progressed by making use of empirical methods. Replying, Diane Plamping considered it imperative to determine aims and objectives whatever the approach adopted. The nature of empiricism in the past, and the consideration of theoretical understanding of technical medicine more recently, was not in question. It was, however, questionable whether the biomedical models used could usefully be expanded to assist in solving the problem facing health education.

Mr Maddick considered the social sciences were not yet at a stage where the models could be usefully applied in practice, but Diane Plamping felt there was much evidence to indicate that scientific medicine had not been as successful as had been hoped in contributing to the improvement of public health.

Mr T R Carpenter, raising the issue of target groups, described two groups with very different dental health education needs - irregular and regular dental attenders. Diane Plamping considered this was only one of the main categories into which people could be placed. One other important division being those who have control over issues which affect their own health and those having no such control.

Health Knowledge, the Professionals and the Public - Report of paper by Alan Beattie, Lecturer in Health Education, Chelsea College

The title of this presentation was changed by Alan Beattie to 'Health Knowledge, the Experts and the Public'. This, he felt, was more appropriate as health education has not yet fully undergone the process of professionalisation. In fact, he suggested that one of the problems to which the workshop should address itself was whether further professionalisation was a desirable development in general and dental health education, even though the current trend was for occupational groups to strive for professionalisation to gain a distinct identity and their own hierarchial success.

To facilitate discussion on the matter, an explanation of the following aspects of professions, professionalism and professionalisation were given:-

1. A definition of a profession - An "inventory" of the characteristics of a profession was described.
2. An analysis of whose needs were served by a profession - Types of professional control were linked to evaluative criteria, definition of needs and associated styles of communication.
3. Methods of establishment of professionalism - Examples of groups of health workers at different stages of professionalisation were used to illustrate the effect the process had on eligibility for inclusion in the group and the dimensions of conflict and negotiation undertaken.

In establishing professional status, the health educator had to take account of a further problem; that 'health' and 'education' are by their nature contested concepts. To expand this he said that the definition of health accepted by any group could affect:-

a) eligibility for inclusion in the professional group
b) maps of knowledge appropriate to the group
c) modes of practice, care activities and career structure
d) agendas for research

Referring to the criteria of eligibility for entry into a professional group, Alan Beattie pointed out that the academic qualification was still of paramount importance in the present system, there being at this time no accepted method of quantifying life experience for inclusion in the assessment of eligibility.

He felt that the model of education accepted by the group would be affected by the definition of health to which this group adhered. He gave examples of different definitions of health and the models of education with which they tended to be linked.

This left the participants with the task of considering the following questions and to decide the implications for training in dental health education:-

1. Is further professionalisation appropriate and desirable?
2. Should the knowledge base of health educators focus on the biomedical, behavioural or sociopolitical fields?
3. What effect does your answer to question 2 have on:
    a) who is eligible to be trained?
    b) how should they be trained?
    c) what should they be trained to do?

The section which follows summarises points that were made by the separate syndicate groups at the conference and at the concluding plenary session.

1. Who should provide dental health education?

One conclusion was that dental health education could be carried out by "non-dental people". It was more important perhaps to recognise that as a subject it should not be separated from general health education. Accepting the present structure of the health service the following should educate the community in dental health:-

a) Dental workers - dentists and auxiliaries
b) Health workers - nurses, school nurses, health visitors, dietitians, midwives
c) Institutional groups - scouts, guides
d) Educators - teachers and health educators
e) Self-help groups

Anyone engaged in dental health education must be capable of assessing realistically his level of communication skills. Training, and the facilities required are discussed below, but it is clearly important that training should be designed in suitable modules for a wide range of persons with differing skills and backgrounds.

2. Dental Health Educators

A. Their Role

a) Policy making and planning: A dental health educator should be capable of formulating a dental health education policy for an Area or District, planning the programme and then implementing it. He or she should also be capable of evaluating it qualitatively and quantitatively.

b) Influencing decision makers: The principal determinants of dental well-being are diet, cleanliness and dental services. It is therefore an important function of the educator to influence decisions on food policy, fluoridation, body cleanliness and access to dental services.

c) Influencing the public: It follows that the educator should also attempt to persuade individuals to brush their teeth effectively, to limit the consumption of foods containing refined sugar, to use fluorides, and to make use of available dental services.

d) Informing the public: The dental health educator has an obligation to inform patients and the public about ways to prevent dental disease and how to use the dental services.

e) Instructing the public: The educator should be able to instruct individuals singly, or in groups, on how to clean their mouths.

B. Their Professionalism

Health educators differ from many other groups aspiring to professional status in that it is the primary object of health education to disseminate widely that "elite body of knowledge" which is one of the characteristics of professional status.

Any occupational group within an entrenched hierarchial and professional structure may lose some credibility if it does not attain professional status. So some aspects of professionalism, such as formal training, are necessary. Unnecessary and restrictive conditions of eligibility should be avoided. The Open University provides an example of how experience and personal attributes can be considered along with academic credits.

Because of the overwhelming size of the problem of dental disease, the dental health educator has a separate role from the health educator. But only in the case of field workers, working mostly in a clinical setting, is it essential that a dental health educator should have a previous dental qualification. It is probable that community workers, and those responsible for planning, will mostly be dental trained, but others should not be excluded.

C. Their Problems

Many members of the public and indeed of the dental profession hold non-rational views on dental health generally. In particular, people are entrenched in their opinions on the state of their own dental health. This places a very considerable barrier between the community and the dental health educator attempting to effect behavioural change.

On a different level there is uncertainty and vagueness about the position within the formal structure of the NHS of those who have trained in dental health education and who have obtained the Diploma. Dental services are not orientated to prevention. There is a great need for a variety of methods to be developed of organising dental health education and the methods of employing educators.

3. Training in Dental Health Education

There exists a considerable body of knowledge on health education. Unfortunately very little of this has been incorporated into the education and training of dental workers. More attention should be paid to this need and some of the steps that could be taken are listed below:-

a) More dentists should take a Masters degree in health education (MSc) or a diploma in health education.

b) Undergraduate dental curricula should contain more teaching in dental health education.

c) Courses for the diploma in dental public health should include more lectures and seminars on health education.

d) More dental health education subjects should be included in courses for dental auxiliaries, hygienists and dental surgery assistants.

e) There should be a dental health education module on all Certificate in Health Education courses.

f) The Diploma in Dental Health Education courses should be geared primarily at dental workers who wish to improve their skills in educating patients and/or small groups of patients about prevention and control of dental diseases.

g) There should be short instruction courses in subjects such as oral hygiene instruction.

4. Royal Society of Health Diploma in Dental Health Education

The present RSH approved courses for the Diploma in Dental Health Education are inappropriate because they do not entirely satisfy the needs of the students. There is ample scope for improvement and the flexibility inherent in the course must be exploited. Ways to do this might include the following:-

a) The course should consist of a number of modules. Exemption from a module would depend on previous training and experience. For example, dental workers should be exempted from modules on dental subjects they had covered in their previous training. Instead they should be offered modules on health education and communication.

b) Dental surgery assistants should complete the whole course as presently structured.

c) Non-dental students should complete the modules on dental subjects but be exempted from education modules if they are qualified teachers.

d) The dental content of the course should be markedly reduced and much more emphasis should be given to subjects such as: the determinants of dental health; factors affecting health; patterns of health and illness behaviour; educational methods.

One should welcome the development of courses for the Certificates in Health Education, which would attract teachers, dental auxiliaries and hygienists; the Diploma in Dental Health Education might then be most suitable for dental surgery assistants and the small number of dentists, auxiliaries and hygienists who may desire to improve their skills in instructing their patients. The Diploma could thus be seen as a stepping stone to the Certificate.

Conclusion

Type of Health Educator

The Cohen Committee had taken the term Health Educator to describe anyone carrying out health education. A distinction should be made between health workers carrying out some health education and those engaged full-time, better called Health Education Organisers.

Dental, and General, Health Education

Reinforcing the case for separate training it was said that the general unpopularity of teeth and mouths would lead to the neglect of dental health if left to general health educators. This does not contradict the case made for separate training in dental health education developed in parallel with general health education training. Thus the dental health educator should be a member of a general health education team in which other team members had special responsibilities.

Modular Education

Concern was expressed that modular education would not provide paper qualifications, a necessity for career progress. However, it was considered feasible to devise a system of certification for students using modular education.

Training Pathways and Career Structure

The importance was stressed of reaching agreement on a basic training and career structure. Criticism was levelled at those who, having gained the Diploma, were unwilling to undertake dental health educational duties in the community. It was, however, pointed out that a short course of 30 evenings would not necessarily equip students with adequate confidence and skill for community work. This reinforces the point that the RSH Diploma course should provide a qualification for those wishing to practice dental health education in a clinical setting only.

There is a need to clarify issues about the licensure of Health Education Officers. Some believe pressures to achieve this to be retrograde; others see it as a means to safeguard health education officer posts for those with a health education qualification.

Training can be "tailor-made" or it can be speculatively innovative. In any event the career structure should be clarified, as teachers have some responsibility to their students to be able to indicate the implications of their qualification; some clarification is also needed for manpower estimates.

RSH Diploma in Dental Health Education

Poor recruitment on to courses in some areas has been reported - due possibly to the lack of subsequent relevant employment, as well as the lack of information about the Diploma to prospective students. It is strongly believed that the RSH should present precise aims for the benefit of students, course tutors and employers. The need for training in communication skills is of paramount importance.

Training Council

The need to form a Training Council was generally accepted. Such a Council would provide an over-view of all training facilities in health education, including dental

health education. A pilot project designed to review training facilities in dental health education might be started. The King's Fund Centre would be available to provide facilities for the discussion of this idea if it were to be taken further.

May 1978

APPENDIX I

Invited Participants

Mrs R Askew	Dental Health Educator	Hillingdon AHA & Eastman Dental Institute
Mr A H Bashaarat	representing Director	RAF Dental Branch
Mr A Beattie	Lecturer in Health Education	Chelsea College
Ms Anne Birkett	Lecturer in Health Education	Polytechnic of the South Bank
Mr W G Cannon	Director	King's Fund Centre
Mr T R Carpenter	Director designate	School for Dental Hygienists and Dental Surgery Assistants, Cardiff
Mrs C Dodgson	Dental Auxiliary	Lambeth Southwark & Lewisham AHA(T)
Miss L M Earnshaw	Dental Auxiliary	Lambeth Southwark & Lewisham AHA(T)
Mrs Brenda Fox	Area Dental Officer	Hillingdon AHA
Mrs J Gale	Assistant Director	British Life Assurance Trust Centre for Health & Medical Education
Mr S Gelbier	Area Dental Officer	Lambeth Southwark & Lewisham AHA(T)
Ms J Jacobs	Senior Dental Officer	City & East London AHA(T)
Mrs M Jones		British Association of Dental Auxiliaries
Miss J King	Lecturer in Child Dental Health	The London Hospital Dental School
Mrs P Le Couteur	Assistant Area Dental Officer	Berkshire AHA
Mr I Maddick	Area Dental Officer	Hampshire AHA(T)
Miss E A Morse	Senior Scientific Officer	British Nutrition Foundation
Mrs B A Munday	Dental Health Educator	Lambeth Southwark & Lewisham AHA(T)
Mrs J H Nunn	Lecturer in Community Dentistry	Dental School, University of Birmingham
Miss H E Parkinson	Senior Dental Officer	Merton Sutton & Wandsworth AHA(T)
Ms D Plamping	Senior Dental Officer	Lambeth Southwark & Lewisham AHA(T)
Mrs J M Prior	Lecturer	School for Dental Auxiliaries, New Cross Hospital
Dr A Sheiham	Senior Lecturer in Community Dentistry	London Hospital Dental School
Ms D Smith	Student	Nottingham University MMedSc course
Mrs S M Twidale	Senior Dental Officer	Cheshire AHA
Mr L J Wallace	Dental Officer	Health Department, Corporation of London
Mrs T White	Dental Auxiliary	Kensington & Chelsea & Westminster AHA(T)
Dr W Wood	Lecturer	Chichester College of Technology

APPENDIX II

REPORT ON TWO COURSES HELD ON THE R.S.H. DIPLOMA IN DENTAL HEALTH EDUCATION

Diane Plamping
Diane Smith

SUMMARY

The introduction of specific training and qualifications in dental health education has been the subject of discussion for many years. In 1963 the Dental and Allied Group of the Royal Society of Health, in the climate of increasing interest in dental health education, thought it desirable to establish some form of qualification. Following discussions with various interested bodies, recommendations were made to the Royal Society of Health that they institute a Diploma in Dental Health Education.

Notification of the first examination for that Diploma, to be held at the end of the 1975/76 year, was given in the August 1975 issue of the Society's Journal, (RSH Journal (1975) Vol 95, No 4, iii). Available information concerning examination requirements was limited to a basic syllabus and regulations concerning eligible groups of candidates. (Appendix 1 page 1).

In view of the absence of information on preparation for and usefulness of this new qualification, it was decided to compile this report to provide a basis for discussion of the future of the DHE Diploma.

This report contains a description of the contents and evaluation of courses designed to prepare students for the RSH DHE Diploma examination. These courses were sponsored by the Lambeth, Southwark and Lewisham Area Health Authority from 1975-1977.

As a result of experience gained in the development of these courses, the authors have made recommendations relating to course contents, definitions of the Dental Health Educator's role, and further areas of research.

It is hoped that the description and recommendations will be widely read and discussed by teachers and examiners to facilitate the formulation of useful guidelines for future courses and beyond this to more general issues in DHE training.

1st Course 1975/76 - Pilot Study

An in-service part-day release course for category 1 (a) candidates only (see Appendix 1A) in preparation for the first examination, was instigated by Mr. S. Gelbier, Area Dental Officer, Lambeth, Southwark and Lewisham Area Health Authority (Teaching). This course, of necessity, was experimental, thus it was decided not to seek approval from the Royal Society of Health, thereby excluding category 2 (b) candidates (see Appendix 1A).

Evaluation of this first course was limited to:

i. Examination results
ii. Subjective evaluation of course by students - questionnaire at end of Term 1 (Appendix 5)
iii. Subjective evaluation by tutors.

The overriding problem encountered in the organisation of this course was the complete lack of guidance on interpretation of the syllabus and expectations of the examiners.

2nd Course 1976/77

A second course was designed incorporating recommendations from the pilot study. The aim was to design and evaluate a course of study in Dental Health Education and assess its effectiveness as a method of preparation for the Royal Society of Health Diploma in Dental Health Education.

The second course suffered again from a lack of guidance on interpretation of the syllabus and expectations of examiners. On submission of a skeleton timetable, this

second course was granted approval by the Royal Society of Health.

Tools of evaluation were designed to facilitate the objective and subjective evaluation to be undertaken. Evaluation of skills and knowledge was planned and the students participated in the subjective evaluation of teaching sessions throughout the course.

Recommendations

1. Further research should be undertaken to discover the duties of present dental health educators and the perceptions of the Dental health educator's role by prospective employers.

2. In the light of research findings, detailed aims and objectives should be defined.

3. Criteria for assessment of projects should be defined.

4. All courses should be ap roved by a central body as able to fulfil the stated aims and objectives.

5. The tutors of approved courses should be involved in the examination of their students.

COURSE ONE 1976-77

1.1 Staff

Planning and organisation of the course was the joint responsibility of two course tutors, working under the overall direction of the Area Dental Officer. They were:

Mrs S Perry - Health Education Officer

Miss D Smith - Community Dental Officer

Mrs Perry was well experienced in health education field work, and possessed the City and Guilds Teaching Certificate. Miss Smith had some field experience in dental health education. These two tutors carried out the majority of the teaching on the course. In addition, students were exposed to a few guest teachers and visits were arranged to the Oral Hygiene Service and the Health Education Council. Guest teachers included the Area Dental Officer, Assistant Area Dental Officer, a senior lecturer in children's dentistry and two health visitors.

1.2 Students

An arbitrary decision was made to offer approximately sixteen places, this number being considered reasonable to allow useful student participation in the group. Seventeen students from varying backgrounds were enrolled:

Years Since Leaving School

	0-5yrs	6-10yrs	10+yrs	Previous DHE experience
DSA			5	1
Auxiliary		6	3	9
Hygienist			1	
Non-Dental			2	2

All students except the dental Surgery Assistants had at some time carried out dental health education in group situations in non-clinical environments.

In the case of the ILEA Dental Health Educator with no dental qualifications, the Royal Society of Health agreed to her eligibility for the examination, without attending a RSH "approved" course, after considering her in-service training, attendance on the course and experience of dental background gained in the course of her job.

One Auxiliary moved away from London and left the course at the end of the first term. The remaining sixteen students sat the first examination for the Diploma in Dental Health Education in September 1976. Ten students passed the examination.

1.3 Aims and Objectives

Initially the only available guideline for the course was the syllabus, including information on eligibility of candidates and notification of the requirement of a project (Appendix 1A).

The major aim was to enable students to pass the examination. Guidance should be obtainable from the syllabus and it would be assumed that a set of objectives could be derived from consideration of its contents. However, the general terms of the syllabus gave no indication of the academic level expected of examination candidates; interpretation of the academic level became a matter of guesswork for the tutors, in the absence of guidance from any source.

The second aim was necessarily vague namely"to direct the students towards practising effectively as a dental health educator for all sections of the community. One may question methods of evaluating the effectiveness of

health education but even more fundamentally there is the problem of a wide devergence of opinion on the desirable organisation and practice of dental health education.

The tutors felt unable to address these problems directly. The objectives chosen below indicates the way this aim was interpreted.

Students should:-

a. have an understanding of the principles and methods of teaching, learning and behaviour change as it relates to dental health education

b. have a knowledge of the measures taken by Government, the profession and society to reduce dental ill-health and promote good dental health

c. have an understanding of the social and biological factors associated with dental disease and its prevention or treatment

d. be able to choose and execute suitable teaching methods and design appropriate schedules for dental health education to any sector of the community

e. have an appreciation of the importance of evaluation.

f. be aware of the need to keep in touch with current knowledge and trends.

1.4 Course Content and Methods

The tutors made the decision to place considerable emphasis on Section E of the syllabus - (Appendix 1A) - Communication and Teaching methods, this being new ground for all the students with the exception of the one student with a Diploma in Education. The dental content of the syllabus was to take proportionally less time as this should be familiar to the students. In view of the lack of knowledge of student capabilities, time was made available for extra tutorial sessions on basic dental knowledge for those feeling the need. It was anticipated, correctly, that Dental Surgery Assistants would need this additional time for the dental content.

This decision appeared to be reinforced when subsequently, in Junuary 1976 at a meeting of the Royal Society of Health, a prepared handout of Guidance Notes for all candidates was introduced (Appendix 2), stating:

> "These sections are aimed at enabling you to achieve an elementary, but broadly-based, dental background knowledge. This need not be detailed, but sufficient to help you deal with simple questions from the public who will be aware that you do not have the training of a dentist." (RSH Guidance Notes(1976), p 1)

A reading list (Appendix 3) was also introduced, which the course organisers felt included much that was irrelevant, and/or too detailed for the assumed level of the examination. In spite of the introduction of Guidance Notes and a book-list, the tutors found no real guidance on the expectations of the examiners.

This course was designed to provide predominantly teaching on Section E of the syllabus during the first term, followed by basic dental facts in the second term, and finally, in the third term, the use of this knowledge in dental health education.

Thirty 2½ hour sessions were held throughout the year, split into three 10 week terms, commencing October, 1975. During the second term, additional weekly tutorial sessions were available. (Timetable - Appendix 4A).

Teaching, for the most part, was of a didactic nature, although group discussion was encouraged at the end of each teaching session. Discussion, seminar and tutorial sessions were included. Students were required to present "topics" to the class on several occasions for practice in public-speaking and were encouraged to gain experience in giving dental health education during the course of their working week.

The students' own projects raised considerable problems. The only information given initially was with the syllabus, (Appendix 1A). Further information was provided in the "Guidance Notes" (Appendix 2A) in January 1976, in which it was stated that the project should be the result of a good deal of reasoned thought, and it may describe anything, from a series of flannelgraphs, or collection of slides, to an adventurous scheme, provided that it is practicable and useful in dental health education! The project could take the form of a report of work undertaken, or of a proposal. The tutor felt that this allowed for a variation in academic levels of presentation as well as project "types". Students were encouraged to carry out a project, it being of more benefit to them to gain some experience, where this was possible. Presentations varied from a report of planned research, to a straighforward report of a dental health education exercise.

Students were encouraged to start work on the project early in the course and to obtain advice from appropriate sources in addition to the advice the tutors were able to offer.

1.5 Evaluation

In addition to the final examination results, evaluation of the first course was limited to crude subjective assessment by students and tutors; objective evaluation of students' knowledge was undertaken by two internal examinations held at the beginning of Terms 2 and 3.

Subjective Evaluation by Students

A questionnaire (Appendix 5.) was completed by students at the end of Term 1. The responses were not collected for detailed analysis, but to obtain a crude assessment of students' cricisms. The questions were derived from a general discussion of the course with students during Term 1; it was hoped that students would feel able to give their honest personal responses in the questionnaire, although it should be noted that the students were aware that the tutors were familiar with the handwriting of all members of the class.

Responses showed that the majority would have liked more teaching in psychology and behaviour patterns, more practice and critical appraisal of their "public" speaking and the opportunity to observe the various teaching methods covered in theory on the course. Most students expressed a wish for more guest teachers. The rigid division of the syllabus content was not popular, it being considered desirable to include dental content to give relevance to the subjects covered during the first term.

Discussion at the end of Term 3 reinforced these opinions although it was agreed that guest teachers and "public" speaking, in class, had been increased during the latter part of the course.

Subjective Evaluation by Tutors

The two tutors worked closely on the organisation of the course, but their teaching sessions were dictated by their

background; as a result of the arrangement of the course timetable, the tutors were very sensitive to the possibility of saturating students with one teacher for many weeks. An attempt was made to introduce more guest teachers during the first term, but the time available for organisation before the start of the course was limited.

The considerable variation in background knowledge, previous experience in dental health education and especially previous educational experiences were of great concern to the tutors. The presence of students holding positions at different hierarchial levels within the same service, appeared to be a deterrent to full student participation for those feeling themselves to be of a lower status. Those students with less previous educational experience required more help than these tutors were able to give and this was sadly reflected in the examination results.

In spite of these difficulties the general impression was that all students' ability to communicate increased during the course, and their weekly written answers showed considerable improvement in presentation.

There is no doubt that the uncertainty felt by the tutors of the expectations of examiners was reflected greatly in the students.

Objective evaluation of students' knowledge

class written examinations

Two unrelated examinations were set, one at the end of Term 2 and one during Term 3. (Appendix 6)

The first examination was compiled and marked by the tutors. As previously stated, the academic level of the final examination was a matter of guesswork, thus the results of the examination can only reflect the tutor's expectations.

The results reflected the impression gained from class participation and the students' weekly answers, showing with one exception, that dental surgery assistants and those having received no formal education for many years were the weakest candidates.

The second examination consisted of only two essay questions, submitted by two persons active in the promotion of dental health education. It was hoped that the expectations of these persons would correspond to those which might be held by the examiners for the final examinations.

Final Examination - September 1976

The first examination was not held until September 1976 (see Appendix 7). The bias was very strongly toward dental fact. While it is not possible to examine every aspect of a syllabus, it was felt that this aspect could have taken up a smaller proportion of the paper, bearing in mind the emphasis placed on teaching methods and "communication" in the RSH Guidance Notes. These Notes also state the aim, to achieve an elementary but broadly based dental background knowledge.

Students' experience in the viva voce led to the conclusion that the examiners appeared, in general, to be more concerned with detailed dental factual knowledge than had been expected. While it is not possible to comment on the criteria used by the individual examiners, it was felt that very little emphasis was placed on Section E of the syllabus, in spite of its importance implied in the Guidance Notes

COURSE TWO 1977-78

2.1 Introduction

An attempt was made to incorporate recommendations resulting from experiences gained on the first course into this course's design. In particular, it was decided that the dental and non-dental subjects would be integrated as closely as possible and that guest speakers would be included in the teaching programme. The course materials and evaluation were planned to allow students to increase their involvement in the education process in hand. However, many variables remained beyond the course planners' control, and many of the problems faced in the first course remained unresolved in the second year of this study.

Students were self-selected, and included members of the group (DSAs) who had encountered difficulties with the previou course. No further clarification of the emphasis to be placed on each section of the RHS syllabus by examiners was available. In view of the breadth of topics,and conflicting instructions on depth of understanding required, this constituted a serious problem. Although a course outline was submitted for approval by the RSH, and accepted, no real guidance on course content and teaching methods was given. A teacher of another course was told by a representative of the RSH that, as an examining body, it was not their responsibility to comment on the design of proposed courses. Although this is not an uncommon position to be adopted by examining bodies, many teachers feel that this is an unacceptable position when they are not allowed to influence the method of assessment. It is very difficult to prepare students for an examination over which one has no control, and to plan a course which is appropriate for students preparing for such an examination. The difficulties are compounded when the examination result is one which will qualify the candidate to undertake a role which is not clearly defined. It is further complicated by the newness of the qualification, with the resultant paucity of experience and "conventional wisdom" among teachers as to

the types of questions which arise in the examination

Candidates are also assessed on project work they have proposed or undertaken, a synopsis of which must be presented to the examiners. Course tutors were given no information by the examining body on the purpose of this form of assessment. This created problems in view of the huge range of skills a project might be expected to demonstrate, from the ability to undertake original research to the ability to write a simple report of a dental health education experience.

It was in this climate of insecurity that the second course was planned and implemented. Decisions on the choice of objectives for the teaching sessions and project work had to be taken by course tutors. The course tutors interpreted the RSH Syllabus, and the decision was taken to completely restate the objectives of the course. As this could only be undertaken on subjective criteria, it was hoped that this interpretation would fall within that of the RSH examiners. The aim of this phase of the study was to design and evaluate a course of study in DHE and assess its effectiveness as a method of preparation for the RSH Diploma in Dental Health Education. It is hoped that the following description will be widely read and discussed by teachers and examiners of this course to facilitate the formulation of useful guidelines for future courses.

2.2 Students

No selection procedure was undertaken. All twelve students who applied to take part in the course were accepted. All

had a dental qualification, which placed them in the RSH Group 1 (see Appendix 1B, Para. 1(a))The decision to prepare for the Diploma was the result of many different influences and personal interpretations of the information distributed by the RSH (see Appendixes 1B, 2 and 3). In view of the ambiguous or limited information on the form or contents of courses, it was possible that students may have had many different and possibly conflicting expectations. The range of eligibility to sit the Diploma examination is wide, and this was mirrored in the age, training and experience of our students.

	Years since leaving school			Previous DHE experience
	0-5 years	6-10	+10	
DSA	1	-	4	1
Auxiliary	6	-	-	3

This created profound problems in course planning. It was necessary to assume from experience in the previous course the degree of dental knowledge they would possess and tneir previous experience of learning and teaching methods but a certain flexibility was retained within the programme to allow necessary reorganisation. The validity of our assumptions regarding these factors was tested by asking the students to write short notes on their feelings about study problems and Dental Health Education problems after the introductory session. (See Appendix 8).

2.3 Teachers

The course tutors were:

Diane Plamping - Lecturer in Children's Dentistry
Diana Smith - Assistant Area Dental Officer

The course was planned by these two teachers with assistance from other dental educators. As often happens on these occasions, the people involved in teaching came together

in a rather haphazard way. It was decided that the aims would be formulated jointly and that these should take into account the skills and experience of the teachers. Diana Smith had been involved in running the 1975/76 course, was an RSH examiner, and is actively involved in dental health education promotion in her work. Diane Plamping had some field experience in dental health education, and educational research experience.

Inevitably, the skills, attitudes and deficiencies of these teachers affected the character of the course. This core team decided the aims, the contents of most course components, teaching methods to be used and selected the guest lecturers who participated in the course. In order to facilitate evaluation of all the teaching sessions, it was decided to require all teachers to state in behavioural terms the objectives for each session and submit their preferred method of evaluation. If no evaluation tool was presented, then the course tutors distributed a standard questionnaire. (See Appendix 9).

2.4 Determining Aims

Some time was spent before starting the course in determining the aims and, of course, where possible, the objectives of its components, within the RSH Syllabus. It has become common practice in recent years for "objectives" to be stated and this action had been taken by the RSH (see Appendix 2). However, the objectives stated by the RSH are vague, and cover such large and diverse subject areas that it was felt that they did not constitute a useful guide for the tutors in their efforts to plan the pilot course. The implications of this lack of clarity nad been painfully understood in the examination of previous candidates by students, teachers and examiners alike.

The RSH Syllabus contains what, in educational terms, might more accurately be called aims, that is, a general statement of interest to the whole course or a component of it. An

objective is a more precise statement of expected student performance in behavioural terms. After the first course, it was decided to restate the aims and objectives for this course within the "objectives" laid down by the RSH. This rather difficult and lengthy task was undertaken to facilitate course planning. The aims were determined by the regard to particular constraints such as: student abilities and experience, teachers' skills and time, and the present knowledge of the RSH examination. Perhaps the most limiting factor was the time available. As an extra-curricular activity for students and teachers, it was felt that attendance at one evening session per week was all that could reasonably be expected. This time, plus time spent in private study, constitutes a considerable burden at the end of a full working day. Within this time limit it was considered impossible to cover each section of the RSH Syllabus in depth. Instead, the decision was taken to spend more time on the "educational" aspects of dental health education. This was accepted as a necessary, but uncomfortable, compromise.

The initial formulation of aims was attempted with reference to a job description written by the course tutors. This did not diverge greatly from some of the examples of possible activities for a Dental Health Educator given in the Guidance Notes (Appendix 2), which did provide the tutors with some solace. However, it was not possible to include the concept of "selling health" as a useful aim as the definition of health is problematic and the suitability of considering it as a product is questionable. Stress was laid on community activity and its attendant skills. It was hoped to expose the students to experiences and information which would allow them to become self-reliant educators and learners, aware of their deficiencies and potentials. In the short time, no more than sketching in an outline to the subject matter and responsibilities would be possible. These responsibilities are difficult to identify accurately as they related to attitudes and beliefs but an attempt

was made to include some of this aspect of a dental health educator within the aims.

The chosen aims were stated as follows:

1. To direct the student towards practising effectively as a dental health educator for all members of the community.

2. That the student should:

   a) have an understanding of the principles and methods of teaching, learning and behaviour change as it relates to dental health education;

   b) have a knowledge of the measures taken by Government, the profession and society to reduce dental ill-health and promote good dental health;

   c) have an understanding of the social and biological factors associated with dental disease and its prevention or treatment;

   d) be able to choose and execute suitable teaching methods and design appropriate schedules for dental health education to any sector of the community;

   e) have an appreciation of the importance of evaluation

   f) be aware of the need to keep in touch with current knowledge and trends

These are still broad statements of intent, and it was realised that the aims could not be achieved completely. However, it was hoped to place aspects of all these things in the course. It was considered important that the

students should be aware of the breadth of responsibilities in the field they were entering, so that any shortfall in the course should be identified as such, and hence not restrict their understanding of their intended professional role.

2.5 Determing Objectives

In order to approach even partial achievement of these aims, it was necessary to plan each session to include objectives for more than one subject area. An integral part of this strategy was the explicit statement of objectives in each session. It was hoped to achieve part of aim (2)(have an understanding of the principles and methods of teaching, learning and behaviour change as it relates to dental health education through the exposure) Where possible, the students were included in the planning presentation and process of the course. It was hoped to maximise learning by providing practical demonstrations which were consistent with the theory being presented more didactically. This consistency is difficult to maintain, but if the students participate in the process, even the failures can provide positive educational experiences. This practical involvement was considered particularly necessary with students with a practical rather than an academic background.

A similar approach was taken with aim f) be able to undertake the planning and evaluation of dental health education programmes with appropriate assistance. Practical experience of evaluation was included in each session with reference to the objectives set for that session.

Evaluation has often been conspicuous by its absence in many settings, and dental health education is no exception. It was considered particularly important that evaluation be seen as an essential component of every educational event and demonstration of the relation of objectives to evaluation was included in each teaching session.

Detailed objectives were determined by the teachers of each 40-minute teaching session. Explanatory material was sent

to guest speakers to explain what was required of them. (See Appendix 10). A form was used which allowed all material (including objectives appertaining to their session) to be distributed to students one week in advance. (Appendix 11).

2.6 Precourse Materials

Students received copies of the RSH material and course details before the start of the Course (see Appendices 1B and 22). The letter of introduction stressed the experimental nature of the course. A similar package was prepared for all guest teachers to allow their contributions to be integrated into the course and its evaluation (see Appendix 10).

NB: The Reading List was omitted as this contained large numbers of books and publications without guidance as to relative importance of each or parts of each item. A revised list was made available later to students which, it was felt, would be less daunting. (See Appendix 3B).

2.7 Course Details

The course consisted of 10 three hour sessions per term, for three terms. Each session consisted of two 40 minute teaching sessions separated by a break, and followed by a one hour session of free study; at least two teachers were present at each session. Homework was required between each session, and work set during the vacation. Books and papers from the RSH recommended Reading List, in a resource box, (Appendix 12) were available in the last hour of each session. Additional reading material and audio-visual equipment and material were also available for use. Whenever possible students received copies of the objective sheet (Appendix 11) for that period one week before the session, and at the end of each session they were asked to evaluate their experience on one of the several types of form provided.

In order to achieve our rather optimistic aims, it was necessary to weave many threads into each session:

1. Students were made aware of the teaching method practised on them, whether or not these were new or familiar methods.

2. The practice of skills in communication through the choice of teaching methods which encouraged participation.

3. Information was given in accordance with stated objectives.

4. Evaluation was practised as an integral part of each session.

5. Objectives were stated to demonstrate their significance in relation to evaluation and to give experience of their form and usefulness in planning.

The last two factors were considered particularly important as teachers wishing to help students to become teachers must act with consistency. If one may adapt a common saying, "Students do what you do, not what you say."

2.8 Teaching Methods

Teaching methods were chosen to allow the development of skills in communication. Different small group teaching methods and audio-visual aids were used to provide information and experience to achieve aim (d), be able to choose and execute suitable teaching methods and design appropriate schedules for dental health education to any sector of the community. Within this context, the factual information contained in aim (b) was imparted b) "have a knowledge of the measures taken by Government, the profession and society to reduce dental ill-health and promote good dental health" With careful planning an attempt was made to

encompass all the aims stated above in the very short time available.

The course tutors chose to use a team teaching approach. The term "team" is used widely and has many meanings, so it is necessary to describe in more detail the workings of the teaching team during this course. Responsibility for planning and implementation of all sessions was shared, such that the preparation and presentation of the sessions always involved the two teachers. This probably demands more teaching hours being spent during the teaching, and may be considered costly or wasteful in manpower, however it should be noted that the course aimed to promote change in attitudes and behaviour as well as knowledge. In order to achieve many different aims in one session, it was considered necessary to have a teacher with all the appropriate skills. This is unlikely to occur in one person, but two teachers may possess between them a wide spectrum of experience. Although in any given session one teacher might provide most of the material, it is extremely useful, after the initial embarrassment has subsided, to have another teacher present. During the session this might be of assistance in ensuring comprehensive coverage of the stated objectives, and discussion after the session often leads to improvements in methods of presentation and contents. Many teachers must have experienced that desperate mental search for a suitable example, or watched control of the contents of a session slip away. We have found this less of a problem as long as teaching preparations are thorough and the objectives understood by all parties. Resistance to this form of teaching is not linked only to economic constraints, but also to our experience in the rather competitive atmosphere at school. The adoption of this method of teaching, despite the initial problems of insecurity and vulnerability felt by teachers, aided development of different skills in the

teachers through the course and may have contributed to the students "teacher training" through their observation of the process.

The size of the group was limited to 12 to allow a wide range of small group teaching methods to be used. In view of most people's restricted experience of non-didactic teaching methods, and of our belief, later confirmed, that the students would be unused to speaking in front of large groups, it was felt necessary to choose a small number if our aims were to be achieved. There has been much discussion on how small a small group is, and 12 is probably on the upper limit. So a lot of thought was given to the initial sessions which were designed to set the tone of the course and break down barriers between individuals and expose areas of common interest. The group commonly split into "Buzz groups" (of 2 or 3 members) to discuss thoughts and feelings on particular topics for a few minutes. When the large group reconvened after such groups, there was greater participation, and generally this method acted as a social ice-breaker. Areas of common experience were covered in these initial sessions, and this was also an attempt to develop some cohesion within the group which would encourage active participation and feedback. The common teaching methods, such as:

a. Lecturing - period of uninterrupted talk by the teacher

b. Controlled discussion - student participation in a session, the content and direction of which is controlled by the tutors, e.g. session title "What helps people remember?"

c. Group tutorials - topic and general discussion given by tutor, but content and direction controlled by students

d. Step-by-step discussion from carefully prepared sequence of issues shared by students and tutors, e.g. Public Health.

e. Seminar - group discussion introduced by a student presentation, e.g. presentation of projects.

f. Brainstorming - all members of the group offer spontaneous ideas in an intensive manner as a solution to a problem - these are received uncritically and listed, followed by evaluation of those solutions, e.g. session or study problems.

g. Fishbowl - a number of the class sit in an inner circle, and hold a discussion, while the remaining members sit round the outside and observe the interaction. Discussion follows, exchanging views on that interaction between the two groups.

h. Simulation - a partly-structured situation in which students role-play and apply classroom learning to real life (simulated) situations, and discussion follows.

i. Games - rules of the game are stated, and students are usually encouraged to compete to win the game. Discussion follows.

The chosen method was described to students in an attempt to make them more conscious of the ways teachers can manipulate the learners' environment, and to show the ways in which teaching methods have been designed to complement learning techniques. Stress was laid on the interaction between learning and teaching as essentially part of one process. Evaluation of a course by students was rarely included in courses in the past, and may often be avoided because of fear of condemnation by teachers and fear of possible revenge by students. It was hoped to demonstrate that evaluation is a normal process which always happens in social settings, and occurs even if no attempt is made to record the evaluation. We can all remember good and/or bad experiences in lectures, whether the lecturer in question

ever solicited our views or not. The contributions of teachers and students can be assessed and incorporated into new efforts with positive results, and teachers can keep their teaching relevant and efficient by gaining continous feedback. Students can be assisted to become more aware of the criteria they use to judge the teaching process, and the influence of the process on their ability to learn efficiently. This situation can be likened to a diagnosis by identification of symptoms and which enables one to infer a prognosis for the condition. This is a pattern with which students are familiar but do not always recognise in other settings.

It was decided to integrate the dental and non-dental subjects within each session in order to comply with the students' expectations and allow the achievement of the multifarious aims simultaneously. The need to make one's teaching material relevant to students cannot be overstated. Although some teachers may feel that students have a blinkered view, the course tutors felt it is necessary to expand their perceptions of what constitutes relevant material with regard to the students' experience and expectations.

Throughout the course, the tutors stressed the time such a project would take to plan, implement and report. A preliminary description of the project had to be available by the end of the first term. This was amended, if necessary, after discussion with course tutor/s. At the beginning of the second term, time was set aside for students to present the outline of their project to the other students for further discussion.

3. Methods of Evaluation

3.1 Introduction

The severe limitations on the time which was available to the participants in the course has been mentioned, and had implications for the type of evaluation that could be undertaken. Wherever possible, objective evaluation was attempted although with the resources at our disposal we were unable to fulfill all the criteria for objective testing, i.e.

1. Reliability - testees should score the same mark when retested.
2. Validity - it should test what it sets out to test, not other factors.
3. Objectivity - the same marks should be obtained whoever marks the test.

Subjective evaluation does still have an important part to play and should not be ignored. The evaluation of the course by students, teachers and independent observers is included in the overall evaluation of the course, along with the objective tests and examination results. As no information was available relating to the reliability, validity or objectivity of the RSH examination, it was decided to treat it as a separate category.

3.2 Evaluating Knowledge

Some attempts were made to objectively evaluate an increase in students' knowledge throughout the course. It was not possible to construct a questionnaire to test the initial knowledge, through lack of time and an incomplete list of objectives to be covered by guest speakers. However, a questionnaire was constructed to test the success in achieving the first term's stated objectives. This was presented to the students to complete over the Christmas holiday. On the first week of term the answers were

discussed, and the completed questionnaire collected in. On the following week, an identical questionnaire was given to the students to complete within one hour (see Appendix 13). This questionnaire could not truly be called a MCQ, since many types of question were used in an attempt to assess different types and levels of understanding. As it was not possible to pilot these questions to test their reliability and validity, they could not strictly be called objective. Inevitably, the selection of questions is subjective, but attempts were made to formulate questions relating to course objectives and minimise the contribution of verbal ingenuity which often forms a large component in MCQ construction. Ease of comprehension and clarity were discussed after the first questionnaire. The results of the second questionnaire were used to measure the state of the students' knowledge.

3.3 Attitude Evaluation

This was not undertaken as the need to design a specific questionnaire to measure attitude change was beyond the scope of this course. This is an important omission, which we hope to rectify in the future. Reference is made to this topic in the subjective evaluation made by the course participants.

3.4 Evaluation of Skills

Objective evaluation of the performance of certain skills in communication was attempted. Criteria of evaluation agreed in advance were applied to student performances in games, simulations and dental health education given to members of the lay public. The judges included the course tutors, independent teachers, students, and lay participants in the course. Details of the skills evaluated, the contributors to skill evaluation and the criteria used are supplied in the results.

PROJECT

Candidates are required to submit for assessment a synopsis of not more than 1,000 words on a project proposed or undertaken by them on any dental health education. Beyond this, the only guidance given to the candidates is that the project should be "the result of a good deal of reasoned thought" and should be practicable and useful in dental health education. The topic certainly provoked a great deal of thought, although sometimes more akin to panic than reason. The wide range of experience, aspirations and availability of resources made project planning difficult. The course tutors were uncertain as to the degree of assistance they could reasonably offer. It was not clear which criteria of evaluation would be applied by the examiners - originality, research competence, quality of teaching aids. To limit the uncertainty, the course tutors advised the students to approach the project by consideration of the following points:

A dental health educator would be expected to work within a team. Although he/she might take responsibility for planning sessions/programmes, this should always be done in consultation with team members, and after seeking advice from appropriate people in the community, e.g. teachers.

The planning of any programme should include the statement of objectives, identification of the target population, description of the method and material used, and method of evaluation of success in achieving objectives.

The tutors considered it possible that all these facts might not be adequately covered in the project, in which case candidates should be able to explain with regard to the experience gained in completing the project:

a. The usefulness of the programme and/or its results
b. What advice was sought in planning the programme
c. Any modifications they would include if the programme was to be undertaken again.

3.5 Student Evaluation

The students were included in all evaluation undertaken and the importance the tutors attached to it was explained frequently. Just as the teaching methods were chosen consciously to expose students to a wide range of methods, similarly the students were exposed to many types of evaluation:-

1. The course questionnaire - the criteria for evaluation on this were fixed by the tutors, but stated explicitly (see Appendix 9).
2. UMTU Questionnaire - the session is evaluated with reference to fixed criteria on one list, then the criteria are evaluated by the students on a separate list (see Appendix 14).
3. Free, open-ended discussion (middle and end of term).

Evaluation of Students by Observers

This takes the form of comments made by people observing teaching sessions some solicited but some given spontaneously.

These comments were collected mostly from three sources.
1) teachers who taught the first term and then again in subsequent terms (3) not counting course tutors

(2) Members of the public who were given dental health education by the students (6) (see appendix 15A)

(3) Observers (dentists) at the Fluoride meeting simulation (3) (See appendix 15B)

In the last situation a questionnaire was used to assist the observers to remember and separate the performances of all the participants(Appendix 15b)No numerical analysis was undertaken but there was consonance on several points.

4.1 Results

Introduction

This section is sadly depleted. All the data collected from students on the standard evaluation sheet (see appendix 9) was submitted to the computer unit at Kings College Hospital Medical School and lost. This loss has severely restricted the depth and breadth of the course evaluation. Some copies data remained from 10 teaching sessions within the first term. This constitutes half of one term's data for a subsample of the students. A limited analysis was undertaken of this data but it was felt that there was insufficient remaining data to warrent detailed analysis.

4.2 RESULTS OF QUESTIONNAIRE ANSWERED FOR 2nd TIME AFTER ONE TERM

CANDIDATE	A %	B %	C %	average overall %
1	82	78	76	79
2	65	65	82	71
3	32	65	47	48
4	89	87	88	88
5	51	76	88	72
6	87	95	88	90
7	78	89	59	75
8	50	70	58	59
9	73	71	71	71
10	results not available			
11	"	"		

QUESTIONNAIRE ANSWERED AFTER ONE TERM

	%
Questionnaire A	
Answers correct both times	52%
Answers wrong both times	25%
Answers correct 1st but incorrect 2nd time	9%
Answers incorrect 1st but correct 2nd time	14%
Total number of questions	97
Questionnaire B	
Answers correct both times	65%
Answers wrong both times	13%
Answers correct 1st but incorrect 2nd time	9%
Answers incorrect 1st but correct 2nd time	13%
Total number of questions	55
Questionnaire C	
Answers correct both times	55%
Answers wrong both times	19%
Answers correct 1st but incorrect 2nd time	8%
Answers incorrect 1st but correct 2nd time	18%
Total number of questions	17%

4.4 RSH EXAMINATION RESULTS

Place of employment	DSA		AUXILIARY	
	Passed	Failed	Passed	Failed
Lambeth Southwark Lewisham AHA	1	1	3	0
Other	1	2	3	0

Sept. 1977 pass rate 72%

National pass rate 65%

4.5 Student Evaluation of Objectives

Students scored on a 5 unit scale (Likert type) in answer to questions an example of which is given below:

eg. How successful do you think your teacher was in enabling you?

a) to list the average age of eruption of the deciduous dentition

1 2 3 4 5

Not at all — Very

Objectives were grouped into 3 categories:

Type 1 - involving making lists or defining

Type 2 - interpretation or explanation of information given

Type 3 - application of information to a problem or demonstration of a skill.

Objective	Meanscore	Range of scores
type 1	3.5	3 units
type 2	3.6	3.4 units
type 3	3.5	2.6 units

4.6 Evaluating course contents and teaching methods

The results recorded here were undertaken on the incomplete data and hence are unable to support a detailed analysis.

A programme from the Statistical Package for Social Sciences was used to generate statistical information on the data. Cross Means, standard deviation ranges etc., were calculated for scores for each question by session and student.

However, only the results of the correlations soefficients calculated for the scores of questions 2-11 (see appendix 9), are recorded here.

4.7 Comments by Observers

The teachers in group one all volunteered the opinion that there was a marked difference in the behaviour of the students between their first and subsequnt visits. Their willingness to ask questions increased dramatically as did the liveliness of the discussions after the formal presentations. It was felt by these teachers that the students, in their questions demonstrated accute powers of observation and the ability to identify from the subject matter these implications for dental health.

People in groups 2 and 3 were impressed by the depth and breadth of knowledge exhibited by the students and the care and sensitivity with which they presented information to audiences.

Discussion on Course

At the end of the first term, a discussion was initiated on feelings about the course. It was hoped that the members of the groups would feel comfortable with each other at this stage to discuss their feelings honestly. It is possible that some reticence about criticising teachers remained, as on the whole the group was fairly complimentary. It was felt that a reasonable balance between dental and non-dental topics had been achieved. The students themselves raised the issue of evaluation. They felt that being given objectives and actively encouraged to evaluate the teaching had increased their involvement in development of the course. Their participation had made them more aware of the importance of setting objectives, and evaluating ones success in achieving them. They felt they were more conscious of teaching methods and materials. In addition, their confidence had increased with their familiarity with methods of planning. The project was still a great source of anxiety but they were uncertain as to ways the tutors could allay these fears.

A similar discussion took place after the results had been published. All the students were present except one who had gone to work in another town. All the students completed the course, although two of them had missed some parts of the course because of pressing domestic commitments. The consensus of opinion was that they were still in need of more "educational" help, although it was felt that the dental aspects could not be reduced further. The projects, though taxing, had been valuable experience for most people, and two

people suggested that they might develop their projects further and one had found the research aspect so interesting that she had taken a part-time research post. However, it was felt that it was difficult to find the time for the project as well as the three to four hours' private study that they felt was necessary each week. The course was criticised for having contained little practical teaching experience outside the rather protected group setting. All the students felt that they would have benefitted from having more essays to write and having started to answer sample questions earlier. However, overall they had found the course valuable and enjoyable. The initial desire to be "lectured to" was replaced by an appreciation of the participatory non teacher-directed methods employed, even though they had to work harder.

Perhaps most important, they had enjoyed the course - both the contents and the participants. This was further demonstrated by their desire for the group to go on meeting. They have agreed to meet regularly to discuss their work and/or new publications. Similarly, a desire to help with the course planned for the next year was expressed. It has been arranged that they should assist with some of the sessions and their views sought on some of the new course components.

Discussion of Results

The examination results would seem to suggest that the course was successful in fulfilling its aim to assist the majority of students to gain the RSH DHE Diploma. It is impossible to obtain a direct comparison with other courses by using the results obtained nationally as these will contain people who did not enrol on an approved course.

The results for both years do show a distinct difference in the rate of success in gaining the diploma enjoyed by different types of ancillary worker. Although the sample is small this experience was mirrored in the pass rates nationally. This might lead one to the conclusion that dental surgery assistants (DSA's) need a slightly different preparatory course than other dental workers. Further weight may be added to this argument by the success of one of the DSA candidates on sitting the examination after attending a course for a second time having failed the exam the first time. This is not to imply that all DSA's will not be successful after attendance at one approved course but there does seem to be a need to consider offering a modified or extended course for some DSA's. Indeed, the success of some DSA's would seem to indicate the decision to include this group among those eligible to take the examination.

The questionnaires devised by the tutors seem to provide a doubly useful tool as a teaching aid and for predicting examination results.

Course questionnaires	RSH Examination Results: pass	fail
over 60%	7	0
under 60%	0	2

(data missing for 2 candidates)

It is impossible from the data available on student evaluations of the course to assess any trends in a students' answers to questions on teaching methods and session contents. Preliminary analysis tends to suggest a high degree of agreement among the students in their answers to questions relating to the teaching sessions. As demonstrated in previous educational research, students demonstrate the ability to discriminate between enjoyment/interest/usefulness of a subject. The students were asked after each session to assess the degree to which the objectives for that session had been fulfilled. There were differences in the range of answers given for different types of objectives. There was most agreement between students on the degree to which they felt the sessions had been successful in achieving objectives related to applying information or practical skills and least on those objectives relating to interpretations. It is possible to speculate that these students are used to demonstrating practical skills and therefore evaluating their ability to demonstrate such skills, even if the evaluation is subconscious. Similarly it maybe a lack of experience which leads them to seem less certain in dealing with problems such as explaining the clinical implications of certain theories. It is probably not useful to speculate further as the differences are small and, due to the regrettable loss, the data incomplete.

It has not proved possible, as was hoped, to undertake a factor analysis on questions 1 to 12. (Appendix 9) to help improve the questionnaire design. Some significant correlations were found between the scores given to some questions but it was decided to defer any changes to the questionnaire until results were available from the next course. It is hoped that the results of a third course, almost identical to course 2. will be available in the near future. It will be appreciated that the loss of the data has severely limited the content of the discussion it was hoped the results of the evaluation of this course would generate.

Although the evaluation of the observers was a very subjective one, the ability to create such feelings in the people they contact is an important skill for dental Health Educators. Most gratifying were the unsolicited comments from teachers who met the students more than once. It provides the only evidence of any increase in skills acquired by the students during the course. This maybe due solely to the fact that the students were 9 months older. However, it is hoped that the course may have been influencial in causing the perceived changes in the students ability to identify problems and communication skills within the group.

CONCLUSIONS

As a result of the experience gained in the planning, implementation, and evaluation of the courses described in this report we make the following recommendations.

To safeguard the interests of students studying in preparation for the diploma examination more work is needed to define accurately the knowledge and skills which will be required of them. We recommend the further refinement of the objectives. These should be written in a form which will help teachers and students alike assess the knowledge and skills to be assessed in the RSH. DHE Diploma examination. We feel restating and reformulating the objectives in this form will substantially simplify the process by which teachers plan their courses. Such courses could then with greater confidence be offered to students as appropriate to their efforts to prepare for this qualification. Further work is needed to assess whether one type of course is suitable for all the groups of students eligible to enrol in courses or sit the examination. As DSA's constitute the largest single group of dental workers it would seem valuable to continue to support their eligibility but a more accurate assessment of their particular study problems may be needed.

However, in order to facilitate this reformulation of objectives more information must be gathered with which to gain a greater understanding of the real and perceived role of a dental health educator. We would make the case that the overall aim of the diploma is to provide evidence of competance in a given field of study and this must be accurately described. This would seem to indicate the need for studies to be undertaken to investigate the great inconsistencies and contradictions which exist in descriptions of a DHE's role given by members of the

examining body, and potential employers. It is only when this role has been clarified that appropriate educational objectives can be selected.

The limited understanding of our goals/aims inevitably leads to difficulties in stating educational objectives in a way which will allow their attainment to be tested with any degree of reliability. The validity of present tests are also doubtful if the commodity, (i.e. the competance to be measured) is still in doubt. However interim measures to reduce this problem could be introduced.

Course tutors themselves can contribute to the discussion by defining in detail their aims and objectives and undertaking course evaluation to illuminate their success in achieving the appropriateness of their stated objectives.

If tutors are to accept this responsibility they must be allowed to ensure that their students are evaluated with regard to the objectives of the course in which they have participated. We therefore recommend that tutors be allowed to attend the examination of candidates as an internal examiner. Questions and sample answers could be submitted by course tutors for consideration by the panel of examiners and sample questions could be sent to tutors to help them prepare students for the examination.

As this proposal is only tenable if all candidates can be supported by a tutor. We welcome the RSH's discussion to demand that all candidates for the examination should have attended an approved course and hence have access to an approved tutor. However, if this development is to diminish some of the problems identified in this report then great care should be taken in approving courses.

As a result of the experience gained in teaching the courses and collecting the student's opinions, we recommend that the following criteria be applied.

(i) Students should be taught as often as possible in small groups to enable a wide range of teaching techniques to be used. We suggest the maximum ratio of 1:10 tutors to students.

(ii) Teaching methods, as well as course contents should be considered by an/the approval panel. In any course aiming to teach people how to teach "exposure" to many teaching methods is thought to be important by tutors and students.

(iii) It is desirable that guest speakers be invited who may contribute to the variety of teaching methods as well as establishing links with other people involved in fields related to health and education. Students and tutors felt this would help engender a team approach to health education problems.

(iv) Students views, (should be sought by the Approval Panel of the RSH on the teaching methods, course structure and contents).

(v) In view of the depth of reading suggested by the RSH in their reading list there may be problems of cost and/or access to libraries for some students. It is therefore suggested that all recommended books or papers be made available in the institution's library or in resource packs loaned to students.

We also recommend that more detailed instructions on the project work required by the examiners be made available to course tutors and students.

Course Tutors' Assessments

1. Diane Plamping:

Despite what sometimes seemed to be impossible odds, I really enjoyed my involvement in this Course. This is due almost entirely to the willingness of all the students and teachers to bring amazing energy and enthusiasm to each session even though it was for all of them the end of a working day. This was my first experience in organising an evening course and I was slightly sceptical that people, for excellent reasons, might not stay the course.

Previously I had taught dental students and it was thought by some people who say the initial course outline that this experience was leading me to expect too much of dental ancillary workers. It is extremely gratifying to be able to report that this never proved to be the case. There were of course different problems for people who left school many years ago and those with further education experience than those experienced by undergraduates, but these were usually problems relating to written work and did not hinder students from actively participating in discussions, games and simulations. In these situations the diploma students often demonstrated a depth of understanding rarely exhibited by dental undergraduates with their limited experience of the real world.

It has been remarkably rewarding to watch the group cohesion grow and develop to such a degree that the group continues to meet regularly to discuss problems and share DHE experiences.

Co-ordinating and organising this course has also confirmed that team teaching can be an extremely valuable and enjoyable experience, especially when having to stagger from week to week devising, duplicating, and circulating objectives, resource boxes and handouts.

However, there is one large unresolved problem. It is extremely difficult to prepare students for what at times seems an open-ended syllabus. In my opinion, the aims are so loosely phrased and wide-ranging they could equally well describe the aims of a degree course in dentistry or sociology. It is hoped this detailed explanation and attempt to evaluate one course might provide some baseline data to begin formulating more detailed objectives which can be assessed in the diploma examination and guidelines to help teachers in future course planning.

2. Diane Smith:

With my lack of teaching experience, the second course, making use of varied teaching techniques, became a valuable and enjoyable learning experience. Following my involvement with the first course in which I was acutely aware of the paucity of experienced teaching. I feel the success of the second course lies particularly in the skills and commitment of Diane Plamping and also in the experiences brought to the students by the visiting teachers.

Credit should also be given to the students whose commitment to the course and to its development, was remarkable, the more so in the light of their normal, and often considerable work and family commitments. Their willingness to participate fully, together with skilful guidance and teaching, resulted in the growth of an exceptional and rewarding group identity which provided an uninhibited learning environment.

My experience in this course reinforced my conviction that the standard and also the range of experience of the teachers are of paramount importance particularly given the students' diverse background knowledge, experience and expectation and given the range of skills to be taught. But, the lack of any well formulated aims laid down for the examination poses insurmountable problems for any teacher. It is hoped that, drawing from our experiences, and the experiences of others

involved in preparing students for the Diploma. There will be opportunities for those concerned about the training of dental educators, to discuss the formulation of aims and objectives for this examination.

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Guest lecturers

Thelma Bamford
Ros Cole
Anne Cushing
Janet Gale
Stanley Gelbier
Jenny Jacobs
Richard Martin
Christine Miller
Muriel Morgan
Aubrey Sheiham
Peta Smith
Sue Thorne
William Wildish